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AN ASSOCIATION BETWEEN THE CRAZY ANT *ANOPLOLEPIS LONGIPES* (JERDON) (HYMENOPTERA: FORMICIDAE) AND THE COCONUT SPATHE MOTH, *TIRATHABA RUFIVENA* (WALKER) (LEPIDOPTERA: PYRALIDAE) ON COCONUT PALMS IN THE MOROBE PROVINCE OF PAPUA NEW GUINEA.

1. SURVEYS TO DETERMINE THE EXTENT OF CROP LOSS AND THE INCIDENCE OF NATURAL ENEMIES OF THE MOTH.

G.R. Young[1,2]

ABSTRACT

Coconut palms infested with crazy ants, Anoplolepis longipes, *showed losses of up to 77 percent in production on a coconut block in the Markham Valley, Morobe Province, Papua New Guinea. The losses were a result of abnormal shedding of female flowers and immature nuts due to attacks by the larvae of the coconut spathe moth,* Tirathaba rufivena. *Palms infested with crazy ants had higher moth populations as well as higher rates of parasitism of moth eggs, larvae and pupae than palms without the ants. The rate of pupal parasitism was relatively high, while larval parasitism was low in palms occupied by the ant. It was concluded that reduced larval mortality was responsible for high spathe moth populations and that* A. longipes *reduced the effectiveness of larval predators, although it was not known how the ant inhibited the foraging activities of predators. The earwig,* Chelisoches morio, *and other species of ants were considered the most important potential predators of spathe moth larvae.*

Key words: Anoplolepis longipes, *crop loss, natural enemies*

INTRODUCTION

The coconut palm is monoecious and a branched inflorescence or spadix is produced in the axil of each leaf. A new inflorescence appears every 20 to 25 days. The inflorescence develops within a double sheath or spathe, which splits at maturity releasing the inflorescence. Each branch carries the more numerous male flowers apically and female flowers on the basal part. Male flowers open progressively from the apical end of each branch over a period of 15 days. Generally, all male flowers have fallen off several days before female flowers become receptive to pollen, so that pollination occurs from a succeeding inflorescence. The fruit is fully grown 6 months after pollination, but requires a further 5 to 7 months to maturity (Lever 1969; Child 1974).

Tirathaba rufivena (Walker) (Lepidoptera: Pyralidae), the coconut spathe moth, is distributed from Sri Lanka, Thailand, Laos, the Malay peninsula, Borneo and Indonesia through to Papua New Guinea (PNG), northern and north eastern Australia, Solomon Islands, Vanuatu and New Caledonia (Lever 1933, 1969; Whalley 1964; Dean 1978; Waterhouse and Norris 1987; D. Chin personal communication).

The principal host plants of *T. rufivena* are the coconut palm, *Cocos nucifera*, and the swamp palm, *Nypa fruiticans*, (Lever 1933). Other host plants recorded include the palms *Areca catechu*, *Roystonea elata*, and *Elaeis guineensis* (Lepesme 1947). The biology of the moth on coconut palms has been described by Corbett (1932) and Lever (1933; 1969). The eggs are usually laid in batches on unopened male coconut flowers. After hatching

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the first instar larvae feed on male flowers which are the preferred food. However, when the supply of male flowers is exhausted, the female flowers and young nuts are attacked (Corbett 1931, 1932; Lever 1933). The palm sheds female flowers and young nuts that have been bored by larvae (Corbett 1931). The coconut palm is unable to nourish to maturity all female flowers which set on an inflorescence (Lever 1969; Waterhouse and Norris 1987). This results in natural nutfall, and excess young nuts are usually shed in the 2 months from the opening of the spathe (Lever 1969). Although, Child (1974) quoted work showing substantial nutfall between 2 and 6 months but this was probably due to drought or waterlogged soil. Corbett (1931) found that insect damaged nuts were shed before undamaged ones and the palm compensated for high levels of insect damage by decreasing natural shedding. Additionally, he concluded that *T. rufivena* larvae would have to bore 58% of female flowers before causing a reduction in the yield of mature nuts (Corbett 1931, 1932). Waterhouse and Norris (1987) maintain that the moth has little effect on coconut yield over most of its geographical range.

Anoplolepis longipes (Jerdon) (Hymenoptera: Formicidae), the crazy ant, is thought by some to be a native of the south east Asian mainland (Baker 1972; Haines and Haines 1978 a), although Way and Khoo (1992) maintain that the species probably originated in Africa. The ant is widespread throughout Asia, East Africa and the Pacific, being particularly prevalent in disturbed habitats. In PNG *A. longipes* is found from sea level to at least 1900 metres.

The crazy ant may be regarded as a pest or a beneficial species on coconuts, depending on the pest species with which it is associated. For example, Brown (1959) found it to be beneficial in protecting coconuts from attack by *Amblypelta cocophaga cocophaga* China (Hemiptera: Coreidae) in the Solomon Islands. Way (1953) showed that *A. longipes* did not prevent *Pseudotheraptus wayi* Brown (Hemiptera: Coreidae) from damaging developing nuts in east Africa. O'Sullivan (1973) noted a positive association between *A. longipes* and high populations of the coconut spathe bug *Axiagastus cambelli* Distant (Hemiptera: Pentatomidae) in the Lihir Islands, PNG.

Premature nutfall on coconut palms infested with crazy ants has been reported from PNG by J. Szent-Ivany (personal communication) at Aroa plantation, Central province, PNG and K. Tomlin (personal communication) at Alotau, Milne Bay province, PNG.

During 1975 a sharp decline in nut production was reported from a block of 14 year old coconuts at Maralumi estates, Markham valley (T. Leahy, personal communication). The palms concerned, had recently become infested with *A. longipes* and it was suggested that the ant was responsible for the decline in production. As a result it was decided to investigate whether *A. longipes* was involved in the crop loss.

Maralumi estates has a rainfall of 1,140 mm per year with most falling in the months of August and December to March.

OBSERVATIONS AND RESULTS

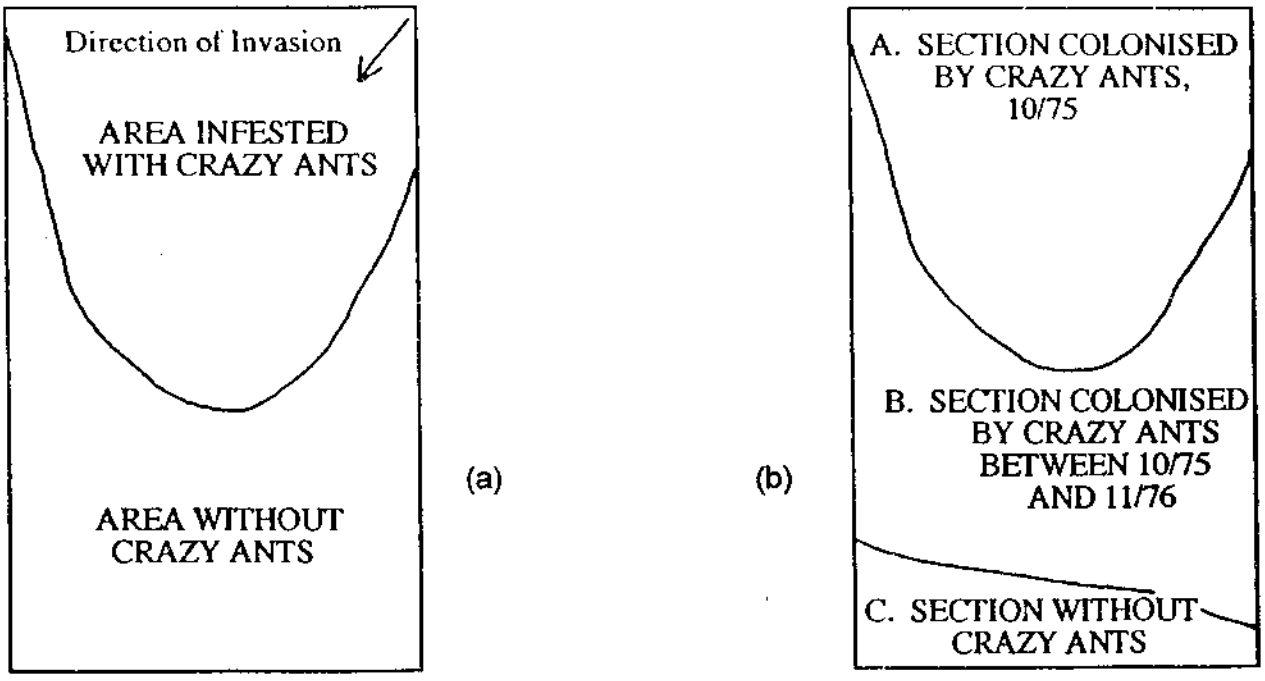
First survey

An initial survey of the block of 6,125 palms was made during October 1975. Employees of Maralumi estates said that crazy ants recently invaded the block from a nearby stand of abandoned cacao. *A. longipes* was the dominant ant species in approximately 50 percent of the palms and on the ground beneath the palms (Fig. 1 a). The number of mature nuts carried by palms, with and without crazy ants was estimated from the ground using binoculars. Palms infested with crazy ants were estimated to carry 70 percent less mature nuts than those without the ant. Additionally shed nutlets found beneath infested palms often contained late instar pyralid larvae, while nutlets found beneath palms without crazy ants showed no sign of insect attack. The pyralid larvae were returned to the laboratory and reared to adults which were subsequently identified as *T. rufivena*.

Second survey

In order to get a more accurate estimate of the loss of production and to further investigate the relationship between *T. rufivena* and *A. longipes*, a second survey was made in November 1976. By this time *A. longipes* had advanced across the block to occupy 85 to 90 percent of the palms. For the purposes of the survey the block was divided into 3 sections. Section A was the part occupied by crazy ants up to October 1975, section B was the part colonized between October 1975 and November 1976, while section C was not occupied by crazy ants (Fig 1 b). A systematic sample was taken from each section by observing every 5th palm. Counts of nuts estimated to mature within the next 6 months were made from the ground using binoculars. Labourers

Figure 1. *Proportion of palms infested with* A. longipes *in (a) October 1975 and (b) November 1976.*



climbed the palms and searched old and new inflorescences for *T. rufivena* larvae and pupae as well as potential predators. Samples of ants were also collected from the crowns of the palms. The insects were placed in plastic bags and lowered to the ground. Spathe moth larvae and pupae were held in the laboratory for parasite emergence. The density of crazy ant nests in sections A and B was estimated by using 4 m X 4 m quadrats in each section. One nest was counted when an infested palm fell within a quadrat, while 0.5 of a nest was counted when the quadrat border intersected an infested palm or a ground nest.

Production of nuts in sections A and B was down by 77 and 44 percent respectively when compared with section C (Table 1). Most of the larvae collected were late instars. Counts of larvae and pupae were highest in section A and lowest in section C. No parasites were reared from the larvae collected, however 4 species emerged from the pupae. The parasites in order of abundance were; *Bachymeria nostoi* (Habu), *B. lasus* (Walker) (Hymenoptera: Chalcidae), *Trichospilus pupivorus* Ferrier (Hymenoptera: Eulophidae) and an undetermined species of Tachinidae. Apart from ants, *Chelisoches morio* F. (Dermaptera: Chelisochidae) was the only potential predator collected and it was observed foraging on the inflorescences at a mean density of 3 per palm in section C, 0.4 per palm in section B and was absent from section A. The dominant ant species on sampled palms in section C were *Oecophylla smaragdina* F., *Crematogaster sp.* and *Iridomyrmex sp.* (Table 1). Other ant species on section C palms were *Paratrechina longicornis* (Latreille) and *Polyrachis spp.* The only ant on palms in sections A and B, apart from *A. longipes*, was *Monomorium destructor* (Jerdon).

The density of crazy ant nests ranged from 5 to 8 per quadrat (3,1255 to 5,000 per hectare) in section A, while section B had 0.5 to 1.5 per quadrat (310 to 740 per hectare). *A. longipes* was mainly nesting under debris (fallen fronds and coconuts) on the soil surface, in the roots and crowns of palms and more rarely in soil. The largest nests were under debris in 1 m tall grass. While soil nests were only found in a limited number of areas with very short grass or bare soil.

Third survey

The second survey did not sample spathe moth eggs and early instar larvae or the natural enemies of these stages. In order to get an overall estimate of the influence of *A. longipes* on natural enemies of moth stages, from eggs to pupae, a third survey was carried out during April 1978. Twenty five healthy palms were sampled from each of the areas with and without crazy ants.

Inflorescences up to 8 weeks old were cut and lowered to the ground. The male and female flowers as well as the immature nuts were removed and examined under a stereomicroscope for the

Table 1. *Second Survey; the production of nuts per palm, density of* T. rufivena *larvae and pupae and the dominant ant species in three sections of the coconut block at Maralumi estates.*

	Mean No. of nuts to mature in the next 6 mnths	Mean larvae /palm	Mean pupae/ palm	Percent pupal parasitism	Dominant ant spp & No. of palms occupied
Section					
A	7.1 ± 1.22	21.5 ± 5.40	3.3 ± 0.92	22.9	*A. longipes, 25*
B	17.1 ± 2.59	11.4 ± 3.32	1.2 ± 0.53	3.2	*A. longipes, 25*
C	30.7 ± 3.21	1.0 ± 0.40	0	0	*O. smaragdina, 14; Crematogaster* sp., 9; *Iridomyrmex* sp., 2.
Analysis	*Anova	*Anova	*Anova	Not analysed	
Levels of significance	$p < .001$	$p < .001$	$0.01 < p < 0.05$		

* Data transformed log (x+1) for analysis.

Table 2. *Third survey; the density of* T. rufivena *eggs, larvae, and pupae, parasites and percent parasitism of moth life stages, on palms infested and not infested with* A. longipes.

Mean per palm	Eggs	Larvae	Pupae
Area with crazy ant			
Density	14,991 ± 3002.5	78.4 ± 20.39	4.3 ± 1.13
Percent parasitism	13.2	4.8	16.4
Area without crazy ant			
Density	2,244.8 ± 894.84	4.0 ± 2.5	0
Percent parasitism	7.6	0	0
Parasites recorded	*Trichogramma* sp.	*A. pertiades*	*B. lasus, B. nostoi* & *T. pupivora*

presence of moth life stages. In addition the axils of fronds, insides of old spathes and the bases of old inflorescences were also searched for life stages. The density of eggs, larvae and pupae was recorded per palm and the life stages held in the laboratory for parasite emergence.

The population density as well as parasitism of moth eggs, larvae and pupae was highest on palms infested with crazy ants (Table 2). No parasites were recovered from larvae and pupae collected from palms not infested with the ant. *Trichogramma* sp. (Hymenoptera: Trichogrammatidae) was reared from moth eggs, while *Apanteles pertiades* Nixon (Hymenoptera: Braconidae) was reared from the larvae. Pupal parasites in order of abundance were *B. lasus, B. nostoi* and *T. pupivorus*. The dominant ant species in the palms without crazy ants were *O. smaragdina* and *Crematogaster sp.* During sampling *C. morio* was recorded at a mean density of 8.6 nymphs and adults per palm on the inflorescences of palms without crazy ants. The earwig was absent from palms with crazy ants.

DISCUSSION

The first and second surveys showed that coconuts infested with crazy ants had up to 77 percent lower production than uninfested palms. Yield declined with increasing density of crazy ant nests. The loss of production was the result of premature nutfall which was caused by spathe moth larvae boring immature nuts.

The second and third surveys showed that palms infested with crazy ants had higher moth populations as well as higher rates of parasitism of moth eggs, larvae and pupae than palms without the ant. On both infested and uninfested palms the rate of pupal parasitism was higher than that of eggs or larvae.

The egg parasite, *Trichogramma* sp., is the first record of this genus from *T. rufivena*. H. Nagaraja (personal communication) has suggested that it may be the same species as has been reared from the eggs of *Ostrinia furnacalis* Guenee (Lepidoptera: Pyralidae) and *Chilo tenellus* Pagenstecher (Lepidoptera: Pyralidae). *A. pertiades* is probably the same species recorded from *T. rufivena* larvae in the Solomon Islands (Lever 1933; Waterhouse and Norris 1987). The absence of *A. pertiades* from larvae in the second survey is probably explained by the fact that the parasite attacks first and second instar larvae, few of which were collected in the second survey (Lever 1933). The pupal parasites, *B. nostoi* and *B. lasus*, have not previously been recorded from *T. rufivena*, while *T. pupivorus* is recorded from Indonesia and Malaysia as both a primary and hyperparasite of *T. rufivena* pupae (Waterhouse and Norris 1987). *B. nostoi, B. lasus* and *T. pupivorus* are recorded as pupal parasites from a broad range of Lepidoptera (Joseph *et al.* 1973; Greve & Ismay, 1983; Boucek 1988).

The low rates of parasitism of moth life stages and the broad host ranges of most of the parasites make it unlikely that any of the parasites recovered in the surveys have the potential to control spathe moth populations. In fact over the moth's geographical range only in Java do parasites exercise any control over moth populations (Waterhouse and Norris 1987). In Fiji a related species, *T. complexa* (Butler), was brought under control by parasites introduced from Java (Cock *et al.* 1985; Waterhouse and Norris 1987).

A. longipes is primarily a scavenger (J. Moxon, personal communication). Haines and Haines (1978 b) found the bodies of dead or dying invertebrates made up most of the solid food material collected by the ant. Way (1953) observed that the ant tolerated insect species which were neither hostile nor a hinderance. Therefore, it seems unlikely that the ant would attack any of the moth parasites found in the current study.

In view of the relatively high rate of pupal parasitism and low rate of larval parasitism in palms infested with crazy ants, it is probable that the ant inhibted the effectiveness of larval predators. In palms without crazy ants the only potential predators observed were other species of ant and *C. morio*. The earwig has previously been recorded feeding on coleopteran and lepidopteran larvae (Risbec 1935; Abraham and Chandy Kurian 1973; Young 1992). The means by which *A. longipes* inhibits foraging by *C. morio* or other larval predators remains unknown.

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AN ASSOCIATION BETWEEN THE CRAZY ANT *ANOPLOLEPIS LONGIPES* (JERDON) (HYMENOPTERA: FORMICIDAE) AND THE COCONUT SPATHE MOTH *TIRATHABA RUFIVENA* (WALKER) (LEPIDOPTERA: PYRALIDAE) ON COCONUT PALMS IN THE MOROBE PROVINCE OF PAPUA NEW GUINEA.

2. THE EFFECT ON YIELD AND NUT SHEDDING OF ANT AND MOTH EXCLUSION.

G.R. Young[1,2]

ABSTRACT

A trial was carried out on a block of coconuts at Maralumi Estates to test the effect, on yield and nut shedding, of excluding the crazy ant, Anoplolepis longipes, *and the coconut spathe moth,* Tirathaba rufivena, *from palms crowns. There were four treatments, three in the part of the block infested with crazy ants and one in the part without the ant. In two treatments with crazy ants, palm trunks were banded with Osticon [R] to prevent ants moving to and from the crowns. Palms in one of the banded treatments were trunk injected with monocrotophos to kill spathe moth larvae feeding on the inflorescences. The third crazy ant treatment was a control with no attempt to exclude either the ant or spathe moth. Estimates of female flowers and immature nuts shed as well as yield were made at the start and conclusion of the trial. In the treatment without the crazy ant, shedding was less than 40 percent throughout the trial. This figure represented the level of natural shedding. Where crazy ants were not excluded from palm crowns shedding was 75.9 and 68.9 percent respectively at the start and conclusion of the trial. These figures represented natural shedding plus shedding due to spathe moth attack. Banding of palms did not decrease shedding, however injection with monocrotophos decreased shedding by 34.6 percent. Initially, the estimated yield in the treatment without crazy ants was twice that of the other treatments. However by the end of the trial, yield in this treatment had declined so that there were no significant differences between any of the treatments.*

Key words: Anoplolepis longipes, *yield, spathe moth, Morobe Province.*

INTRODUCTION

The shedding of female flowers and immature nuts by the coconut palm is a complex phenomenon, which is broadly covered by the term nutfall. There are two categories of nutfall. Natural nutfall occurs as a result of factors such as; the palm being unable to nourish all the fruits that set, drought, waterlogged soil, or mineral defficiencies. The other category is abnormal nutfall resulting from attacks by pathogens, insects or rats (Lever 1969; Child 1974). Corbett (1931) maintained that the palm was only able to retain a set number of female flowers through to fruit set and ultimately to mature nut formation. He found that when shedding due to attacks by the coconut spathe moth, *Tirathaba rufivena* (Walker) (Lepidoptera: Pyralidae), was reduced, natural shedding increased until the optimum number of set fruits was reached. Corbett concluded that *T. rufivena* would have to bore 56 percent of female flowers before causing any reduction in yield, whereas he found the moth only bored an average of 9.4 percent. Lever (1933) recorded an average of 6 to 8 percent of female flowers bored by *T. rufivena* in the Solomon Islands. T.Ovasuru (personal communication), working with emasculated inflorescences in Papua New Guinea found that *T. rufivena* laid eggs on female flowers and branches of the inflorescence.

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He observed that only 8 to 12 percent of female flowers were attacked by moth larvae in the month after removal of the spathes and male flowers. In the Philippines Cock *et al.* (1985) simulated *Tirathaba spp* damaged by removing nutlets at the age the insect normally attacked them. They found that *Tirathaba spp* could cause short term yield reduction and that the palm compensated poorly for simulated damage, the compensation being worst at low levels of damage and best at high levels. According to Waterhouse and Norris (1987), *Tirathaba spp* only causes sufficient shedding to effect production in the Philippines, elsewhere the moth has little effect on yield.

During 1975 a sharp decline in production was recorded from a block of coconuts at Maralumi Estates, Morobe province, Papua new Guinea (Young, 1996). Young (1996) showed that the decline in production coincided with high populations of *T. rufivena* in palms infested with the crazy ant, *Anoplolepis longipes* (Jerdon) (Hymenoptera: Formicidae). Crazy ants had progressively invaded the block from a nearby stand of abandoned cacao. It was found that nut production was lowest in the part of the block first invaded by crazy ants. Production increased across the block with decreasing ant nest density.

The results presented by Young (1996) seemed to conclusively implicate spathe moth and crazy ant in the loss of production. In order to positively establish this relationship, it was decided to test the effect on yield and nut shedding of excluding the ant and the moth from palms.

METHODS AND MATERIALS

A pre-trial survey of the block was made during June 1977 to estimate crazy ant nest density using twenty 4 m X 4 m quadrats, taken along two transects across the block. Additionally, palms were climbed to determine the proportion of palms infested with the ant.

The trial was established with four (4) treatments. Treatment 1 was situated in the part of the block without crazy ants and treatments 2, 3, and 4 in the part infested with the ant (Table 1). During July 1977, 10 healthy palms were selected for each treatment. Counts of nuts estimated to mature in the next 6 months were made from the ground using binoculars. Female flowers and developing nuts shed per palm were estimated by cutting inflorescences aged between 15 (when all the male flowers had fallen) and 60 days after the spathe had opened. The inflorescences were lowered to the ground so that counts could be made of the number of female flowers and developing nuts shed or retained. Female flowers and immature nuts retained on the inflorescence, but which contained *T. rufivena* larvae, were counted as shed.

When the estimates of yield and percent shedding were completed, the palm trunks in treatments 3 and 4 were banded with 30 cm wide sticky bands of Osticon® to prevent crazy ants climbing the trunks into the palm crowns. The fronds of neighbouring palms were trimmed to prevent the ants moving from unbanded to banded palms.

Palms in treatment 4 were trunk injected with 60 percent monocrotophos in an attempt to exclude *T. rufivena* larvae from the inflorescences. A hole 1.8 cm in diameter and 10 cm deep was drilled at a downward angle of 45 degrees into the base of the trunk and 8 g ai monocrotophos was injected into the hole. Six weeks later a second hole was drilled and a further 12 g ai monocrotophos injected.

It was intended to continue the trial for 2 years making estimates of yield and shedding every 6 months. The second estimate was made during January 1978.

RESULTS

The pre-trial survey of the block during June 1977 revealed that 90 percent of the palms were infested with crazy ants. Thirty metres behind the invasion front the density of nests was found to be 3,125 to 5,000 per hectare. The nests were mainly under fallen fronds and coconuts on the soil surface as well as in the roots and crowns of palms.

The pre-treatment estimate of shedding recorded a mean of 33.6 percent for the treatment without *A. longipes* and 75.9, 67.1 and 78.5 percent, respectively, for treatments 2, 3, and 4 which were infested with the ant (Table 1). The estimate of yield for the treatment without *A. longipes* was 41.4 nuts, while the treatments with the ant recorded 18.0, 16.8 and 16.3 nuts.

The post-treatment estimates, for the treatment without *A. longipes*, were 39.4 percent shedding and the yield decreased to 22.5 nuts. The unbanded palm with *A. longipes* recorded 68.9 percent shedding

Table 1: *Effect on yield and percent shedding of excluding crazy ant by Osticon bands and spathe moth by monocrotophos trunk injections.*

Treatment	Crazy ants present	Chemical application	Percent shedding per palm 1/		Estimate of No. of nuts to mature in the next 6 months	
			Pre-treatment	Post-treatment	Pre-treatment	Post-treatment
1	-	Nil	35.4 a (33.6)	38.9 a (39.4)	41.4 a	22.5
2	+	Nil	60.6 b (75.9)	56.1 b (68.9)	20.0 b	18.0
3	+	Osticon	55.0 b (67.1)	56.5 b (69.6)	19.8 b	16.8
4	+	Osticon + monocrotophos	62.4 b (78.5)	41.5 a (43.9)	21.2 b	16.3
Mean			53.4	48.2	25.6	18.4
Sed			4.10	4.74	3.46	2.99
Significant effect			$p<0.001$	$0.001 \leq p < 0.01$	$0.001 \leq p <$ 0.01	n.s.

1/ Percent shedding analysed as angular transformation, back transformed values are shown in brackets. Treatments within each column followed by the same letter do not differ significantly at $p < 0.01$. Means compared by Duncan's multiple range test.

with a yield of 18.0 nuts. Banded palms with *A. longipes* recorded 69.6 percent and a yield of 16.8 nuts. Banded palms with *A. longipes* and injected with monocrotophos recorded 43.9 percent shedding, a decrease of 34.6 percent, with a yield of 16.3 nuts.

The results of the first and second estimate were analysed by analysis of covariance (Table 1). The first estimate of percent shedding of female flowers and young nuts showed that the treatment without crazy ants was significantly different to the treatments with crazy ants. The second estimate showed that the monocrotophos treatment decreased percent shedding by 34.6 percent and did not differ significantly from the treatment without crazy ants.

The first estimate of yield showed the treatment without crazy ants was significantly different to treatments with the ants, however second estimate counts did not differ significantly from one another.

Over the 6 month period, from July 1977 to January 1978, cadavers of *A. longipes* workers accumulated on both the tops and bottoms of the sticky bands. By the end of October *A. longipes* colonies had become extinct in 3 palms in treatment 3 and 4 palms in treatment 4. However, within 8 weeks, 2 of the palms were recolonized by workers carrying brood and dropping from overhanging fronds of unbanded palms onto the fronds of banded palms, indicating that the trimming of fronds was not entirely effective.

The block was inspected during March 1978 revealing that banded palms were showing signs of phytotoxicity as a result of the Osticon treatments. There was shrinkage of the trunks where the sticky bands covered the bark and splitting of the bark adjacent to the bands. Additionally the watertable had risen after the damming of a nearby watercourse, causing waterlogging in parts of the block containing treatment palms. The trial was abandoned in view of the potential effect of these 2 factors on shedding and yield.

DISCUSSION

In the treatment without crazy ants, the first and second estimates showed shedding of female flowers and immature nuts to be 33.6 and 39.4 percent respectively. Assuming the population of *T. rufivena* to be as low as previously recorded by Young (1996), then these figures reflect the normal situation. That is most of the shedding was due to the palms not being able to nourish all of the fruits that set, rather than insect attack (Lever, 1969; Child, 1974). From the work of Corbett (1931), Lever (1993) and T. Ovasuru (personal communication), the insect damage component of shedding was probably less than 10 percent. Additionally, Corbett (1931) concluded that the palm compensated for *Tirathaba* damage by shedding less nuts due to natural causes. If this were the case at Maralumi, then the percent shedding due to *T. rufivena* in palms without crazy ants would have been effectively zero.

The first and second estimates of treatment 2 showed shedding of 75.9 and 68.9 percent respectively.These figures represent natural shedding plus shedding due to spathe moth attack.

Treatment 3 showed that preventing crazy ants from moving to and from the palm crowns did not significantly decrease shedding. Although, if the trial had continued for a longer period and *A. longipes* prevented from recolonizing the crowns, then the ant probably would have become extinct in all of the crowns. This may have led to a decline in spathe moth populations and a subsequent decrease in the amount of nut shedding.

While the sticky bands in treatment 4 had no effect on shedding, trunk injection with monocrotophos decreased shedding by 34.6 percent. Additionally the second estimate of shedding in treatments 1 and 4 were not significantly different, indicating that shedding in the second estimate of treatment 4 was due to physiological causes.

The normal level of shedding recorded in the trial was lower than the 58 percent recorded by Corbett (1931) in West Malaysia. Counts of shedding during the trial would have been an underestimate since younger inflorescences would give lower counts than older ones. Further, the level of normal shedding is probably dependent upon genetic, nutritional and climatic factors (Lever 1933; Child 1974).

The first estimate of yield in treatment 1 was approximately twice that of the other treatments. However the second estimate showed no significant differences in yield. The removal of inflorescences during the first estimate would have reduced the potential number of 6 month old nuts present at the time of the second estimate. If this were the case then the decrease in yield from the first to the second estimate would have been expected to be a similar percentage for all treatments. Instead the decrease in yield was 46, 10, 15, and 23 percent for treatments 1, 2, 3 and 4 respectively. The period between July and January includes some of the driest months of the year (Young 1996). Perhaps under the prevailing conditions, the second estimate yield ranging from 16 to 22 nuts was the maximum number the palms could nuture. Estimates of the proportion of female flowers that yield ripe nuts vary from 25 to 35 percent (Lever 1969; Child 1974). Child quotes the work of Abeywardena and Mathes in Sri Lanka, who showed that 24 percent of nuts that set fell after 2 months and a further 52 percent fell between 2 and 6 months. The second estimate yields for treatments 1 and 4 are probably the result of negligible shedding from insects attack in the first 2 months with the majority of nutfall occurring between 2 and 6 months from moisture stress and other physical factors. While the yield for treatments 2 and 3 were probably the result of a high level of shedding from *T. rufivena* attack in the first 2 months with little additional nutfall after this time.

Prior to the invasion of the block by crazy ants, the annual production was estimated at 60 nuts per palm (T. Leahy, personal communication). The yield results in the treatment without crazy ants roughly agrees with this estimate, that is 41 nuts during the wet season and 22 nuts during the dry season. From the available evidence in the 3 treatments with crazy ants, *T. rufivena* had a greater effect on yield in the wet than the dry season.

The extinction of crazy ant nests in the crowns of banded palms in treatments 3 and 4 shows that crown nests are dependent on food, probably protein, collected on the ground. Way (1953) also found that banding palms led to the extinction of *A. longipes* in the crown.

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HYBRIDIZATION OF TARO (*COLOCASIA ESCULENTA* (L.) SCHOTT.): FLORAL DEVELOPMENT AND STIGMA RECEPTIVITY.

T. Okpul[1] and A. Ivancic[1,2]

ABSTRACT

The floral development and the duration of stigma receptivity in Colocasia esculenta *was studied at the Bubia Agricultural Research centre, near Lae in the lowlands of Papua New Guinea. In determining the duration of stigma receptivity, female components were pollinated at different stages of their development. Although taro is a protogynous species, results showed that there was overlapping between the male and female developmental stages of the inflorescence. The period of stigma receptivity lasted 10 days. The stigmas were optimally receptive between 2 to 8 days after the emergence of the inflorescence. The effects of stressful climatic conditions on the flowering process were also observed. Drought stress may affect both natural and artificial hybridization.*

Key words: Taro, Colocasia esculenta, flowering, seed setting, Morobe Province.

INTRODUCTION

Taro, *Colocasia esculenta* (L.) Schott., is an edible aroid belonging to the monocotyledonous family, Araceae. It is an important crop in the Asia-Pacific region because of its cultural, economical and dietary values. The status of the crop within the region, together with its declining trend in production (Jackson and Gollifer 1975; Bourke 1982), has prompted breeding work to improve production. Population improvement of taro, based on a modified recurrent selection method, was pursued more recently by Ivancic (1992) to create more productive genotypes, resistant to main disease and to improve production.

Good flowering ability, good seed set and high germination rate are the most important characteristics in conducting breeding work but flowering is relatively rare among taro cultivars. However, improvement of these traits through the involvement of wild and semi-wild genotypes (with outstanding flowering ability) in a recurrent selection programme was achieved by Ivancic *et al.* (1994). Flower-inducing hormones such as gibberellic acid can also be effectively used to improve flowering. Further, seed set and germination rate depend on pollination success and pre- and post-zygotic developments respectively. Hence, a better understanding of the floral biology and phenology is necessary to enhance breeding work.

This study aimed at investigating and determining the duration of stigma receptivity in order to facilitate intra-specific hybridization. Observations on floral development and the effects of stressful climatic conditions on flowering and seed setting are also discussed.

Materials and Methods

The study was conducted from November 1994 to April 1995 at Bubia Agricultural Research Centre (BARC), near Lae, Papua New Guinea (PNG). The centre is situated at 146°4′E, 6°41′S at an altitude of 20 m a.s.1. and receives a mean annual rainfall of 2870 mm.

All genotypes used in these studies were part of the existing breeding programme. They included hybrids originating from the Solomon Islands and PNG (developed from the breeding work) and wild genotypes. The genetic improvement programme and the genotypes used have been described elsewhere (Ivancic *et al.* 1994).

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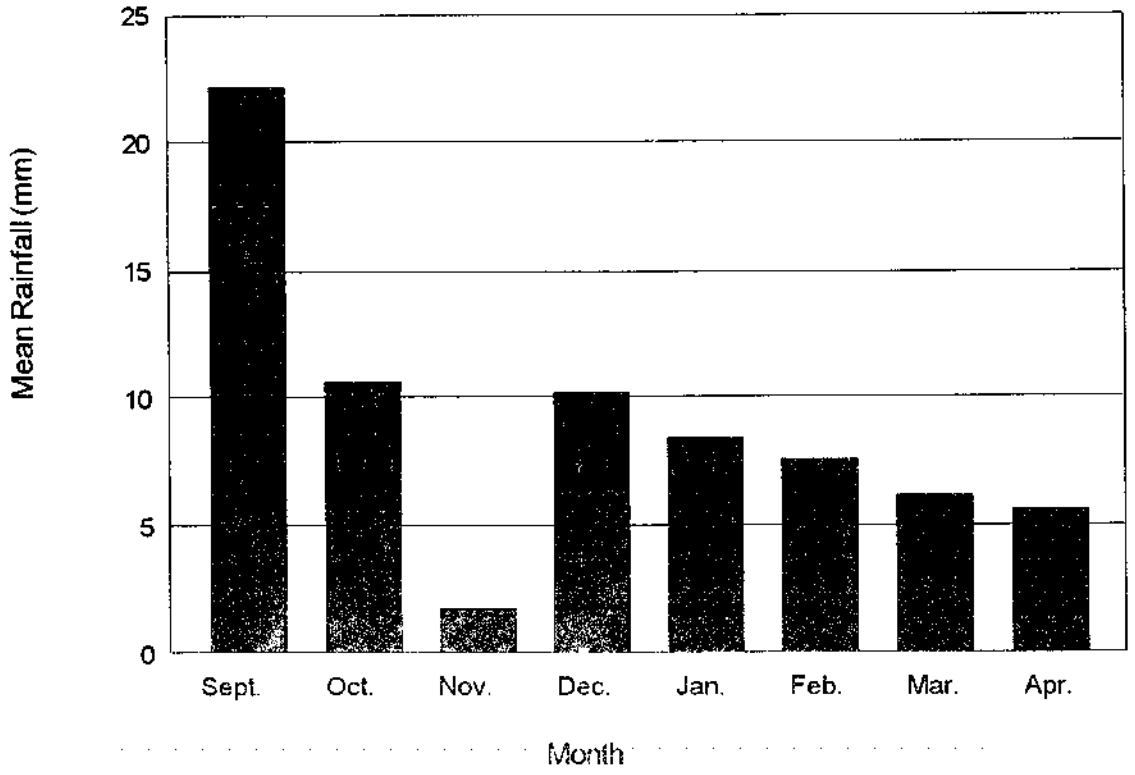
Figure 1. *Mean Monthly Rainfall: September 1994 - April 1995*



Floral development was studied by closely monitoring inflorescences in different genotypes.

In order to determine the duration of stigma receptivity, female components were pollinated at different stages of their development. The stage at which the spathe emitted the insect-attracting fragrance was denoted as 'day zero', or the beginning of anthesis. Inflorescences were emasculated and artificially pollinated daily starting 6 days before 'day zero' (a day before the inflorescence emerged out of the petiole sheath) and up to 5 days after anthesis had begun. Female components planned for pollination after 'day zero' were isolated when the spathe was still green and closed. Isolation was achieved using hard paper envelops (13 x 20 cm) closed with paper clips. Emasculation was done on the 'day zero'. The isolated pistillate flowers were then artificially pollinated later on selected days.

After pollination, female flowers were further protected to avoid contamination from foreign pollen by wrapping them with a thin layer of cotton wool and the lower part of the spathe. Parentage and age of the fruit head was indicated on a label tagged around the inflorescence's peduncle.

The mature fruit was washed in water and sieved using a strainer (0.4 mm pores), and the seeds were then dried at 18°C in an air-conditioned room. The air-dry weight was determined after 5 days. The number of seeds was estimated using the 1000-seed weight of 0.184 g (mean obtained from 0.198 g (Ivancic *et al.* 1994) and 0.170 g (this work)).

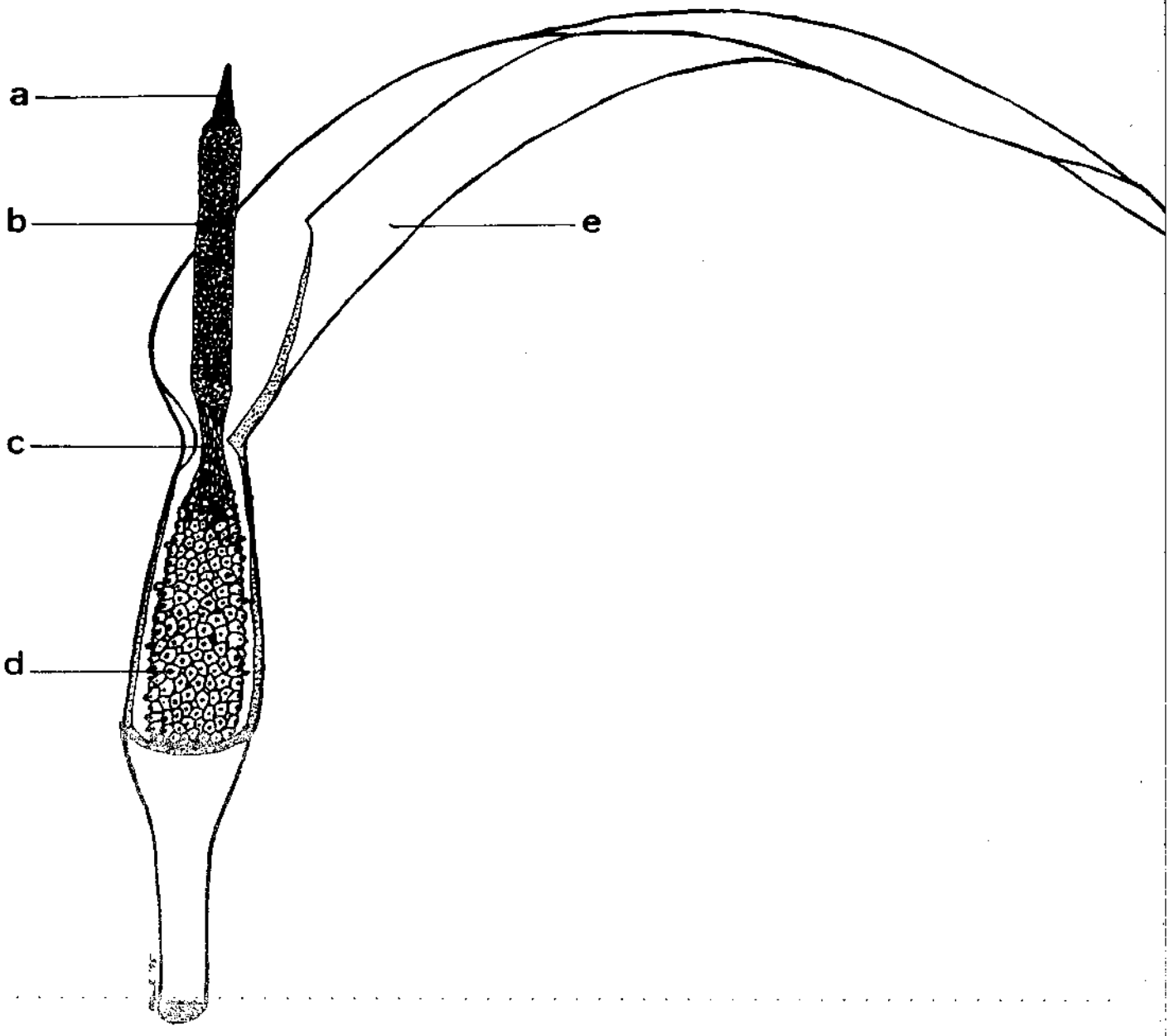
The effects of stressful climatic conditions were determined mainly by observations of the breeding plots and wild populations. The effect of the dry spell experienced between October and December 1994 (Figure 1) was evident in the December 1994 to January 1995 period. The effect of the wet weather, especially rainy days, was observed between December 1994 and April 1995.

RESULTS

Floral Development

Flowering in *C. esculenta* under Bubia climatic conditions is not seasonal. Genotypes with good

Figure 2. *Inflorescence of taro (with spadix exposed): (a) sterile appendage, (b) male portion, (c) sterile band, (d) female portion, and (e) spathe*



flowering ability flower throughout the year.

C. esculenta has fragrant monecious inflorescence which exhibits protogyny (Figure 2). More elaborate descriptions of taro inflorescences are given in other literatures (Shaw, 1975; Strauss, 1983; Purseglove, 1988). A plant of a cultivar generally develops up to three floral clusters during its growth period, an average of six months. Wild genotypes can develop more. Each floral cluster may develop one to five inflorescences. Shaw (1975) reported similar observations.The number of floral clusters and inflorescences per cluster vary between genotypes.

The development of each inflorescence, from its emergence to when the fruit head fully ripens, takes approximately 35 days. The appearance of the flag leaf signals the emerging inflorescence (Ivancic

Table 1. *Mean seed dry weight and estimated number of seeds obtained at various stages.*

Floral Development Stage *	No. of Crosses	Seed Dry Weight (g)		Number of seeds	
		Mean	Range	Mean	Range
-6	5	0	0	0	0
-5	8	0.12	0.04 - 0.54	625	217 - 2935
-4	8	0.37	0.04 - 1.61	2004	217 - 8750
-3	6	0.73	0.31 - 1.82	3967	1685 - 9891
-2	4	0.80	0.20 - 1.71	4335	1087 - 9294
-1	5	0.81	0.63 - 1.43	4394	3424 - 7772
0	5	1.21	0.62 - 1.82	6576	3370 - 9891
1	6	0.74	0.11 - 1.81	4004	598 - 9837
2	6	1.03	0.33 - 1.58	3768	1794 - 8587
3	7	0.51	0.67 - 1.13	2772	3641 - 6141
4	7	0.07	0.09 - 0.24	373	489 - 1304
5	5	0	0	0	0

* *Day relative to age when the fragrance is emitted (i.e. 'day zero').*

1992). The flag leaf usually develop together with the new leaf, partly wrapping it. It indicates the differentiation of a floral cluster, and may appear as early as 19 days before the emergence of the first inflorescence. At emergence, the inflorescence may generally be green, purple or have various distributions of colours depending on the general pigmentation of the genotype. Five days after emergence, the spathe generally turns yellow, unrolls and slightly opens. This happens with simultaneous emission of the insect-attracting fragrance. This observation is based on the first inflorescence. Inflorescences that develop later may be exposed out of the petiole sheath early (taken as emergence) and thus it may take longer (up to eight days) before they unroll and release the fragrance. Anther dehiscence begins on the following morning and continues up to 24 hours. Prior to anther dehiscence, the neck area and the lower portion of the spathe closes in to isolate the pistillate flowers. The upper limb of the spathe, together with the male component of the spadix, then withers and eventually dries off after two days. Following successful fertilization and seed development, the fruit ripens as early as 21 days later. At this stage the portion of the spathe covering the fruit head splits longitudinally around the middle or slightly below, and rolls back to expose the ripe berries. The peduncle becomes weak and eventually falls with the fruit head.

Interestingly, seed germination was observed at the base of the mother plant in the breeding field at BARC. This was observed during the wet season. The authors suspect abiotic factors such as shade (a result of competition), moisture and nutrient unavailability as probable causes of the inability of taro to propagate naturally through seeds.

Stigma Receptivity

Detailed description of the morphology of pistillate flowers were given by Shaw (1975), Strauss (1983) and Purseglove (1988), but, stigma receptivity was not reported. Strauss *et al.* (1980), however, noted that stigmas became receptive on the day when pollen shedding began and remained so for two to three days thereafter. The present study found that the stigmas gradually became receptive over time, beginning at the day when the inflorescence emerged from the petiole sheath.

Seeds were obtained from the stage of floral emergence i.e. day - 5 (mean of 625 seeds) to 9 days later on day 4 (mean of 373 seeds), peaking (mean of 6576 seeds) on day 0 when the fragrance was released from the spathe (Table 1).

Genotypes vary in their potential to set seeds. We observed that some can produce over 10,000 seeds per fruit head. The overlapping ranges in dry seed weight and number of seeds (Table 1) may also indicate variation in number of fertile flowers, number

Table 2. *Effect of drought on seed setting*

Insect pollinated inflorescence (%)			Artificially pollinated inflorescence (%)	
with mature seeds	with immature seeds	with no seed formed	with mature seeds	with immature seeds
2 (3/162)	14 (22/162)	84 (136/162)	79 (140/177)	21 (37/177)

of parietal placentae and ovules per ovary, and seed size and weight between genotypes as earlier reported by Shaw (1975). As a logical result, there are differences in their seed production potentials.

Climatic effect on flowering

The development of inflorescences within floral clusters was noted to be accelerated during the dry period. This was manifested in early maturation of inflorescences inside the petiole sheath, rapid production of consecutive inflorescences, inhibition of anther dehiscence, lack of or only partial emission of the insect-attracting fragrance, and wilting of immature fruit heads. Reduction in the complete spadix was also noted.

Insects, especially Drosophillidae, flies and bees, which may be pollinators, were found to be present. Despite these, seed setting of only 16% was recorded following the November 1994 drought in natural crosses (Table 2). This low percentage of seed set may be attributed to scarcity of pollen donors; decrease or lack of fragrance to attract pollinators; and in some cases, the development and receptivity of inflorescences inside the petiole sheath which prevents or impedes insect (pollinators) entry. Seed setting was better in artificial crosses (100%). The effect of water stress resulting in wilting of immature fruit heads has been observed in both artificial (21%) and natural crosses (14%).

On the other hand, wet weather, especially rains, affected pollen production and availability. It was noted that either anther dehiscence was inhibited or the pollen became too wet to interest insect visitors. However, inflorescences in anthesis after rains were noted to have full pollen production.

DISCUSSION

C. esculenta flowers throughout the year under the Bubia climate. This may be attributed to constancy of environmental conditions (such as daylength) or the crop's insensitivity to environmental fluctuations (Frankel and Galun 1975). Depending on its flowering ability and growth period, one plant generally produces up to three floral clusters. Its fragrant monecious inflorescences exhibit protogyny. Impediment of self-pollination (in the 'strict sense,' i.e. transfer of pollen from the male portion to the pistillate flowers on the same inflorescence) is effected by the morphological development of the spathe, which at least partially isolates female flowers in space. In some genotypes, the neck portion of the spathe is not efficiently closed and so self-fertilization may result from pollen carried down the spadix by gravity, rain water and insects. Interestingly, less than 2% successful self-pollination ('in the strict sense') was observed from inflorescences isolated and exposed to rain after pollen has been shed. However, such selfing is rarer than geitonogamous pollination (pollination between clones of one genotype). Cross-pollination (including geitonogamy) is done mainly by insects and occurs at the stage when the spathe unrolls with simultaneous release of the insect-attracting fragrance. Nevertheless, there is an overlap between the male and female developmental stages of the inflorescence. The stigmas of the female flowers were receptive from the stage of their emergence until the fourth day after anther

dehiscence had begun.

From the result, it seems that most, if not all, stigmas of the female flowers are fully receptive when the spathe emits the insect-attracting fragrance. It should be noted that this study did not measure the duration of stigma receptivity in individual female flowers. Thus, the progressive increase and decline in seed set (Table 1) could possibly reflect the number of receptive stigmas out of the total number of female flowers.The lack of seed set may be attributed to factors affecting pre- and post-zygotic development and other problems associated with pollen dispersal. However, lack of seed set and low seed numbers in this study could be the result of either immature stigmas or loss of their receptivity due to senescence.

In breeding, synchronizing the flowering to cross desirable individuals can be a serious problem. This is especially obvious in cases where pollen production is hindered or when only a limited number of inflorescences, which can be used as females, are available. As such, the 10-day long period of stigma receptivity can lessen or alienate such concern, and also enable flexibility of hybridization in breeding work. To achieve good seed set, it would be wiser to pollinate the female flowers at the stage when they are optimally receptive, which is between 2 to 8 days after the emergence of the inflorescence.

In the natural system, earliest pollination takes place when the spathe starts to unfold and releases the insect-attracting fragrance. Female and male portions are early isolated on the spadix, and later, the female flowers are isolated by the constriction in the spathe. Earlier pollination has to be conducted artificially, although some abnormal inflorescences with exposed pistillate flowers may receive pollen by wind. Seed set in nature for entomophilous plants is strongly dependent on the presence of insect pollinators, prevalence of inflorescences in their male phase and availability of pollen within or between populations, the distances between flowering plants, and the probability that insect pollinators will visit these inflorescences (Young 1990).

Drought and wet weather may affect the flowering process and seed development. Acceleration of floral development due to drought stress has been observed in many cultivated plants (Blum 1988). Drought stress is of especial concern in taro as it hinders pollen production and dispersal and seed development in both natural and artificial crosses. Stigma receptivity and pre-zygotic development may have been very little or not affected. This was obvious from the better seed setting in artificial crosses. Immature seeds obtained in artificial crosses were mainly caused by wilting of the peduncle and fruit head which affected seed development. This may be attributed to drought-induced water stress because viable seeds were usually obtained when the inflorescences are cut at the peduncle and placed in water. In counteracting stress induced by drought, the PNG breeders usually use irrigation systems, especially flood and sprinkler irrigation. On the other hand, in the wet period only the paternal parent was affected: anther dehiscence was inhibited or pollen became too wet to interest insect visitors. Therefore, to ensure that pollen is shed, inflorescences (in the stage when the spathe unfolds and emits the fragrance) should be cut at the peduncle and placed in water in an air-conditioned room. Pollen will be available on the following morning.

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REPRODUCTIVE STRATEGY OF THE PARASITIC WASP *BRACON HEBETOR* (SAY) (HYMENOPTERA: BRACONIDAE) ON THE RICE MOTH *CORCYRA CEPHALONICA* (STAINT.)

Allotey, J[1] and R. Kumar [2]

ABSTRACT

The reproductive strategy of the parasitic wasp Bracon hebetor *(Say) on the larvae of the rice moth* Corcyra cephalonica *(Staint.) was studied under laboratory conditions.* B. hebetor *has a developmental period of about 10 days. A single female* B. hebetor *attacked and killed when offered 5, 10 or 20 host larvae at a time, before oviposition. The sex-ratio (♂: ♀) of the F1 was effected (3.7:1, 3.0:1, 2.9:1). The possibility of using* B. hebetor *to suppress populations of* C. cephalonica *is discussed.*

Keywords: Bracon hebetor, Corcyra cephalonica, *oviposition, developmental period, sex-ratio suppression.*

INTRODUCTION

Bracon hebetor (Say) is a cosmopolitan parasitic wasp attacking many species of stored product moth hosts (Press *et al.* 1981). Various workers have studied the effectiveness of *B. hebetor* as a bio-control agent and its interaction with stored product pyralids such as *Ephestia cautella* (Wlk.), *Plodia interpunctella* (Hubn) and *Cadra cautella* (Wlk.) (Benson 1974; Press *et al.* 1974); Reinert and King 1971; Hagstrum and Smittle 1977, 1978; Press *et al.* 1981, 1982; Ahmed *et al.* 1982; Cline *et al.* 1984). Little has been published on its effect on the rice moth, *Corcyra cephalonica* (Staint.) which is currently one of the most destructive pyralid moth pest of stored products in the tropics and in some cases out-competes *E. cautella* (Allotey and Kumar 1985; Allotey 1988 and 1989). The purpose of the present study was to determine the reproductive strategy of *B. hebetor* on *C. cephalonica* with respect to progeny and sex ratio (sex allocation) as well as other developmental parameters of the parasitoid.

MATERIALS AND METHODS

Laboratory cultures of *C. cephalonica* on cut groundnuts were maintained in the entomology laboratory of the Department of Biological Sciences, River State University of Science and Technology, Port Harcourt, Nigeria. Late instar larvae of *C. cephalonica* were used as hosts in cultures of *B. hebetor* under the same environmental conditions. One male and one female of newly emerged *B. hebetor* (less than 24 hr-old) were placed in each of 20 glass vials (2.5 cm diameter, 7.6 cm long). Each vial contained five half-cut groundnut kernels and late instar larvae of *C. cephalonica*, with 5, 10 or 20 larvae per vial. In all there were 20 replications for each category (i.e. per 5, 10 and 20 larvae). Controls were set up with *C. cephalonica* in the vials but without *B. hebetor*. The vials were covered with a muslin cloth held in place with a rubber band and kept at 30 ± 2 °C and 76.5 ± 4 % r.h. with alternating 24 hr light and 24 hr dark cycle. After 8 - 10 days, the contents of the vials were examined and the number of F1 *B. hebetor* recorded together with the number of parasitised host larvae.

RESULTS AND DISCUSSIONS

Table 1 shows the summary of the reproductive strategy of *B. hebetor* on the host *C. cephalonica*. Female *B. hebetor* attacks the late instar larvae of *C. cephalonica* by stinging them several times. Thereafter *B. hebetor* oviposited on the paralysed larvae. In most cases the number of cocoons of the parasitoid per vial were greater than the number of emerged F1 progeny. This situation could be due to natural death at the pupal stages. The life cycle of the parasitoid was completed in about 10 days (Table 1). The results presented in Table 1 show that the sex-ratio (♂: ♀) decreased (3.71:1; 3.0:1

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Table 1: *Summary of the results of the reproductive strategies of* B. hebetor *on* C. cephalonica.

Experimental set-up	*C. cephalonica* larvae per replicate					
	5 larvae		10 larvae		20 larvae	
Proportion of individuals per F_1 generation of *B. hebetor*	F. generation of *B. hebetor*					
	♂ (n=20)	♀	♂ *(n=11)	♀	♂ *(n=15)	♀
(Mean) x	15.95	4.3	28.18	9.27	30.9	10.53
S	16.67	5.45	8.86	6.57	15.28	15.37
(Total) Σx	319	86	310	102	464	158
Σx^2	10367	934	9522	1378	17622	4970
S.E.	3.73	1.22	2.67	1.98	3.95	3.97
(Sex ratio) ♂: ♀	3.71:1		3.0:1		2.9:1	
Date set	17/3/88		25/3/88		29/3/88	
Date of first emergence	25/3/88		2/4/88		6/4/88	
Range of emergence	25/3 - 26/3		2/4 - 3/4		6/4 - 7/4	
Dev. Period (days)	9-10		9-10		9-10	

N = 20

N = Number of replicates

n = Actual number of replicates used in statistical analysis

* Where some F_1 parasitoids escaped, such vials were not included in statistical analysis, but cocoons in such vials were counted and significance is explained in the text.

and 2.9:1) with increasing number of host larvae per vial. *B. hebetor* has been reported to parasitize the late stage larvae of stored product moths and can effect significant natural control of moth populations (Benson 1973; Press *et al.* 1981). Reinert and King (1971) on the basis of laboratory studies reported that mortality of the moth population (*P. interpunctella*) was a logistic function of the number of female *B. hebetor* present and that *B. hebetor* decreased the moth population by 97%. Kamin-Belsky *et al.* (1986) noted that *B. hebetor* in laboratory studies reduced the moth population size to extinction.

Press *et al.* (1977) reported that *B. hebetor* paralyses more host larvae than it actually parasitizes. As mentioned earlier, the life cycle of *B. hebetor* in the present study was about 10 days. Anonymous (1979) gave the life cycle of *B. hebetor* as about 2 weeks. Under favourable condition *B. hebetor* develops from egg to adult in less than 2 weeks (Anonymous 1979; Press *et al.* 1981). The life history of *B. hebetor* has been studied by Morrill (1942).

Considering the short developmental period of *B. hebetor* (about 10 days) on *C. cephalonica* and the known mean developmental periods of 35.5 and 38 days for *C. cephalonica* reared on maize and groundnut (Allotey 1990) it is possible for *B. hebetor* to complete at least two or even three generations of *C. cephalonia* infesting maize or groundnuts in West Africa. Press *et al.* (1981) suggest that *B. hebetor* would quickly increase in number in alarge population of *E. cautella* and that the numbers of hosts killed per parasite would also increase. In the present study not only did mortality increase with increasing host larvae per female *B. hebetor* but also the sex-ratio was affected by the increasing host larvae. Thus with limited host resource (5 larvae), more males were produced compared to the number of females (almost 4:1), however with increase in host resource (20 larvae), the sex-ratios changed as the number of males produced were found to be reduced (2.9:1). Therefore the sex-ratios in favour of females with the provision of more host larvae. According to Waage and Ming (1984) natural selection acts to produce a strategy of progeny and sex allocation which maximizes fitness. Thus increasing female populations of *B. hebetor* will lead to more host larvae being attacked.

Present studies therefore suggest that *B. hebetor* can be used to suppress populations of *C. cephalonica*, with the added advantage that the sex-ratio of the parasite tends to shift in favour of the female parasitoid with the increasing host population.

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CATALOG OF THE DINIDORIDAE OF THE WORLD

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ABSTRACT

Dinidoridae is a relatively small family of pentatomoids distributed primarily in the Afrotropical, Indomalayan and Oceanian realms. However, the family reaches into the palearctic and Australia, and it is represented in the neotropics by the type genus. Currently there are 95 nominal species in 16 genera. Some species are crop pests, others have served as experimental animals in laboratories, and at least one is used as a condiment in rice. Among the major pentatomoid families, Dinidoridae is unique in that it has been revised recently to species level. Durai (1987) provided a sturdy classification, which we follow, at the family and generic levels, but there remains at the species level difficulties that only additional study and adequate specimens will resolve. We hope this catalog spurs interest in the dinidors and facilitates systematic research on these remarkable insects.

Key words; Heteroptera, Pentatomoidea, taxonomy, type species.

INTRODUCTION

This synoptic and reference catalog of the Dinidoridae of the world covers the literature from 1758 to 1990, inclusively, with the addition of later papers that came to our attention.

We have followed Durai (1987) with respect to the rank and classification of taxa (Table 1). However, the catalog is arranged alphabetically with few exceptions. Synonyms in genera outside of the family are listed at the end of the catalog.

The taxonomic literature has been accepted uncritically. Documented misdeterminations are entered in the catalog under both the correct and incorrect taxa. The entry under the incorrect taxon is followed by a reference to the correct taxon; and the entry urder the correct taxon is followed by a reference to the authority for the correction. The authority for reducing a name to the status of a junior synonym is also noted.

Each reference is usually annotated to indicate the content, at least in part, unless this is obvious, as in the description of a new taxon. A new name and its author(s) are not separated by any punctuation; the name of a taxon and the name(s) of any subsequent user(s) are separated by a colon. Whenever possible, scientific names have been cited exactly as they appeared in the original publication. This not only includes typographical errors and misspelling (indicated by [sic]), but also the use of foreign letters and the capitalization of the first letter of certain specific epithets. The indication, by using "a", "b", or "c" of multiple papers by a single author in a single year is not done in this catalog. It is only necessary to clarify confusing situations. Here we have included an abbreviated citation of the journal, etc., in each entry in the text. As such, there should be no confusion as to which each citation refers to. Abbreviations used in annotations and their meanings are given inTable 2. We attempted to verify each reference. Those we did not see are so noted in the References.

The type species and the means of designation are given for each genus. The original binomen is listed for the type species. In the event the species name has been sunk in synonymy, the original binomen of the valid name is also cited. For example, the type species of *Spongopodium* Spinola, 1837, a junior synonym of *Coridius* Illiger, 1807, is *Cimex obscurus* Fabricius, 1794. This binomen is both preoccupied

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and a junior synonym of *Cimex brunneus* Thunberg, 1783.Therefore the type species for *Spongopodium* is given as: *Spongopodium*: *Cimex obscurus* Fabricius, 1794 [= *Cimex brunneus* Thunberg, 1783], by monotypy.

The nominal date of publication has been accepted as correct in the absence of contrary evidence of which we are aware. No nomenclatural problem in Dinidoridae hinges on disputed date of publication.

The known distribution of each species in given, using current political units in most cases. Sometimes a physiographic unit, such as a mountain, is a better boundary or the only possible one for want of more precise records.The catalog is preserved on disk in DOS format to facilitate future corrections or additions. Disks are conserved in the American Museum of Natural History and the California Academy of Sciences.

Table 1. *Classification of Dinidoridae*

DINIDORINAE
- DINIDORINI
  - *Amberiana, Colpoproctus, Colporidius, Coridiellus, Coridius, Cyclopelta, Dinidor, Patanocnema, Sagriva*
- THALMINI
  - *Folengus, Thalma, Urusa*

MEGYMENINAE
- MEGYMENINI
  - *Byrsodepsus, Doesbergiana, Megymenum*

EUMENOTINI
- *Eumenotes*

Table 2. *Abbreviations used in annotations*

B = Biology	**L** = Listed
C = Chromosome	**M** = Morphology
D = Description, Diagnosis	**N** = Nomenclature
Dn = Descriptive note	**Nn** = New Name
E = Eggs	**P** = Parasite(s), Predator(s)
G = Genetics	**R** = Record
Ge = Genitalia	**S or Syn** = Synonymy
H = Host(s)	**sec** = on the authority of
I = Immatures	**T** = Type material
K = Keyed	**Tn** = Taxonomic note
Kg = Genus keyed	**Ts** = Taxonomic position or status
Ksg = Subgenus keyed	**Tsp** = Type species
Ks = Species keyed	**V** = Vector
Kss = Subspecies keyed	

DINIDORIDAE Stål, 1867

Type genus *Dinidor* Latreille, 1829.

1867 **Dinidorinae:** Stål, Öfv. Vet.-Akad. Förh. 24(7):522.(K)
1870 **Dinidorina:** Stål, Sv. Vet.-Akad. Handl. 9(1):79. (L)
1872 **Dinidorina:** Stål, Öfv. Vet.-Akad. Förh. 29(3):32. (K)
1881 **Dinidorinae:** Distant, Biol. Cent. Am., Rh. 1:102. (R)
1883 **Dinidorinae:** Distant, Trans. Ent. Soc. Lond. 1883(4):416. (L)
1884 **Dinidorinae:** Distant, Proc. Zool. Soc. Lond. 1884:461. (L)
1886 **Dinidorini:** Puton, Cat. Hém. Pal. (3rd ed): 15. (L)
1889 **Dinidorina:** Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):85. (D, S)
1893 **Dinidoridae:** Lethierry & Severin, Cat. Gén. Hém. 1:235-240. (catalog)
1902 **Dinidorinae:** Distant. Fauna Brit. India, Rh. 1:3, 279. (D, K, Kg of India, S)
1903 **Dinidorinae:** Schouteden, Rhyn. Aeth. 1:2. (K)
1906 **Dinidorina:** Oshanin, Verz. Pal. Hem. 1:161. (S; as subfamily)
1908 **Dinidorinae:** Bergroth, Mém. Soc. Ent. Belg. 15:188. (catalog supplement)
1909 **Dinidorinae:** Kirkaldy, Cat. Hem. 1:253, 363. (K, S)
1909 **Dinidorinae:** Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):71. (African genn.)
1912 **Dinidorinae:** Oshanin, Kat. Pal. Hem.: 19.
1913 **Dinidorinae:** Jeannel, Voy. Alluaud, Hém.: 100. (L)
1913 **Dinidorinae:** Kirkaldy, Can. Ent. 45:83-84. (Kg)
1913 **Dinidorinae:** Schouteden, Gen. Ins. 153:1-4. (D, Kg, R, S)
1922 **Dinidorinae:** Courteaux, Anim. Art. 1:272. (D)
1922 **Eumenotinae:** Esaki, Insecutor Inscit. Menstr. 10:196. (under Aradidae)
1924 **Coridiinae** Schumacher, Dt. Ent. Z. 1924(4):335.
1927 **Coridiinae:** Bergroth, Ark. Zool. 18A(26):7. (L)
1928 **Dinidorinae:** China, J.F.M.S. Mus. 8(3):193.
1930 **Eumenotinae:**Esaki, Ann. Mag. Nat. Hist. (10)5:630. (under Pentatomidae)
1932 **Dinidorinae:** Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1934 **Dinidorinae:** Gulde, Wanz. Mitteleur. 3:85.
1934 **Dinidorinae:** Miller, J.F.M.S. Mus. 17(3):517
1934 **Dinidoridae:** Yang, Bull. Fan Mem. Inst. Biol. 5(2):51, 70. (K, Ks of Kiangsi)
1935 **Dinidorinae:** Tang, in: Wu, Cat. Ins. Sin. 2:345. (S)
1937 **Dinidorini:** Beier, Handb. Zool. 4(2):2188. (excepting Eumenotinae; as tribe of Pentatominae)
1940 **Dinidorinae:** Costa Lima, Ins. Bras. 2:44, 51. (K)
1940 **Coridiinae:** Yang, Bull. Fan Mem. Inst. Biol. 10(1):1-8. (D, Kg, S)
1948 **Coridiinae:** Hoffmann, Lingnan Sci. J. 22(1-4):20-21. (S)
1949 **Dinidoridae:** Vidal, Mem. Soc. Sci. Nat. Maroc 48:53, 215. (K)
1952 **Dinidoridae:** Cachan, Mem. Inst. Sci. Madagascar (E)1(2):234, 294. (D, K, Kg Madagascar)
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1953 **Dinidorinae:** Priesner & Alfieri, Bull. Soc. Fouad Ist. Ent. 37:10, 29. (K)
1955 **Dinidorinae:** Leston, Ent. Mon. Mag. 91:214, 215. (G, Ts)
1956 **Dinidorinae:** Southwood, Trans. R. Ent. Soc. Lond. 108(6):186. (E)
1958 **Dinidoridae:** Leston, Proc. 10th Intern. Congr. Ent. 2[1956]:911, figs. 1, 5, table 4. (C)
1958 **Dinidorinae:** Manna, Proc. 10th Intern. Congr. Ent. 2[1956]:920. (C)
1959 **Dinidorinae:** China & Miller, Bull. Brit. Mus. Nat. Hist., Ent. 8(1):5, 39. (K)
1961 **Dinidoridae:** Miyamoto, Sieboldia 2(4):207-208. (anatomy, Ts)
1962 **Dinidoridae:** Kumar, Ent. Tidskr. 83(1-2):59-60. (classification)
1962 **Dinidorinae:** Stichel, Ill. Bestimm. Wanz. (2)4(1):443. (K)
1962 **Dinidoridae:** Yang, Econ. Ins. Fauna China 2:46-47. (Ks)
1963 **Dinidorinae:** Ruckes, Ins. Micronesia 7(7):319. (K)
1965 **Dinidoridae:** Miyamoto, Icon. Ins. Jap. Col. Nat. 3:46. (K)
1965 **Dinidorinae:** Puchkov, Shield Bugs Central Asia: 120, 313. (K, R)
1970 **Dinidoridae:** Woodward *et al.*, Ins. Austral.: 449, 450. (K)
1972 **Dinidorinae:** Gillon, Ann. Univ. Abidjan (E)5(1):285, 291, 352. (Dn, K)

1972 **Dinidorinae:** Jordan, Handb. Zool. 4(2)2/20:38, 39. (D, K)
1975 **Dinidoridae:** Štys & Kerzhner, Acta Ent. Bohemoslovaca 72(2):74. (Ts)
1977 **Dinidorinae:** Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:53, 69. (K, Kg)
1979 **Dinidoridae:** Rolston & McDonald, J. N.Y. Ent. Soc. 87(3):189, 190, 196. (D, K)
1980 **Dinidoridae:** Ahmad, Proc. Pakistan Congr. Zool. 1:121, 135. (taxa Pakistan & Azad Kashmir)
1981 **Dinidoridae:** Ahmad, Ent. Soc. Karachi, suppl. 4(1):85-87. (classification)
1982 **Dinidoridae:** Nuamah, Insect Sci. Appl. 3(1):14, 24, 25, 26, 27. (C, classification)
1982 **Dinidoridae:** Slater, Syn. Class.: 445. (D)
1986 **Dinidoridae:** Jacobs, in: Scholtz, Ins. S. Afr.: 142, 145. (D, K)
1987 **Dinidoridae:** Durai, Oriental Ins. 21:163-164, 166-170. (D, K subfamilies & tribes)
1987 **Dinidoridae:** Schaefer & Ahmad, Phytophaga 1:28. (H)
1989 **Dinidoridae:** Delvare & Aberlene, Ins. Afr. Am. Trop.: 114. (K)

DINIDORINAE Stål, 1867

Type genus: *Dinidor* Latreille, 1829
1955 **Dinidorinae:** China & Miller, Ann. Mag. Nat. Hist. (12)8:258. (S; under Pentatomidae)
1956 **Dinidorinae:** Miller, Biol. Het. (1st ed.): 48-49, 50. (Dn, E)
1982 **Dinidorinae:** Nuamah, Insect Sci. Appl. 3(1):14, 24, 25. (classification)
1987 **Dinidorinae:** Durai, Oriental Ins. 21:170 -171. (K)
1990 **Dinidorinae:** Lis, Ann. Upper Silesian Mus., Ent. 1:139. (L)
1991 **Dinidorinae:** Lis, Ann. Upper Silesian Mus., Ent. 2:83. (K to immatures)

DINIDORINI Stål, 1867

Type genus: *Dinidor* Latreille, 1829
1982 **Dinidorini:** Nuamah, Insect Sci. Appl. 3(1):24. (classification)
1987 **Dinidorini:** Durai, Oriental Ins. 21:170-171. (Kg)
1990 **Dinidorini:** Lis, Ann. Upper Silesian Mus., Ent. 1:139. (L)

AMACOSIA Spinola, 1850 - see *Coridius*

Amacosia delegorguei Spinola, 1850 - see *Coridius nubilus*

AMBERIANA Distant, 1911

Type species: *Amberiana montana* Distant, 1911, by monotypy.
1911 *Amberiana* Distant, Ann. Mag. Nat. Hist. (8)7:340-341.
1912 *Amberiana*: Schouteden, Ann. Soc. Ent. Belg. 56:353. (Ts)
1952 *Amberiana:* Cachan, Mem. Inst. Sci. Madagascar (E)1(2):294, 297. (K, Ks)
1990 *Amberiana:* Lis, Ann. Upper Silesian Mus., Ent. 1:128-129. (D, Tn)

Amberiana major Schouteden, 1912
1912 *Amberiana major* Schouteden, Ann. Soc Ent. Belg. 56:353.
1952 *Amberiana major:* Cachan, Mem. Inst. Sci. Madagascar (E)1(2):298. (Dn, K, R)
1990 *Amberiana major:* Lis, Ann. Upper Silesian Mus., Ent. 1:130-131, 142, fig. 28. (D, R, T)
Distribution: Madagascar.

Amberiana montana Distant, 1911
1911 *Amberiana montana* Distant, Ann. Mag. Nat. Hist. (8)7:341.

1912 *Amberiana montana:* Schouteden, Ann. Soc. Ent. Belg. 56:353. (L)
1952 *Amberiana montana:* Cachan, Mem. Inst. Sci. Madagascar (E)1(2):297, figs. 161-163. (D, K, R, S)
1990 *Amberiana montana*: Lis, Ann. Upper Silesian Mus., Ent. 1:129-130, 142, figs. 25-27. (D, R, T)
Distribution: Madagascar.

ASPONGOPUS Laporte, 1833 - see *Coridius*

Aspongopus aeneus Walker, 1868 - see *Colporidius aeneus*
Aspongopus affinis Costa, 1847 - see *Coridius affinis*
Aspongopus affinis Distant, 1878 - see *Coridiellus patruelis*
Aspongopus alternans Westwood, 1837 see *Cyclopelta obscura*
Aspongopus alternatus Distant, 1908 - see *Coridius alternatus*
Aspongopus amethystinus (Weber, 1801) - see *Pycanum rubens* [Tessaratomidae: Tessaratominae]
Aspongopus angulatus Reuter, 1884 - see *Coridius divergens*
Aspongopus assamensis Distant, 1902 - see *Coridius assamensis*
Aspongopus assar Kirkaldy, 1899 - see *Coridius viduatus*
Aspongopus balinus Karsch, 1892 - see *Coridius divergens*
Aspongopus bechynei Villiers, 1956 - see *Coridiellus bechynei*
Aspongopus binotatus Distant, 1900 - see *Coridiellus patruelis*
Aspongopus brunneus (Thunberg, 1783) - see *Coridius brunneus*
Aspongopus castaneus Signoret, 1861 - see *Coridius castaneus*
Aspongopus chinensis Dallas, 1851 - see *Coridius chinensis*
Aspongopus circumcinctus Walker, 1868 - see *Coridius sanguinolentus*
Aspongopus circumcinctus Distant, 1910 - see *Colpoproctus circumclusus*
Aspongopus circumclusus Distant, 1911 - see *Colpoproctus circumclusus*
Aspongopus costalis (Germar, 1838) - see *Basycryptus costalis* [Pentatomidae: Phyllocephalinae]
Aspongopus cruralis Distant, 1890 - see *Coridius remipes*
Aspongopus cuprifer Westwood, 1837 - see *Coridius cuprifer*
Aspongopus cuprinus Stål, 1870 - see *Coridius cuprinus*
Aspongopus cyclopeltus Distant, 1890 - see *Coridiellus cyclopeltus*
Aspongopus depressicornis Herrich-Schäffer, 1838 - see *Cyclopelta obscura*
Aspongopus dimorphus China, 1928 - see *Coridius dimorphus*
Aspongopus distanti Lethierry & Severin, 1893 - see *Coridiellus patruelis*
Aspongopus divergens Distant, 1878 - see *Coridius divergens*
Aspongopus dorsalis (Walker, 1868) - see *Coridius remipes*
Aspongopus dubitabilis Fairmaire, 1858 - see *Coridius dubitabilis*
Aspongopus ephippiatus Schouteden, 1902 - see *Coridiellus patruelis*
Aspongopus erythrocerus Germar, 1838 - see *Coridius nubilus*
Aspongopus farleyi Distant, 1878 - see *Coridius farleyi*
Aspongopus femoralis Stål, 1865 - see *Colpoproctus femoralis*
Aspongopus figlinus Distant, 1900 - see *Coridiellus figlinus*
Aspongopus flavomarginatus (Signoret, 1861) - see *Coridius flavomarginatus*
Aspongopus funebris (Fabricius, 1775) - see *Cyclopelta funebris*
Aspongopus fuscus Westwood, 1837 - see *Coridius fuscus*
Aspongopus holasi Villiers, 1970 - see *Colpoproctus limbatus*
Aspongopus ianus (Fabricius, 1775) - see *Coridius ianus*
Aspongopus intermedius Distant, 1878 - see *Coridius rotundatus*
Aspongopus janus (Fabricius, 1775) - see *Coridius ianus*
Aspongopus japetus Distant, 1889 - see *Coridius viduatus*
Aspongopus laboriosus Bergroth, 1893 - see *Coridius putoni*
Aspongopus laosanus Distant, 1921 - see *Coridius laosanus*
Aspongopus lenoiri Schouteden, 1909 - see *Coridiellus lenoiri*
Aspongopus limbatus Signoret, 1851 - see *Colpoproctus limbatus*

Aspongopus lividus Distant, 1898 - see *Coridius lividus*
Aspongopus mactans (Fabricius, 1798) - see *Dinidor mactabilis*
Aspongopus marginalis Dallas, 1851 - see *Coridius fuscus*
Aspongopus marginatus Costa, 1847 - see *Coridius marginatus*
Aspongopus margineguttatus Breddin, 1909 [as subsp. of *Aspongopus obscurus* (Fabricius, 1794)] - see *Coridius brunneus margineguttatus*
Aspongopus mayumbensis Schouteden, 1910 - see *Coridiellus mayumbensis*
Aspongopus melanopterus Herrich-Schäffer, 1844 - see *Coridius viduatus*
Aspongopus modestus Distant, 1878 - see *Colpoproctus vilis*
Aspongopus monachus Stål, 1853 - see *Coridius nubilus*
Aspongopus monticola Karsch, 1894 - see *Coridius prolixus*
Aspongopus mulleri Vollenhoven, 1868 - see *Coridius marginatus*
Aspongopus mysticus Stål, 1865 - see *Coridius nubilus*
Aspongopus nepalensis Westwood, 1837 - see *Coridius nepalensis*
Aspongopus niger Fieber, 1861 - see *Coridius viduatus*
Aspongopus nigriventris Westwood, 1837 - see *Coridius nepalensis*
Aspongopus nigroaeneus Reuter, 1881 - see *Coridius nigroaeneus*
Aspongopus nigroviolacea (Palisot de Beauvois, 1807) - see *Coridius viduatus*
Aspongopus nossibeensis Reuter, 1887 - see *Coridius castaneus*
Aspongopus nubilus Westwood, 1837 - see *Coridius nubilus*
Aspongopus obscurus (Fabricius, 1794) - see *Coridius brunneus*
Aspongopus obscurus margineguttatus Breddin, 1909 - see *Coridius brunneus margineguttatus*
Aspongopus ochreus Westwood, 1837 - see *Coridius brunneus*
Aspongopus orientalis Kirkaldy, 1909 - see *Coridius brunneus*
Aspongopus patruelis (Stål, 1853) - see *Coridiellus patruelis*
Aspongopus prolixus Lethierry, 1881 - see *Coridius prolixus*
Aspongopus pullus Stål, 1853 - see *Colpoproctus pullus*
Aspongopus putoni Bolivar, 1879 - see *Coridius putoni*
Aspongopus reflexus Westwood [Note: Schouteden, 1913, Rev. Zool. Afr. 2(2):196 lists *Aspongopus reflexus* Westwood from Congo; we have not been able to locate any other use of this name in the Dinidoridae]
Aspongopus remipes Stål, 1853 - see *Coridius remipes*
Aspongopus reuteri Haglund, 1894 - see *Coridius prolixus*
Aspongopus rotundatus Signoret, 1863 - see *Coridius rotundatus*
Aspongopus rufomarginatus Carlini, 1895 - see *Coridius rufomarginatus*
Aspongopus sanguinolentus Westwood, 1837 - see *Coridius sanguinolentus*
Aspongopus sartor Stål, 1853 - see *Coridius nubilus*
Aspongopus sepulcralis Stål, 1865 - see *Coridius cuprifer*
Aspongopus siccifolia Westwood, 1837 - see *Cyclopelta siccifolia*
Aspongopus singhalanus Distant, 1900 - see *Coridius singhalanus*
Aspongopus solitus Walker, 1868 - see *Coridius cuprifer*
Aspongopus spissus Distant, 1901 - see *Coridius lividus*
Aspongopus sutor Stål, 1853 - see *Coridius nubilus*
Aspongopus ululatus Kirkaldy, 1909 - see *Coridius affinis*
Aspongopus unicolor Herrich-Schäffer, 1839 - see *Coridius viduatus*
Aspongopus unicolor Dallas, 1851 - see *Coridius affinis*
Aspongopus vicinus Westwood, 1837 - see *Coridius janus*
Aspongopus viduatus (Fabricius, 1794) - see *Coridius viduatus*
Aspongopus viduatus japetus Distant, 1889 - see *Coridius viduatus*
Aspongopus viduatus unicolor Herrich-Schäffer, 1839 - see *Coridius viduatus*
Aspongopus vilis (Walker, 1868) - see *Colpoproctus vilis*
Aspongopus xanthopterus Fairmaire, 1858 - see *Coridius xanthopterus*

ATELIDES Dallas, 1852 - see *Sagriva*

Atelides centrolineatus Dallas, 1852 - see *Sagriva vittata*
Atelides sumatranus Breddin, 1904 - see *Sagriva vittata*

COLPOPROCTUS Stål, 1870

Type species: *Aspongopus limbatus* Signoret, 1851, by subsequent designation (Kirkaldy, 1909).

1870 *Aspongopus (Colpoproctus)* Stål, Sv. Vet.-Akad. Handl. 9(1):81.
1909 *Colpoproctus:* Kirkaldy, Cat. Hem. 1:XXXIV, 258. (Tsp)
1913 *Colpoproctus:* Kirkaldy, Can. Ent. 45:84. (K)
1952 *Aspongopus (Colpoproctus)*: Villiers, Init. Afr. 9:86. (D)
1987 *Colpoproctus:* Durai, Oriental Ins. 21:171, 222-223. (D, K, Ks, S,)

Colpoproctus circumclusus (Distant, 1911)

1910 *Aspongopus circumcinctus* Distant, Ann. Mag. Nat. Hist. (8)6:221. (preoccupied by *Aspongopus circumcinctus* Walker, 1868, *Coridius sanguinolentus)*
1911 *Aspongopus circumclusus* Distant, Ann. Mag. Nat. Hist. (8)7:258. (Nn for *Aspongopus circumcinctus* Distant, 1910)
1913 *Aspongopus (Colpoproctus) circumclusus:* Schouteden, Gen. Ins. 153:9. (S)
1913 *Aspongopus circumclusus:* Schouteden, Rev. Zool. Afr. 2(2):196. (R)
1954 *Coridius circumclusus:* Leston, Publ. Cult. Comp. Diam. Angola 24:16. (R)
1970 *Aspongopus semiclusus* [sic]: Villiers, Bull. I.F.A.N. (A)32(1):128, figs. 10-11. (figs. only)
1987 *Colpoproctus circumcinctus:* Durai, Oriental Ins. 21:223, 225. (D, K, R, S, T)
1990 *Colpoproctus circumcinctus:* Lis, Ann. Upper Silesian Mus., Ent. 1:142. (L)
Distribution: Angola, Cameroon, Congo, Malawi, Zaire.

Colpoproctus femoralis (Stål, 1865)

1865 *Aspongopus femoralis* Stål, Hem. Afr. 1:215. (K)
1863 *Aspongopus pemoralis* [sic]: Walker, Cat. Het. 3:481. (L)
1870 *Aspongopus (Colpoproctus) femoralis:* Stål, Sv. Vet.-Akad. Handl. 9(1):81. (L)
1873 *Aspongopus (Colpoproctus) femoralis:* Walker, Cat. Het., suppl.: 28. (L)
1893 *Aspongopus femoralis:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (L)
1909 *Colpoproctus femoralis:* Kirkaldy, Cat. Hem. 1:258. (L)
1913 *Aspongopus (Colpoproctus) femoralis:* Schouteden, Gen. Ins. 153:9. (L)
1922 *Colpoproctus femoralis:* Courteaux, Anim. Art. 1:258. (R)
1943 *Aspongopus femoralis:* Schouteden, Rev. Zool. Bot. Afr. 37:326. (R)
1952 *Aspongopus (Colpoproctus) femoralis:* Villiers, Init. Afr. 9:87-88. (R)
1964 *Coridius (Colpoproctus) femoralis:* Schouteden, Rev. Zool. Bot. Afr. 70(1-2):94. (R)
1982 *Coridius femoralis:* Linnavuori, Acta. Zool. Fenn. 163:12. (R)
1987 *Colpoproctus femoralis:* Durai, Oriental. Ins. 21:223, 224, figs. 307-309. (D, K, R, S, T)
1990 *Colpoproctus femoralis:* Lis, Ann. Upper Silesian Mus., Ent. 1:127-128, 142. (R, S)
Distribution: Cameroon, Ethiopia, Ghana, Equatorial Guinea, Ivory Coast.

Colpoproctus limbatus (Signoret, 1851)

1851 *Aspongopus limbatus* Signoret, Rev. Mag. Zool. 3:445, pl. 12 fig. 4.
1858 *Aspongopus limbatus:* Fairmaire & Signoret, in: Thomson, Arch. Ent. 2:292. (R)
1859 *Aspongobus* [sic] *limbatus*: Dohrn, Cat. Hem.: 21. (L)
1865 *Aspongopus limbatus:* Stål, Hem. Afr. 1:215. (D, K)
1868 *Aspongopus limbatus:* Walker, Cat. Het. 3:480. (L)
1870 *Aspongopus (Colpoproctus) limbatus:* Stål, Sv. Vet.-Akad. Handl. 9(1):81. (R, S)

1873 *Aspongopus (Colpoproctus) limbatus*: Walker, Cat. Het., suppl.: 28. (L)
1890 *Aspongopus limbatus*: Distant, Ann. Soc. Ent. Belg. 34(5):liv. (R)
1893 *Aspongopus limbatus:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (S)
1894 *Aspongopus limbatus:* Karsch, Stett. Ent. Ztg. 55:102. (R)
1901 *Aspongopus limbatus:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1904 *Aspongopus limbatus:* Schouteden, Mem. Soc. Esp. Hist. Nat. 1:149, 160. (R)
1909 *Colpoproctus limbatus:* Kirkaldy, Cat. Hem. 1:258. (S)
1909 *Aspongopus limbatus*: Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):73. (R)
1913 *Aspongopus (Colpoproctus) limbatus*: Schouteden, Gen. Ins. 153:9, pl. 2 fig. 9. (S)
1929 *Aspongopus limbatus:* Schouteden, Rev. Zool. Bot. Afr. 17(1):64. (R)
1943 *Aspongopus limbatus:* Schouteden, Rev. Zool. Bot. Afr. 37:326. (R)
1949 *Aspongopus limbatus:* Villiers, I.F.A.N. Cat. 5:89. (R)
1952 *Aspongopus (Colpoproctus) limbatus:* Villiers, Init. Afr. 9:87. (Dn, R)
1952 *Aspongopus limbatus:* Villiers, Mem. I.F.A.N. 19:307. (R)
1959 *Colpoproctus limbatus:* LePelley, Agric. Ins. E. Afr.: 55, 104. (H)
1964 *Coridius (Colpoproctus) limbatus:* Schouteden, Rev. Zool. Bot. Afr. 70(1-2):94. (R)
1967 *Aspongopus limbatus:* Villiers, Bull. I.F.A.N. (A)29(4):1809. (R)
1970 *Aspongopus holasi* Villiers, Bull. I.F.A.N. (A)32(1):127, figs. 7-9. (syn. by Durai, 1987)
1970 *Aspongopus limbatus:* Villiers, Bull. I.F.A.N. (A)32(1):128, figs. 12, 13. (figs. only)
1980 *Coridius (Colpoproctus) limbatus:* Medler, Mem. Am. Ent. Inst., no. 30:120. (R)
1982 *Coridius limbatus:* Linnavuori, Acta Zool. Fenn. 163:12. (R)
1982 *Coridius holasi:* Linnavuori, Acta Zool. Fenn. 163:12. (R)
1987 *Colpoproctus limbatus:* Durai, Oriental Ins. 21:223-224, figs. 298-306. (D, K, R, S, T)
1990 *Colpoproctus limbatus*: Lis, Ann. Upper Silesian Mus., Ent. 1:127, 142. (R, S)
Distribution: Cameroon, Central African Republic, Congo, Gabon, Guinea, Ivory Coast, Liberia, Mt. Nimba Reserve, Nigeria, Tanzania, Togo, Uganda, Zaire.

Colpoproctus pullus (Stål, 1853)
1853 *Aspongopus pullus* Stål, Öfv. Vet.-Akad. Förh. 10(9):223.
1859 *Aspongobus* [sic] *pullus:* Dohrn, Cat. Hem.: 22. (L)
1865 *Aspongopus pullus:* Stål, Hem. Afr. 1:215-216. (D, K)
1868 *Aspongopus pullus:* Walker, Cat. Het. 3:480. (L)
1870 *Aspongopus (Colpoproctus) pullus:* Stål, Sv. Vet.-Akad. Handl. 9(1):61. (R, S)
1873 *Aspongopus (Colpoproctus) pullus:* Walker, Cat. Het., suppl.: 28. (L)
1893 *Aspongopus pullus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1909 *Colpoproctus pullus:* Kirkaldy, Cat. Hem. 1:258. (S)
1913 *Aspongopus (Colpoproctus) pullus*: Schouteden, Gen. Ins. 153:9. (S)
1952 *Colpoproctus pullus:* Leston, Ann. Mag. Nat. Hist. (12)5:519. (R)
1952 *Colpoproctus pullus:* Leston, Ann. Mag. Nat. Hist. (12)5:902. (R)
1987 *Colpoproctus pullus*: Durai, Oriental. Ins. 21:225-226, figs. 310-314. (D, K, S, T)
1990 *Colpoproctus pullus*: Lis, Ann. Upper Silesian Mus., Ent. 1:128, 142. (R, S)
Distribution: Malawi, Republic of South Africa, Tanzania.

Colpoproctus vilis (Walker, 1868)
1868 *Cyclopelta vilis* Walker, Cat. Het. 3:478-479.
1878 *Aspongopus modestus* Distant, Ent. Mon. Mag. 15:11-12. (syn. by Durai, 1987)
1893 *Cyclopelta ? vilis*: Lethierry & Severin, Cat. Gén. Hém. 1:236. (L)
1893 *Aspongopus modestus:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (L)
1900 *Cyclopelta ? vilis:* Distant, Ann. Mag. Nat. Hist. (7)6:221, 233. (Ts)
1909 *Aspongopus modesta*: Kirkaldy, Cat. Hem. 1:256. (L)
1909 *Cyclopelta vilis:* Kirkaldy, Cat. Hem. 1:260. (Ts)
1913 *Aspongopus (Aspongopus) modestus:* Schouteden, Gen. Ins. 153:8. (L)
1913 *Aspongopus (Aspongopus) ? vilis:* Schouteden, Gen. Ins. 153:9. (S)
1987 *Colpoproctus vilis:* Durai, Oriental Ins. 21:223, 226-227, figs. 315-324. (D, K, S, T)
1990 *Colpoproctus vilis:* Lis, Ann. Upper Silesian Mus., Ent. 1:142. (L)

Distribution: East Africa, West Africa, Zaire.

COLPORIDIUS Lis, 1990

Type species: *Aspongopus aeneus* Walker, 1868, by original designation.
1990 *Colporidius* Lis, Ann. Upper Silesian Mus., Ent. 1:126-127.

Colporidius aeneus (Walker, 1868)
1868 *Aspongopus æneus* Walker, Cat. Het. 3:484.
1893 *Aspongopus æneus:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (L)
1900 *Aspongopus æneus:* Distant, Ann. Mag. Nat. Hist. (7)6:233. (Ts)
1901 *Aspongopus aeneus:* Breddin, Abh. Naturf. Ges. Halle 24:14. (R)
1909 *Aspongopus aeneus:* Kirkaldy, Cat. Hem. 1:255. (L)
1913 *Aspongopus (Aspongopus) aeneus:* Schouteden, Gen. Ins. 153:7. (L)
1987 *Coridius aeneus:* Durai, Oriental Ins. 21:189, 207. (D, K, R, T)
1990 *Colporidius aeneus:* Lis, Ann. Upper Silesian Mus., Ent. 1:127, 140, figs. 21, 22. (R, S)
Distribution: Celebes.

CORIDIELLUS Lis, 1990

Type species: *Cyclopelta patruelis* Stål, 1853, by original designation.
1990 *Coridiellus* Lis, Ann. Upper Silesian Mus., Ent. 1:111-112.

Coridiellus bechynei (Villiers, 1956)
1956 *Aspongopus bechynei* Villiers, Ent. Arb. Mus. Gg. Frey 7:214, fig. 3.
1987 *Coridius bechynei:* Durai, Oriental Ins. 21:187, 193, figs. 157-160. (D, K)
1990 *Coridiellus bechynei:* Lis, Ann. Upper Silesian Mus., Ent. 1:113, 140. (S)
Distribution: Guinea, West Africa.

Coridiellus cyclopeltus (Distant, 1890)
1890 *Aspongopus cyclopeltus* Distant, Ann. Soc. Ent. Belg. 34(5):liv, lviii. (Dn, R)
1893 *Aspongopus cyclopeltus:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (L)
1909 *Aspongopus cyclopeltus:* Kirkaldy, Cat. Hem. 1:255. (L)
1909 *Aspongopus cyclopeltus:* Schouteden, Ann. Mus. Congo Belg., Zool. (3)2,1(1):72. (T)
1913 *Aspongopus (Aspongopus) cyclopeltus:* Schouteden, Gen. Ins. 153:7, pl. 1 fig. 16.
1969 *Aspongopus cyclopeltus:* Synave, Bull. Inst. R. Sci. Nat. Belg. 45(37):8. (T)
1987 *Coridius cyclopeltus*: Durai, Oriental Ins. 21:187,192-193, figs. 154-156. (D, K, R, T)
1990 *Coridiellus cyclopeltus*: Lis, Ann. Upper Silesian Mus., Ent. 1:112, 140. (R, S)
Distribution: Cameroon, Uganda, Zaire.

Coridiellus figlinus (Distant, 1900)
1900 *Aspongopus figlinus* Distant, Ann. Mag. Nat. Hist. (7)6:222.
1908 *Aspongopus figlinus:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Aspongopus figlinus:* Kirkaldy, Cat. Hem. 1:256. (L)
1913 *Aspongopus (Aspongopus) figlinus:* Schouteden, Gen. Ins. 153:8. (L)
1987 *Coridius figlinus* Durai, Oriental Ins. 21:187, 193-194. (D, K, R, T)
1990 *Coridiellus figlinus:* Lis, Ann. Upper Silesian Mus., Ent. 1:113, 140. (R, S)
Distribution: Malawi, Republic of South Africa, Tanzania, Zimbabwe.

Coridiellus lenoiri (Schouteden, 1909)
1909 *Aspongopus lenoiri* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):72-73.
1909 *Aspongopus lenoiri:* Kirkaldy, Cat. Hem. 1:370. (L)
1913 *Aspongopus (Aspongopus) Lenoiri:* Schouteden, Gen. Ins. 153:8. (L)

1987 *Coridius lenoiri:* Durai, Oriental Ins. 21:187, 192. (D, K, R, T)
1990 *Coridiellus lenoiri:* Lis, Ann. Upper Silesian Mus., Ent. 1:112, 140. (S)
Distribution: Zaire.

Coridiellus mayumbensis (Schouteden, 1910)
1910 *Aspongopus mayumbensis* Schouteden, Ann. Soc. Ent. Belg. 54:404-405.
1913 *Aspongopus (Aspongopus) mayumbensis:* Schouteden, Gen. Ins. 153:8. (L)
1967 *Aspongopus mayumbensis:* Villiers, Bull. I.F.A.N. (A)29(4):1809. (R)
1987 *Coridius mayumbensis:* Durai, Oriental Ins. 21:187, 194-195. (D, K, T)
1990 *Coridiellus mayumbensis:* Lis, Ann. Upper Silesian Mus., Ent. 1:113, 140. (S)
Distribution: Zaire.

Coridiellus patruelis (Stål, 1853)
1853 *Cyclopelta patruelis* Stål, Öfv. Vet.-Akad. Förh. 10(9):223.
1859 *Cyclopelta patruelis:* Dohrn, Cat. Hem.: 21. (L)
1865 *Aspongopus patruelis:* Stål, Hem. Afr. 1:213. (D, K)
1868 *Cyclopelta dotata* Walker, Cat. Het. 3:479. (syn. by Distant, 1900)
1868 *Aspongopus patruelis*: Walker, Cat. Het. 3:481. (S)
1870 *Aspongopus (Aspongopus) patruelis*: Stål, Sv. Vet.-Akad. Handl. 9(1):83. (R, S)
1878 *Aspongopus affinis* Distant, Ent. Mon. Mag. 15:11. (preoccupied by *Aspongopus affinis* Costa, 1847, *Coridius affinis* ; syn. by Durai, 1987)
1893 *Cyclopelta ? dotata*: Lethierry & Severin, Cat. Gén. Hém. 1:235. (L)
1893 *Aspongopus Distanti* Lethierry & Severin, Cat. Gén. Hém. 1:237. (Nn for *Aspongopus affinis* Distant,1878)
1893 *Aspongopus patruelis*: Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1898 *Aspongopus patruelis:* Distant, Ann. Mag. Nat. Hist. (7)2:315. (R)
1900 *Aspongopus patruelis*: Distant, Ann. Mag. Nat. Hist. (7)6:221, 233. (S)
1900 *Aspongopus binotatus* Distant, Ann. Mag. Nat. Hist. (7)6:221. (syn. by Durai, 1987)
1902 *Aspongopus ephippiatus* Schouteden, Wien. Ent. Ztg. 21:238. (syn by Durai, 1987)
1908 *Aspongopus binotatus:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1908 *Aspongopus ephippiatus:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Aspongopus binotatus:* Kirkaldy, Cat. Hem. 1:255. (L)
1909 *Aspongopus distanti:* Kirkaldy, Cat. Hem. 1:255. (S)
1909 *Aspongopus ephippiatus:* Kirkaldy, Cat. Hem. 1:255. (L)
1909 *Aspongopus patruelis:* Kirkaldy, Cat. Hem. 1:257. (S)
1909 *Aspongopus ephippiatus:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):72. (type localities)
1913 *Aspongopus (Aspongopus) binotatus:* Schouteden, Gen. Ins. 153:7. (L)
1913 *Aspongopus (Aspongopus) Distanti:* Schouteden, Gen. Ins. 153:7. (S)
1913 *Aspongopus (Aspongopus) ephippiatus:* Schouteden, Gen. Ins. 153:8. (S)
1913 *Aspongopus (Aspongopus) patruelis:* Schouteden, Gen. Ins. 153:8. (S)
1952 *Aspongopus (Aspongopus) ephippiatus*: Villiers, Init. Afr. 9:86. (Dn, R)
1954 *Coridius distanti:* Leston, Publ. Cult. Comp. Diam. Angola 24:17. (R)
1969 *Aspongopus ephippiatus:* Synave, Bull. Inst. R. Sci. Nat. Belg. 45(37):9-10. (T)
1973 *Aspongopus binotatus:* Linnavuori, Ann. Ent. Fenn. 39(2):73. (R)
1987 *Coridius patruelis*: Durai, Oriental Ins. 21:187, 190-191, figs. 144-153. (D, K, R, S, T)
1990 *Coridiellus patruelis*: Lis, Ann. Upper Silesian Mus., Ent. 1:112, 140, figs. 8, 9. (R, S)
Distribution: Angola, Cameroon, Equatorial Guinea, French Congo, Malawi, Republic of South Africa, Tanzania, Togo, Uganda, Zaire, Zambia.

CORIDIUS Illiger, 1807

Type species: *Cimex ianus* Fabricius, 1775, by monotypy.
1807 *Coridius Illiger*, Fauna Etrusca 2:361.

1833 *Aspongopus* Laporte, Mag. Zool. 2:55, 58. (type species: *Cimex janus* Fabricius, 1775, by monotypy; objective syn.; K)
1835 *Aspongopus*: Burmeister, Handb. Ent. 2:347, 351. (part; D, K)
1837 *Aspongopus*: Spinola, Essai: 304-305. (D, K)
1837 *Spongopodium* Spinola, Essai: 305-306. (type species: *Cimex obscurus* Fabricius, 1794 [= *Cimex brunneus* Thunberg, 1783], by monotypy; syn. by Stål, 1865)
1843 *Aspongopus:* Amyot & Serville, Hist. Nat. Ins., Hém.: XXIX,173. (D, K)
1844 *Aspongopus*: Herrich-Schäffer, Wanz. Ins. 7:77. (D)
1846 *Aspongopus:* Agassiz, Nom. Zool. Hem.: 3. (Ety)
1846 *Spongopodium*: Agassiz, Nom. Zool. Hem.: 18. (Ety)
1850 *Amacosia* Spinola, Gen. Ins. Arthr.: 78. (type species: *Amacosia delegorguei* Spinola, 1850 [= *Aspongopus nubilus* Westwood, 1837], by monotypy; syn. by Walker, 1868)
1850 *Spongopodium:* Spinola, Gen. Ins. Arthr.: 33. (K)
1850 *Aspongopus:* Spinola, Gen. Ins. Arthr.: 33. (K)
1851 *Aspongopus:* Dallas, List Hem. 1:318, 348. (K, S)
1851 *Aspongopus:* Herrich-Schäffer, Wanz. Ins. 9:282. (K)
1852 *Amacosia:* Spinola, Mem. Soc. Ital. Sci. Modena 25(1):118. (reprint of 1850 paper)
1859 *Aspongobus* [sic]: Dohrn, Cat. Hem.: 21. (L)
1860 *Aspongopus:* Fieber, Eur. Hem.: 79. (K)
1861 *Aspongopus*: Fieber, Eur. Hem.: 330. (D, S)
1861 *Peltagopus* Signoret, Ann. Soc. Ent. Fr. (3)8[1860]:936. (type species: *Peltapogus flavomarginatus* Signoret, 1861, by monotypy; syn. by Stål, 1865)
1865 *Aspongopus:* Stål, Hem. Afr. 1:81, 212. (D, K, S)
1866 *Aspongopus:* Mulsant & Rey, Hist. Nat. Pun. Fr.: 234. (D)
1867 *Aspongopus:* Mulsant & Rey, Ann. Soc. Linn. Lyon (2)14:157. (reprint of 1866 paper)
1867 *Aspongopus:* Stål,Öfv. Vet.-Akad. Förh 24(7):522. (K)
1868 *Aspongopus:* Vollenhoven, Faune Ent. Indo-Néerl. 3:38. (D)
1868 *Aspongopus*: Walker, Cat. Het. 3:480. (S)
1870 *Aspongopus (Aspongopus):* Stål, Sv. Vet.-Akad. Handl. 9(1):81. (D, S)
1872 *Aspongopus*: Stål, Öfv. Vet.-Akad. Förh 29(3):40. (Dn)
1886 *Aspongopus:* Puton, Cat. Hém. Pal. (3rd ed.): 15. (L)
1889 *Aspongopus:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):87. (D, S)
1893 *Aspongopus:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (S)
1902 *Aspongopus:* Distant, Fauna Brit. India, Rh. 1:279, 281. (D, K, S)
1903 *Aspongopus:* Oshanin, Verz. Pal. Hem. 1:161. (S)
1908 *Aspongopus:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Aspongopus:* Kirkaldy, Cat. Hem. 1:255.
1909 *Aspongopus*: Schouteden, Ann. Mus. Congo Belg., Zool. (3)2,1(1):71. (L)
1912 *Aspongopus:* Oshanin, Kat. Pal. Hem: 19. (S, Tsp)
1913 *Aspongopus*: Jeannel, Voy. Alluaud; Hém.: 100. (L)
1913 *Aspongopus*: Kirkaldy, Can. Ent. 45:84. (K)
1913 *Aspongopus:* Schouteden, Gen. Ins. 153:4, 6-7. (part; D, K, S)
1913 *Aspongopus (Aspongopus)*: Schouteden, Gen. Ins. 153:7. (K, S)
1924 *Coridius:* Schumacher, Dt. Ent. Z. 1924 (4):335. (S)
1925 *Aspongopus:* Hesse, Ann. S. Afr. Mus. 23(1):41. (S, Tsp)
1927 *Coridius:* Bergroth, Ark. Zool. 18A(26):7. (S)
1935 *Aspongopus:* Tang, in: Wu, Cat. Ins. Sin. 2:335. (S).
1940 *Coridius:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):6-7, 8, 9-10. (D, G, K, Ks)
1948 *Coridius:* Hoffmann, Lingnan Sci. J. 22(1-4):21-22. (S)
1952 *Aspongopus:* Cachan, Mem. Inst. Sci. Madagascar (E)1(2):294. (Dn, K, Ksp Madagascar)
1952 *Aspongopus:* Villiers, Init. Afr. 9:86. (Dn; *Colpoproctus* as subgen.)
1953 *Aspongopus:* Priesner & Alfieri, Bull. Soc. Fouad Ist. Ent. 37:12. (K)
1962 *Coridius:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (S)
1968 *Aspongopus:* Cobben, Evol. Trends Het. 1:112, figs. 114A, 114B. (E)
1977 *Aspongopus*: Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:69-70. (K, Ks)

1982 *Coridius*: Nuamah, Insect Sci. Appl. 3(1):24, 25. (C)
1987 *Coridius*: Durai, Oriental Ins. 21:171, 185 -190. (D, K, Ks, S)

Coridius aeneus (Walker, 1868) - see *Colporidius aeneus*

Coridius affinis (Costa, 1847)
1847 *Aspongopus affinis* Costa, Bull. Soc. Ent. Fr. (2)5:27.
1851 *Aspongopus unicolor* Dallas, List Hem. 1:349. (preoccupied by *Aspongopus unicolor* Herrich Schäffer, 1839, *Coridius viduatus*; syn. by Durai, 1987)
1859 *Aspongobus* [sic] *unicolor*: Dohrn, Cat. Hem.: 21. (L)
1868 *Aspongopus ochreus* var.: Vollenhoven, Faune Ent. Indo-Néerl. 3:38-39. (D, R; misdet. sec. Stål, 1870)
1868 *Aspongopus unicolor*: Walker, Cat. Het. 3:482. (R)
1870 *Aspongopus (Aspongopus) affinis*:Stål, Sv. Vet.-Akad. Handl. 9(1):82. (S)
1873 *Aspongopus affinis:* Walker, Cat. Het., suppl.: 28. (L)
1893 *Aspongopus affinis:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (S)
1909 *Aspongopus affinis*: Kirkaldy, Cat. Hem. 1:255. (S)
1909 *Aspongopus ululatus* Kirkaldy, Cat. Hem. 1:258. (Nn for *Aspongopus unicolor* Dallas, 1851)
1913 *Aspongopus (Aspongopus) affinis*: Schouteden, Gen. Ins. 153:7. (S)
1913 *Aspongopus (Aspongopus) ululatus*: Schouteden, Gen. Ins. 153:9. (S)
1987 *Coridius affinis*: Durai, Oriental Ins. 21:189, 200-201, figs. 187-190. (D, K, R, S, T)
1990 *Coridius affinis*: Lis, Ann. Upper Silesian Mus., Ent. 1:114, 140. (R, S)
Distribution: Borneo, Java.

Coridius alternatus (Distant, 1908)
1908 *Aspongopus alternatus* Distant, Ann. Mag. Nat. Hist. (8)2:439-440.
1909 *Aspongopus alternatus:* Distant, Trans. Zool. Soc. Lond. 19(1):74, pl. 1 figs. 3, 3a. (D)
1913 *Aspongopus alternatus:* Jeannel, Voy. Alluaud, Hém.: 100. (L)
1913 *Aspongopus (Aspongopus) alternatus*: Schouteden, Gen. Ins. 153:7. (S)
1987 *Coridius alternatus:* Durai, Oriental Ins. 21:188, 216, figs. 272-276. (D, K, R, T)
1990 *Coridius alternatus:* Lis, Ann. Upper Silesian Mus., Ent. 1:122, 140. (R, S)
Distribution: Ruwenzori Mountains, Tanzania, Uganda.

Coridius assamensis (Distant, 1902)
1902 *Aspongopus assamensis* Distant, Fauna Brit. India, Rh. 1:285.
1908 *Aspongopus assamensis*: Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Aspongopus assamensis:* Kirkaldy, Cat. Hem. 1:255. (L)
1913 *Aspongopus (Aspongopus) assamensis*: Schouteden, Gen. Ins. 153:7. (L)
1983 *Aspongopus assamensis:* Chen, Entomotaxonomia 5(1):45-46. (R)
1985 *Aspongopus assamensis*: Datta *et al.*, Rec. Zool. Surv. India Occ. Pap., no. 80:4, fig. 7. (Dn, R)
1987 *Coridius assamensis:* Durai, Oriental Ins. 21:190, 198-199, figs. 182-183.
1988 *Aspongopus assamensis:* Chen & Yang, J. Guizhou Agric. Coll., no. 1:90. (R)
1990 *Coridius assamensis:* Lis, Ann. Upper Silesian Mus., Ent. 1:114, 140. (R, S)
1992 *Coridius assamensis:* Lis, Ann. Upper Silesian Mus., Ent. 3:37. (R)
Distribution: China (Guizhou), India (Assam), Vietnam.

Coridius bechynei (Villiers, 1956) - see *Coridiellus bechynei*

Coridius brunneus (Thunberg, 1783)
1783 *Cimex brunneus* Thunberg, Nov. Ins. Sp. 2:45-46.
1794 *Cimex obscurus* Fabricius, Ent. Syst. 4:107. (preoccupied by *Cimex obscurus* Gmelin, 1790, Reduviidae; syn. by Durai, 1987)
1802 *Cimex obscurior* Turton, Gen. Syst. Nat. 2(1):642. (Nn for *Cimex obscurus* Fabricius, 1794)
1803 *Edessa obscura*: Fabricius, Syst. Rh.: 151. (Dn)

1811 *Edessa obscura:* Wolff, Icon. Cim. 5:173, fig. 171. (D) [crude drawing]
1829 *Edessa (Dinidor) obscura*: Latreille, Régne An. 5:195. (L)
1835 *Aspongopus obscurus:* Burmeister, Handb. Ent. 2:352. (Dn, S)
1837 *Spongopodium obscurus:* Spinola, Essai: 305, 306. (R, S)
1837 *Aspongopus Obscurus:* Westwood, Cat. Hope 1:6. (L)
1837 *Aspongopus Ochreus* Westwood, Cat. Hope 1:6, 25. (syn. by Lis, 1990)
1844 *Aspongopus obscurus*: Herrich-Schäffer, Wanz. Ins. 7:80. (Dn, S)
1851 *Aspongopus obscurus*: Dallas, List Hem. 1:349. (R, S)
1851 *Aspongopus obscurus:* Herrich-Schäffer, Wanz. Ins. 9:307.
1859 *Aspongobus* [sic] *ochreus:* Dohrn, Cat. Hem.: 21. (L)
1859 *Aspongobus* [sic] *obscurus*: Dohrn, Cat. Hem.: 21. (L)
1863 *Dinidor obscura:* Carpenter & Westwood, Animal Kingdom (new ed.): 564. (L)
1866 *Aspongopus brunneus:* Mayr, Reise Novara Zool. 2(1):69. (Dn, S
1868 *Aspongopus obscurus:* Stål, Sv. Vet.-Akad. Handl. 7(11):38. (D, S)
1868 *Aspongopus obscurus:* Vollenhoven, Faune Ent. Indo-Néerl. 3:38. (D, R, S)
1868 *Aspongopus ochreus:* Vollenhoven, Faune Ent. Indo-Néerl. 3:38-39. (D, R)
1868 *Aspongopus obscurus*: Walker, Cat. Het. 3:482. (R)
1868 *Aspongopus ochreus:* Walker, Cat. Het. 3:483. (L)
1870 *Aspongopus (Aspongopus) brunneus:* Stål, Sv. Vet.-Akad. Handl. 9(1):82. (R, S)
1870 *Aspongopus (Aspongopus) obscurus:* Stål, Sv. Vet.-Akad. Handl. 9(1):82. (R, S)
1870 *Aspongopus ochreus:* Stål, Sv. Vet.-Akad. Handl. 9(1):85. (L)
1879 *Aspongopus brunneus*: Distant, Ann. Mag. Nat. Hist. (5)3:45, 52. (R, cf. *A. obscurus*)
1879 *Aspongopus ochreus:* Distant, Ann. Mag. Nat. Hist. (5)3:45, 52. (Dn, R, T)
1889 *Aspongopus brunneus:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):87. (Dn, S)
1889 *Aspongopus obscurus:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):88. (D, S)
1889 *Aspongopus ochreus:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):89. (Dn, S)
1890 *Aspongopus obscurus:* Sharp, Trans. Ent. Soc. Lond. 1890(3):404. (♂ Ge)
1892 *Aspongopus obscurus:* Kirby, J, Linn. Soc. London 24:88. (R, S)
1893 *Aspongopus brunneus:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (S)
1893 *Aspongopus obscurus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1893 *Aspongopus ochreus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1899 *Aspongopus obscurus:* Breddin, Beih. Jb. Hamb. Wiss. Anst. 16(2):168. (p. 14 in separate; R)
1901 *Aspongopus obscurus:* Breddin, Abh. Naturf. Ges. Halle. 24:14, 63. (Dn, R)
1901 *Aspongopus ochreus:* Distant, Proc. Zool. Soc. Lond. 1900(4):819. (Ts)
1901 *Aspongopus brunneus:* Distant, Trans. Ent. Soc. Lond. 1901(1):104. (R)
1902 *Aspongopus brunneus:* Distant, Fauna Brit. India, Rh. 1:282-283. (D, R, S)
1902 *Aspongopus obscurus:* Distant, Fauna Brit. India, Rh. 1:283. (D, R, S)
1902 *Aspongopus ochreus:* Distant, Fauna Brit. India, Rh. 1:283. (D, R)
1909 *Aspongopus brunneus:* Kirkaldy, Cat. Hem. 1:255.
1909 *Aspongopus ochreus:* Kirkaldy, Cat. Hem. 1:257. (S)
1909 *Aspongopus orientalis* Kirkaldy, Cat. Hem. 1:257. (Unnecessary Nn for *Cimex obscurus* Fabricius, 1794)
1909 *Aspongopus brunneus:* Maxwell-Lefroy, Indian Ins. Life: 678. (Dn)
1909 *Aspongopus obscurus:* Maxwell-Lefroy, Rec. Indian Mus. 3:313. (R)
1913 *Aspongopus (Aspongopus) brunneus:* Schouteden, Gen. Ins. 153:7. (S)
1913 *Aspongopus (Aspongopus) ochreus:* Schouteden, Gen. Ins. 153:8. (S)
1913 *Aspongopus (Aspongopus) orientalis:* Schouteden, Gen. Ins. 153:8, pl. 1 fig. 3. (S)
1921 *Aspongopus brunneus:* Distant, Entomologist 54:166. (R)
1921 *Aspongopus brunneus:* Fletcher, Bull. Agric. Res. Inst. Pusa 100:189-190. (H, R, S)
1923 *Aspongopus brunneus:* Misra, Proc. 5th Ent. Meet. Pusa 1923:301. (B, H)
1928 *Aspongopus brunneus:* China, J.F.M.S. Mus. 8(3):195-196. (R)
1935 *Aspongopus brunneus:* Hoffmann, Lingnan Univ. Sci. Bull. 7:118. (D, S)
1940 *Coridius ochreus:* Yang, Bull. Fan Mem. Inst. Biol.10(1):8. (Ge)
1951 *Aspongopus orientalis:* Manna, Proc. Zool. Soc. Bengal 4(1-2):6, 40-41, 44, figs. 20 a-h. (H, C)
1962 *Aspongopus brunneus:* Yang, Econ. Ins. Fauna China 2:47, 48. (Dn, K)

1975 *Aspongopus obscurus*: Behura *et al.*, All-India Congr. Zool. 3:88. (anatomy)
1975 *Aspongopus obscurus:* Behura *et al.*, All-India Congr. Zool. 3:88. (histology)
1975 *Aspongopus obscurus:* Behura *et al.*, All-India Congr. Zool. 3:104. (B)
1977 *Aspongopus obscurus:* Behura *et al.*, Prakruti Utkal Univ. J. Sci. 11(1-2)[1974]:113-128. (B)
1977 *Aspongopus brunneus:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:70, pl. 8 fig. 125. (K)
1979 *Aspongopus obscurus:* Verma *et al.*, J. Ins. Physiol. 25(11):873-878.
1982 *Coridius orientalis:* Nuamah, Insect Sci. Appl. 3(1):16. (L)
1986 *Coridius brunneus:* Durai, Planti News 5(1):5. (R)
1986 *Coridius ochreus:* Durai, Planti News 5(1):6. (R)
1987 *Coridius brunneus:* Durai, Oriental Ins. 21:190, 195-196, figs. 161-170. (D, R, S, T)
1987 *Coridius ochreus:* Durai, Oriental Ins. 21:190, 196, figs. 171-172. (D, K, R, T)
1987 *Coridius brunneus:* Schaefer & Ahmad, Phytophaga 1:30. (H)
1987 *Coridius brunneus:* Zhang & Lin, Agric. Ins. Xizang 1:76. (R)
1988 *Aspongopus brunneus:* Zhang & Lin, Ins. Mt. Namjagbarwa: 84. (R)
1990 *Coridius brunneus*: Lis, Ann. Upper Silesian Mus., Ent. 1:113, 140. (R, S)
1990 *Aspongopus brunneus:* Zheng & Jin, Contr. Shanghai Inst. Ent. 9:142. (R)
1991 *Coridius obscurus:* Senrayan & Annadurai, J. Appl. Ent. 112:237-243, figs. a-c. (P)
1992 *Coridius brunneus:* Lis, Ann. Upper Silesian Mus., Ent. 3:37. (R)
Distribution: Australia, Borneo, Celebes, China (Xizang), East Africa, India (Assam, Bengal), Java, Lesser Sundas (Lombok), Malaysia, Moluccas (Aru Island, Buru Island), Myanmar, S.E. Asia, Sri Lanka.

Coridius brunneus margineguttatus (Breddin, 1909)
1909 *Aspongopus obscurus* var. (?) *margineguttatus* Breddin, Ann. Soc. Ent. Belg. 53:282.
Distribution: Sri Lanka.

Coridius castaneus (Signoret, 1861)
1861 *Aspongopus castaneus* Signoret, Ann. Soc. Ent. Fr. (3)8[1860]:937. (D, R)
1865 *Aspongopus castaneus:* Stål, Hem. Afr. 1:213-214. (D, K)
1868 *Aspongopus castaneus*: Walker, Cat. Het. 3:481. (L)
1870 *Aspongopus (Aspongopus) castaneus:* Stål, Sv. Vet.-Akad. Handl. 9(1):83. (R, S)
1887 *Aspongopus Nossi-Beensis* Reuter, Ent. Tidskr. 8:89. (syn. by Cachan, 1952; concurrence by Durai, 1987 & Lis, 1990)
1893 *Aspongopus castaneus:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (S)
1893 *Aspongopus nossi-beensis:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (L)
1909 *Aspongopus castaneus*: Kirkaldy, Cat. Hem. 1:255. (S)
1909 *Aspongopus nossibeensis:* Kirkaldy, Cat. Hem. 1:256.
1913 *Aspongopus (Aspongopus) castaneus:* Schouteden, Gen. Ins. 153:7. (S)
1913 *Aspongopus (Aspongopus) nossibeensis*: Schouteden, Gen. Ins. 153:8. (L)
1952 *Aspongopus castaneus:* Cachan, Mem. Inst. Sci. Madagascar (E)1(2):294-295, figs. 150-153, pl. 8 fig. 7. (D, K, R, S)
1987 *Coridius castaneus:* Durai, Oriental Ins. 21:189, 212-213, figs. 251-255. (D, K, R, S, T)
1990 *Coridius castaneus:* Lis, Ann. Upper Silesian Mus., Ent. 1:117-118, 140. (R, S)
Distribution: Madagascar, Nigeria, Nosy Bé Island, Tanzania.

Coridius chinensis (Dallas, 1851)
1851 *Aspongopus chinensis* Dallas, List Hem. 1:349.
1859 *Aspongobus* [sic] *chinensis:* Dohrn, Cat. Hem.: 21. (L)
1868 *Aspongopus chinensis:* Walker, Cat. Het. 3:483. (L)
1870 *Aspongopus chinensis:* Stål, Sv. Vet.-Akad. Handl. 9(1):85. (L)
1879 *Aspongopus chinensis:* Horváth, Term. Fuzet. 3(2-3):145. (R)
1893 *Aspongopus Chinensis*: Lethierry & Severin, Cat. Gén. Hém. 1:236. (L)
1902 *Aspongopus chinensis:* Distant, Fauna Brit. India, Rh. 1:285. (D)
1903 *Aspongopus chinensis:* Distant, Fasc. Malay. Zool. 1(2):238. (R)
1906 *Aspongopus chinensis:* Oshanin, Verz. Pal. Hem. 1:162. (S)

1909 *Aspongopus chinensis:* Kirkaldy, Cat. Hem. 1:255. (L)
1910 *Aspongopus ochreus:* Shiraki, Extra-Rep. Agric. Exp. Sta. Formosa, no. 1:111, pl. 40 fig. 14. (misdet. sec. Esaki 1926)
1912 *Aspongopus chinensis:* Oshanin, Kat. Pal. Hem.: 19. (L)
1913 *Aspongopus chinensis:* Matsumura, Thous. Ins. Jap., Addit. 1:120, pl. 12 fig. 25.
1913 *Aspongopus (Aspongopus) chinensis:* Schouteden, Gen. Ins. 153:7. (L)
1913 *Cyclopelta parva*: Shiraki, Extra-Rep. Agric. Exp. Sta. Formosa, no. 8:207. (misdet. sec. Esaki, 1926)
1919 *Aspongopus chinensis:* Paiva, Rec. Indian Mus. 16(5):355. (R)
1921 *Aspongopus chinensis:* Distant, Entomologist 54:166. (R)
1926 *Aspongopus chinensis*: Esaki, Ann. Mus. Natn. Hung. 24:152. (R, S)
1930 *Aspongopus chinensis:* Matsumura, Ill. Thous. Ins. Jap. 1:113, pl. 11 fig. 26.
1931 *Aspongopus chinensis:* Matsumura, 6000 Ill. Ins. Jap.-Empire: 1177, fig.
1932 *Aspongopus chinensis:* Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1932 *Aspongopus chinensis*: Strickland, Indian J. Med. Res. 19(3):873, 874, 876. (Dn, human food)
1934 *Aspongopus chinensis:* Lindberg, Ark. Zool. 27A(28):14. (R)
1934 *Aspongopus chinensis:* Yang, Bull. Fan Mem. Inst. Biol. 5(2):70-72, fig. 10. (D, K, S)
1935 *Aspongopus chinensis:* Hoffmann, Lingnan Univ. Sci. Bull. 7:119, 176. (D, R, S)
1935 *Aspongopus (Aspongopus) chinensis:* Tang, in: Wu, Cat. Ins. Sin. 2:355-356.
1940 *Coridius chinensis:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):7, 10, 11-19, figs. 1-4. (D, K, R, S)
1948 *Coridius chinensis:* Hoffmann, Lingnan Sci. J. 22(1-4):22. (S)
1956 *Aspongopus chinensis:* Miller, Biol. Het. (1st ed.): 38. (human food)
1957 *Aspongopus chinensis:* Takara, Sci. Bull. Coll. Agric. Univ. Ryukyus 4:33. (R, S)
1962 *Coridius chinensis*: Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Coridius chinensis:* Stichel, Verz. Pal. Hem.-Het. 4:205. (R)
1962 *Aspongopus chinensis:* Yang, Econ. Ins. Fauna China 2:46, 47, pl. 8 fig. 67. (D, K)
1974 *Aspongopus chinensis:* Chang, Acta Ent. Sin. 17(3):356. (R)
1977 *Aspongopus chinensis:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:70, pl. 8 fig. 123. (K)
1985 *Aspongopus chinensis:* Zhang, Econ. Ins. China 31:53-54, pl.11 fig. 25. (D)
1986 *Coridius chinensis:* Durai, Planti News 5(1):5.
1987 *Coridius chinensis:* Durai, Oriental Ins. 21:190, 197, figs. 176-181, 265. (D, H, K, R, S, T)
1987 *Coridius chinensis:* Schaefer, Phytophaga 1:161. (H)
1987 *Coridius chinensis:* Zhang & Lin, Agric. Ins. Xizang 1:76. (R)
1988 *Aspongopus chinensis:* Zhang & Lin, Ins. Mt. Namjagbarwa: 84-85. (R)
1989 *Coridius chinensis:* Hirashima, Check List Jap. Ins.: 183. (L)
1989 *Aspongopus chinensis:* Hua, List Ins. Zhongshan Univ.: 43.
1990 *Coridius chinensis:* Lis, Ann. Upper Silesian Mus., Ent. 1:114, 141. (R, S)
1990 *Aspongopus chinensis:* Zheng & Jin, Contr. Shanghai Inst. Ent. 9:142. (R)
1991 *Coridius chinensis:* Lis, Ann. Upper Silesian Mus., Ent. 2:84, 87, 89, fig. 5. (D, I, K, R)
1992 *Coridius chinensis:* Lis, Ann. Upper Silesian Mus., Ent. 3:37. (R)

Distribution: China (Anhui, Fujian, Guangdong, Guizhou, Jiangsu, Jiangxi, Sechuan, Shanghai, Yunnan, Xizang), India (Assam, Bhoutan, Khasi Hills, Sikkim), Indo-China, Indonesia, Japan, Java, Laos, Malay Peninsula, Myanmar, Okinawa, Taiwan, Vietnam.

Coridius circumclusus (Distant, 1911) - see *Colpoproctus circumcinctus*

Coridius cuprifer (Westwood, 1837)

1837 *Aspongopus cuprifer* Westwood, Cat. Hope 1:6, 25.
1851 *Aspongopus cuprifer:* Dallas, List Hem. 1:350. (R)
1859 *Aspongobus* [sic] *cuprifer:* Dohrn, Cat. Hem.: 21. (L)
1865 *Aspongopus sepulcralis* Stål, Hem. Afr. 1:214. (syn. by Distant, 1900)
1868 *Aspongopus cuprifer:* Walker, Cat. Het. 3:480. (R)
1868 *Aspongopus sepulcralis:* Walker, Cat. Het. 3:481. (L)
1868 *Aspongopus solitus* Walker, Cat. Het. 3:484. (syn. by Distant, 1900)
1870 *Aspongopus (Aspongopus) sepulcralis:* Stål, Sv. Vet.-Akad. Handl. 9(1):83. (L)

1870 *Aspongopus cuprifer:* Stål, Sv. Vet.-Akad. Handl. 9(1):86. (S)
1893 *Aspongopus cuprifer:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (S)
1893 *Aspongopus sepulchralis* [sic]: Lethierry & Severin, Cat. Gén. Hém. 1:238. (L)
1893 *Aspongopus solitus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (L)
1894 *Aspongopus sepulcralis:* Haglund, Öfv. Vet.-Akad. Förh. 51(8):407. (Dn, R)
1894 *Aspongopus sepulcralis:* Karsch, Stett. Ent. Ztg. 55:101. (R)
1900 *Aspongopus cuprifer:* Distant, Ann. Mag. Nat. Hist. (7)6:221, 233. (S)
1901 *Aspongopus cuprifer:* Distant, Proc. Zool. Soc. Lond. 1900(4):819. (Ts)
1909 *Aspongopus cuprifer:* Kirkaldy, Cat. Hem. 1:255. (S)
1913 *Aspongopus (Aspongopus) cuprifer:* Schouteden, Gen. Ins. 153:7. (S)
1955 *Coridius cuprifer:* Leston, Ent. Mon. Mag. 91:35, figs. 6-10. (E, H)
1956 *Coridius cuprifer:* Southwood, Trans. R. Ent. Soc. Lond. 108(6):184. (E)
1967 *Aspongopus cuprifer:* Villiers, Bull. I.F.A.N. (A)29(4):1809. (R)
1968 *Coridius cuprifer:* Cobben, Evol. Trends Het. 1:112. (critique of Leston, 1955)
1982 *Coridius cuprifer:* Linnavuori, Acta Zool. Fenn. 163:12.
1982 *Coridius cuprifer:* Nuamah, Insect Sci. Appl. 3(1):11, 13, 25, fig. 8.94. (C)
1987 *Coridius cuprifer:* Durai, Oriental Ins. 21:189, 203, figs. 203-204, 265. (D, H, K, R, S, T)
1990 *Coridius cuprifer:* Lis, Ann. Upper Silesian Mus., Ent. 1:115, 141. (R, S)
Distribution: Cameroon, Congo, Ghana, Guinea, Ivory Coast, Nigeria, Sierra Leone, Togo, Zaire.

Coridius cuprinus (Stål, 1870)
1870 *Aspongopus (Aspongopus) cuprinus* Stål, Sv. Vet.-Akad. Handl. 9(1):82.
1871 *Aspongopus cuprinus:* Stål, Öfv. Vet.-Akad. Förh. 27(7):645. (Dn)
1873 *Aspongopus cuprinus:* Walker, Cat. Het., suppl.: 28. (L)
1893 *Aspongopus cuprinus:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (L)
1909 *Aspongopus cuprinus:* Kirkaldy, Cat. Hem. 1:255. (L)
1913 *Aspongopus (Aspongopus) cuprinus:* Schouteden, Gen. Ins. 153:7. (L)
1923 *Aspongopus cuprinus:* Lehmann, Zool. Anz. 57(7-8):182. (R)
1969 *Aspongopus cuprinus:* Synave, Bull. Inst. R. Sci. Nat. Belg. 45(37):8. (T)
1986 *Coridius cuprinus:* Durai, Planti News 5(1):5. (R)
1987 *Coridius cuprinus:* Durai, Oriental Ins. 21:189, 204, figs. 205-208. (D, K, R, T)
1990 *Coridius cuprinus:* Lis, Ann. Upper Silesian Mus., Ent. 1:115, 141. (R, S)
Distribution: Philippines.

Coridius cyclopeltus (Distant, 1890) - see *Coridiellus cyclopeltus*

Coridius deckerti Lis, 1990
1990 *Coridius deckerti:* Lis, Ann. Upper Silesian Mus., Ent. 1:120-121, 141, figs. 14, 16.
Distribution: Equatorial Guinea.

Coridius dimorphus (China, 1928)
1928 *Aspongopus dimorphus* China, J.F.M.S. Mus. 8(3):194-195; figs. 3a, b.
1986 *Coridius dimorphus:* Durai, Planti News 5(1):5. (R)
1987 *Coridius dimorphus:* Durai, Oriental Ins. 21:187, 201-202. (D, K, R, T)
Distribution: Sumatra.

Coridius distanti (Lethierry & Severin, 1893) - see *Coridiellus patruelis*

Coridius divergens (Distant, 1878)
1878 *Aspongopus divergens* Distant, Ent. Mon. Mag. 15:11.
1884 *Aspongopus angulatus* Reuter,Öfv. Finska Vet.-Soc. Förh. 25:10-11. (syn. by Durai, 1987)
1892 *Aspongopus balinus* Karsch, Ent. Nachr., Berlin 18:166. (syn. by Durai, 1987)
1893 *Aspongopus angulatus:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (L)
1893 *Aspongopus balinus:* Lethierry & Severin, Cat. Gén. Hém. 1:236.
1893 *Aspongopus divergens:* Lethierry & Severin, Cat. Gén. Hém. 1:237.

1909 *Aspongopus angulatus:* Kirkaldy, Cat. Hem. 1:255. (L)
1909 *Aspongopus balinus:* Kirkaldy, Cat. Hem. 1:255. (L)
1909 *Aspongopus divergens:* Kirkaldy, Cat. Hem. 1:255. (L)
1913 *Aspongopus (Aspongopus) angulatus:* Schouteden, Gen. Ins. 153:7. (L)
1913 *Aspongopus (Aspongopus) balinus:* Schouteden, Gen. Ins. 153:7, pl. 2 fig. 2.
1913 *Aspongopus (Aspongopus) divergens:* Schouteden, Gen. Ins. 153:7, pl. 2 fig. 11.
1964 *Coridius angulatus:* Schouteden, Rev. Zool. Bot. Afr. 70(1-2):94. (R)
1967 *Aspongopus angulatus:* Villiers, Bull. I.F.A.N. (A)29(4):1089. (R)
1987 *Coridius divergens*: Durai, Oriental Ins. 21:187, 204-205, figs. 209-210. (D, K, R, S, T)
1990 *Coridius divergens:* Lis, Ann. Upper Silesian Mus., Ent. 1:115, 141. (R, S)
Distribution: Cameroon, Guinea, Ghana, Ivory Coast, Zaire.

Coridius dubitabilis (Fairmaire, 1858)
1858 *Aspongopus dubitabilis* Fairmaire, in: Thomson, Arch. Ent. 2:291-292.
1868 *Aspongopus dubitabilis:* Walker, Cat. Het. 3:480. (L)
1870 *Aspongopus dubitabilis:* Stål, Sv. Vet.-Akad. Handl. 9(1):86. (L)
1893 *Aspongopus dubitabilis:* Lethierry & Severin, Cat. Gén. Hém. 1:237.
1901 *Aspongopus dubitabilis:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1909 *Aspongopus dubitabilis:* Kirkaldy, Cat. Hem. 1:255. (L)
1909 *Aspongopus dubitabilis:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):72. (R)
1913 *Aspongopus (Aspongopus) dubitabilis*: Schouteden, Gen. Ins. 153:8. (L)
1934 *Aspongopus dubitabilis:* Mayné & Ghesquiére, Ann. Gembloux 40(1):7. (H, R)
1952 *Aspongopus (Aspongopus) dubitabilis:* Villiers, Init. Afr. 9:86. (Dn, H, R)
1967 *Aspongopus dubitalis* [sic]: Boulard, Café-Cacao-Thé 11(3):225, 231, figs. 9, 10. (B, H)
1967 *Aspongopus dubitabilis:* Villiers, Bull. I.F.A.N. (A)29(4):1809. (R)
1987 *Coridius dubitabilis:* Durai, Oriental Ins. 21:190, 209, figs. 227-231. (D, K, R)
1990 *Coridius dubitabilis:* Lis, Ann. Upper Silesian Mus., Ent. 1:116, 141. (R, S)
Distribution: Central African Republic, Congo, Gabon, Guinea, Uganda, Zaire.

Coridius duraiae Lis, 1990
1990 *Coridius duraiae* Lis, Ann. Upper Silesian Mus., Ent. 1:123-125, 141, figs. 17, 19.
Distribution: Cameroon, Zaire, Zambia.

Coridius farleyi (Distant, 1878)
1878 *Aspongopus Farleyi* Distant, Ent. Mon. Mag. 15:100.
1893 *Aspongopus Farleyi:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (L)
1909 *Aspongopus farleyi:* Kirkaldy, Cat. Hem. 1:256. (L)
1910 *Aspongopus Farleyi:* Schouteden, Sjöstedt's Kilim.-Meru Exp. 12(6):92 (R)
1913 *Aspongopus Farleyi:* Jeannel, Voy. Alluaud, Hem.: 100 (L)
1913 *Aspongopus (Aspongopus) Farleyi:* Schouteden, Gen. Ins. 153:8: (L)
1987 *Coridius farleyi:* Durai, Oriental Ins. 21:189, 215. (D, K, R, T)
1990 *Coridius farleyi:* Lis, Ann. Upper Silesian Mus., Ent. 1:121-122, 141. (R, S, Tn)
Distribution: Malawi, Tanzania (Usambara).

Coridius femoralis (Stål, 1865) - see *Colpoproctus femoralis*

Coridius figlinus (Distant, 1900) - see *Coridiellus figlinus*

Coridius flavomarginatus (Signoret, 1861)
1861 *Peltagopus flavomarginatus* Signoret, Ann. Soc. Ent. Fr. (3)8[1860]:936-937. (D)
1865 *Aspongopus flavo-marginatus*: Stål, Hem. Afr. 1:217. (D, K)
1868 *Aspongopus flavomarginatus:* Walker, Cat. Het. 3:481. (S)
1870 *Aspongopus (Aspongopus) flavo-marginatus:* Stål, Sv. Vet.-Akad. Handl. 9(1):84. (S)
1893 *Aspongopus flavomarginatus:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (S)
1909 *Aspongopus flavomarginatus:* Kirkaldy, Cat. Hem. 1:256. (S)

1913 *Aspongopus (Aspongopus) flavomarginatus:* Schouteden, Gen. Ins. 153:8. (S)
1952 *Aspongopus flavomarginatus:* Cachan, Mem. Inst. Sci. Madagascar (E)1(2):294, 295, figs. 154-157. (D, K, R, S)
1987 *Coridius flavomarginatus:* Durai, Oriental Ins. 21:188, 208-209, figs. 223-226. (D, K, R, T)
1990 *Coridius flavomarginatus*: Lis, Ann. Upper Silesian Mus., Ent. 1:116, 141. (R, S)
Distribution: Madagascar.

Coridius fuscus (Westwood, 1837)
1837 *Aspongopus Fuscus* Westwood, Cat. Hope 1:6, 26.
1851 *Aspongopus fuscus:* Dallas, List Hem. 1:349. (L)
1851 *Aspongopus marginalis* Dallas, List Hem. 1:350. (syn. by Distant, 1900)
1859 *Aspongobus* [sic] *fuscus:* Dohrn, Cat. Hem.: 21. (L)
1859 *Aspongobus* [sic] *marginalis:* Dohrn, Cat. Hem.: 21. (L)
1868 *Aspongopus fuscus:* Vollenhoven, Faune Ent. Indo-Néerl. 3:39.
1868 *Aspongopus fuscus:* Walker, Cat. Het. 3:483. (L)
1868 *Aspongopus marginalis:* Walker, Cat. Het. 3:483. (L)
1870 *Aspongopus fuscus:* Stål, Sv. Vet.-Akad. Handl. 9(1):85. (S)
1870 *Aspongopus marginalis:* Stål, Sv. Vet.-Akad. Handl. 9(1):85. (L)
1871 *Aspongopus fuscus:* Stål, Öfv. Vet.-Akad. Förh. 27(7):609, 645. (Dn, R)
1889 *Aspongopus fuscus:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):90. (Dn, S)
1889 *Aspongopus marginalis:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):90-91. (D, S)
1893 *Aspongopus fuscus:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (S)
1893 *Aspongopus marginalis:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (S)
1900 *Aspongopus fuscus:* Breddin, Stett. Ent. Ztg. 61:332. (Dn, R)
1900 *Aspongopus fuscus:* Distant, Ann. Mag. Nat. Hist. (7)6:221. (S)
1901 *Aspongopus fuscus:* Distant, Proc. Zool. Soc. Lond. 1900(4):819. (Ts)
1901 *Aspongopus fuscus:* Distant, Trans. Ent. Soc. Lond. 1901(1):104. (R)
1902 *Aspongopus fuscus:* Distant, Fauna Brit. India, Rh. 1:284-285. (D, S)
1909 *Aspongopus fuscus:* Kirkaldy, Cat. Hem. 1:256. (S)
1913 *Aspongopus (Aspongopus) fuscus:* Schouteden, Gen. Ins. 153:8. (S)
1921 *Aspongopus fuscus:* Distant, Entomologist 54:166. (R)
1923 *Aspongopus fuscus:* Lehmann, Zool. Anz. 57(7-8):182. (R)
1928 *Aspongopus fuscus:* China, J.F.M.S. Mus. 8(3):195. (R)
1931 *Aspongopus fuscus:* Hoffmann, USDA Ins. Pest Surv. Bull. 11(3):144. (H, R)
1932 *Aspongopus fuscus:* Hoffmann, Arch. Zool. Ital. 16(3-4):1013. (B, H)
1933 *Aspongopus fuscus:* Schouteden, Mem. Mus. Hist. Nat. Belg. 4(8):53 (R)
1933 *Aspongopus fuscus:* Wu, Lingnan Sci. J., suppl. 12:215-216. (R, S)
1935 *Aspongopus fuscus:* Cheo, Peking Nat. Hist. Bull. 10(1):28. (H, R)
1935 *Aspongopus fuscus:* Hoffmann, Lingnan Univ. Sci. Bull. 7:119. (R, S)
1935 *Aspongopus (Aspongopus) fuscus:* Tang, in: Wu, Cat. Ins. Sin. 2:356. (S)
1940 *Coridius fuscus:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):8, 10, 19-21, fig. 5. (D, K, R, S)
1948 *Coridius fuscus:* Hoffmann, Lingnan Sci. J. 22(1-4):22-23. (S)
1962 *Coridius fuscus:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R, S)
1962 *Coridius fuscus:* Stichel, Verz. Pal. Hem.-Het. 4:205. (S)
1962 *Aspongopus fuscus:* Yang, Econ. Ins. Fauna China 2:47, 48. (Dn, K)
1964 *Coridius fuscus:* Sienkiewicz, Cat. Montandon Coll.: 112. (L)
1974 *Aspongopus fuscus:* Chang, Acta Ent. Sin. 17(3):356. (R)
1977 *Aspongopus fuscus:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:70, pl. 9, fig. 124. (K)
1986 *Coridius fuscus:* Durai, Planti News 5(1):4, 5. (R)
1987 *Coridius fuscus:* Durai, Oriental Ins. 21:188, 202-203, figs. 197-200. (D, K, R, S, T)
1987 *Coridius fuscus:* Schaefer & Ahmad, Phytophaga 1:30. (H)
1989 *Aspongopus fuscus:* Hua, List Ins. Zhongshan Univ.: 43.
1990 *Coridius fuscus:* Lis, Ann. Upper Silesian Mus., Ent. 1:114-115, 141. (R, S)
1992 *Coridius fuscus:* Lis, Ann. Upper Silesian Mus., Ent. 3:38. (R)
Distribution: China (Fujian, Guangdong, Jiangsi, Zhejiang), India (Assam, Bombay), Indonesia (Nias

Island), Java, Malaysia (Malacca,Penang Island, Sabah, Singapore), Myanmar, Philippines (Luzon, Sibuyan), Sri Lanka, Sumatra, Thailand, Vietnam.

Coridius ianus (Fabricius, 1775)

1775 *Cimex ianus* Fabricius, Syst. Ent.: 714. (D, R)
1778 *Cimex janus*: Fuessly, Mag. Ent. 1:163.
1778 *Cimex surinamensis* Goeze, Ent. Beytr. 2:232. (syn. by Atkinson, 1889)
1778 *Cimex janus:* Goeze, Ent. Beytr. 2:247. (Dn)
1781 *Cimex ianus*: Fabricius, Spec. Ins. 2:357. (Dn, R)
1782 *Cimex afer* Drury, Ill. Nat. Hist. 3:66-67, pl. 46 fig. 7. (syn. by Fabricius, 1794)
1787 *Cimex ianus:* Fabricius, Mant. Ins. 2:295. (Dn)
1790 *Cimex surinamensis* Gmelin, Syst. Nat. (13th ed.) 1(4):2134. (syn. by Atkinson, 1889)
1790 *Cimex janus:* Gmelin, Syst. Nat. (13th ed.) 1(4):2152. (Dn, R)
1794 *Cimex danus* [sic]: Fabricius, Ent. Syst. 4:107. (D, R)
1800 *Cimex danus* [sic]: Wolff, Icon. Cim. 1:13, pl. 2 fig. 13.
1803 *Edessa ianus:* Fabricius, Syst. Rh.: 151. (S)
1807 *Coridius ianus:* Illiger, Fauna Etrusca 2:361. (Ts)
1825 *Pentatoma janus:* Lepeletier & Serville, Enc. Meth. 10:56. (D, S)
1833 *Aspongopus janus:* Laporte, Mag. Zool. 2:58. (R)
1835 *Aspongopus janus*: Burmeister, Handb. Ent. 2:352. (Dn, S)
1837 *Aspongopus janus*: Westwood, Cat. Hope 1:6. (S)
1837 *Aspongopus Vicinus* Westwood, Cat. Hope 1:6, 25. (syn. by Dallas, 1851)
1843 *Aspongopus janus:* Amyot & Serville, Hist. Nat. Ins., Hem.: 173-174. (D, S)
1844 *Aspongopus janus:* Herrich-Schäffer, Wanz. Ins. 7:78, fig. 747.
1851 *Aspongopus janus:* Dallas, List Hem. 1:348. (R, S)
1859 *Aspongobus* [sic] *Janus:* Dohrn, Cat. Hem.: 21. (S)
1860 *Aspongopus janus*: Dohrn, Stett. Ent. Ztg. 21(7-9):401. (R)
1863 *Aspangopus* [sic] *janus:* Motschoulsky, Bull. Soc. Nat. Moscou 36(3):76. (R)
1866 *Aspongopus janus:* Mayr, Reise Novara Zool. 2(1):70. (R, S)
1868 *Aspongopus janus:* Walker, Cat. Het. 3:482. (R)
1870 *Aspongopus (Aspongopus) Janus*: Stål, Sv. Vet.-Akad. Handl. 9(1):82-83. (R, S)
1879 *Aspongopus janus:* Distant, Ann. Mag. Nat. Hist. (5)3:45. (R)
1889 *Aspongopus janus:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):88-89. (D, R, S)
1892 *Aspongopus janus:* Kirby, J. Linn. Soc. London 24:88. (R)
1893 *Aspongopus janus:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (S)
1901 *Aspongopus janus:* Distant, Proc. Zool. Soc. Lond. 1900(4):823. (S)
1901 *Aspongopus janus:* Distant, Trans. Ent. Soc. Lond. 1901(1):104. (R)
1902 *Aspongopus janus:* Distant, Fauna Brit. India, Rh. 1:281-282, fig. 179. (D, R, S)
1909 *Aspongopus ianus*: Breddin, Ann. Soc. Ent. Belg. 53:282. (R)
1909 *Aspongopus ianus*: Kirkaldy, Cat. Hem. 1:256, 380. (H, S)
1909 *Aspongopus ianus*: Maxwell-Lefroy, Indian Ins. Life: 678, pl. 74 fig. 3. (Dn)
1909 *Aspongopus janus:* Maxwell-Lefroy, Rec. Indian Mus. 3:313. (R) India
1911 *Aspongopus janus*: Mann, J. Bombay Nat. Hist. Soc. 20:1166-1167, 2 figs. (Dn, H)
1913 *Aspongopus (Aspongopus) janus:* Schouteden, Gen. Ins. 153:8, pl. 1 fig. 8. (S)
1917 *Aspongopus janus:* Fletcher, Proc. Second Ent. Meeting Pusa: 57, 289. (H)
1921 *Aspongopus janus:* Fletcher, Bull. Agric. Res. Inst. Pusa 100:189. (H, R, S)
1924 *Coridius janus:* Schumacher, Dt. Ent. Z. 1924(4):335-336
1925 *Aspongopus janus:* Singh-Pruthi, Trans. Ent. Soc. Lond. 1925(1-2):148, pl 9 fig. 27. (Ge)
1933 *Aspongopus janus:* Ayyar, Bull. Agric. Dept. Madras 34:17, fig. 14.
1934 *Aspongopus janus:* Chatterjee, Indian For. Rec. 20(9):27. (H, R, S)
1951 *Aspongopus ianus*: Manna, Proc. Zool. Soc. Bengal 4(1-2):6, 39-40, 44, figs. 19 a-i. (C, H)
1959 *Coridius janus:* Scudder, Trans. R. Ent. Soc. Lond. 111(14):413. (♀ Ge)
1962 *Coridius janus:* Kumar, Ent. Tidskr. 83(1-2):48, 51, 53, 54, 55, 56, figs. 25-27, 46, 47, 72-74, 88. (♂ ♀ Ge; salivary gland)
1962 *Coridius janus:* Rastogi & Kumari, Zool. Pol. 12(1):69-77. (B)

1965 *Coridius janus:* Gentry, USDA Agric. Res. Serv. Handb., no. 273:147, 154, 162, fig. 32. (H, R)
1971 *Coridius janus:* Ahmad & Abbasi, Pakistan J. Zool. 3(1):37-49, figs. 1-14. (anatomy & histology)
1971 *Coridius janus*: Ahmad *et al.*, Bull. Inst. R. Sci. Nat. Belg. 47(18):1-16. (sg)
1973 *Coridius janus:* Naqvi *et al.*, Folia Biologica 21(2):209-221. (digestive physiology)
1974 *Coridius janus:* Ahmad *et al.*, Pakistan J. Zool. 6(1-2):175-188, figs. 1-5. (anatomy)
1975 *Aspongopus janus:* Kathuria *et al.*, Indian J. Ent. 36(1)[1974]:31-33. (sgf; M)
1977 *Coridius janus:* Ahmad & Afzal, Islamabad J. Sci. 4(1-2):1-4, figs. 1-4. (scent gland)
1977 *Aspongopus janus:* Behura & Das, Prakruti Utkal Univ. J. Sci. 11(1-2)[1974]:49-60. (M)
1977 *Coridius janus*: Kaushik *et al.*, J. Anim. Morphol. Physiol. 24(2):244-250. (M)
1978 *Aspongopus janus*: Behura *et al.*, Prakruti Utkal Univ. J. Sci. 12(1-2)[1975]:55-66. (anatomy, histology)
1979 *Coridius janus:* Kaushik *et al.*, J. Anim. Morphol. Physiol. 26(1-2):211-219. (M)
1980 *Coridius janus:* Ahmad, Proc. Pakistan Congr. Zool. 1:135. (R)
1981 *Aspongopus janus:* Dhiman, Geobios 8(4):180-181. (hibernation)
1982 *Coridius janus:* Nuamah, Insect Sci. Appl. 3(1):16, 25.
1984 *Aspongopus janus:* Singh & Narain, Arch. Anat. Microsc. Morph. Exp. 73(4):259-267.
1987 *Coridius ianus*: Durai, Oriental Ins. 21:187, 216-218. (D, K, R, S, T)
1987 *Coridius janus*: Schaefer & Ahmad, Phytophaga 1:30. (H)
1988 *Coridius* [sic] *janus:* Afzal & Sahibzada, Biologia 34(2):254. (M)
1990 *Coridius ianus:* Lis, Ann. Upper Silesian Mus., Ent. 1:122, 141, fig. 23. (R, S)
1990 *Aspongopus janus*: Mishra & Sharma, Indian J. Ent. 51(4)[1989]:480-481. (H)
1990 *Aspongopus janus:* Sharma, Environ. Ecol. (Kalyani) 8(4):1329-1330. (B)
1991 *Coridius ianus:* Lis, Ann. Upper Silesian Mus., Ent. 2:84, 87, fig. 4. (D, I, K, R)
1991 *Coridius janus:* Satapathy & Patnaik, Caryologia 44(1):56, 59, 60, tables 1, 2, figs. 1g-1l. (C)
1992 *Coridius ianus:* Lis, Ann. Upper Silesian Mus., Ent. 3:38. (R)
Distribution: Borneo, India (Assam, Bengal, Bombay), Java, Madagascar, Myanmar, Pakistan, Philippines, Sri Lanka, Thailand.
Note: Both *Cimex surinamensis* Goeze, 1778, and *Cimex surinamensis* Gmelin, 1790, were apparently described as new species and both were based on Schröter, 1777, p. 338, pl. 2 fig. 4.

Coridius kerzhneri Lis, 1990
1990 *Coridius kerzhneri* Lis, Ann. Upper Silesian Mus., Ent. 1:118-120, 141, figs. 12, 13, 15.
Distribution: East Africa, Ghana, Tanzania, Togo.

Coridius laboriosus (Bergroth, 1893) - *see Coridius putoni*

Coridius laosanus (Distant, 1921)
1921 *Aspongopus laosanus* Distant, Entomologist 54:167.
1935 *Aspongopus laosanus:* Hoffmann, Lingnan Univ. Sci. Bull. 7:119. (L)
1940 *Coridius laosanus:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):7. (Ge)
1987 *Coridius laosanus:* Durai, Oriental Ins. 21:188, 199-200, figs. 184-185. (D, K, R, S, T)
1990 *Coridius laosanus:* Lis, Ann. Upper Silesian Mus., Ent. 1:141. (L)
1992 *Coridius laosanus:* Lis, Ann. Upper Silesian Mus., Ent. 3:38. (R)
Distribution: China (Yunnan), India (Assam), Laos, Vietnam.

Coridius lenoiri (Schouteden, 1909) - *see Coridiellus lenoiri*
Coridius limbatus (Signoret, 1851) - *see Colpoproctus limbatus*

Coridius lividus (Distant, 1898)
1898 *Aspongopus lividus* Distant, Ann. Mag. Nat. Hist (7)2:302, 315. (R)
1901 *Aspongopus spissus* Distant, Ann. Ent. Soc. Belg. 45(1):28, 31. (syn. by Durai, 1987)
1908 *Aspongopus lividus:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1908 *Aspongopus spissus:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Aspongopus lividus*: Distant, Trans. Zool. Soc. Lond. 19(1):74. (R)
1909 *Aspongopus lividus:* Kirkaldy, Cat. Hem. 1:256. (L)

1909 *Aspongopus spissus*: Kirkaldy, Cat. Hem. 1:257. (L)
1909 *Aspongopus lividus:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):72. (R)
1909 *Aspongopus spissus:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):74. (T)
1910 *Aspongopus spissus:* Schouteden, Ann. Soc. Ent. Belg. 54:404. (R)
1910 *Aspongopus lividus:* Schouteden, Sjöstedt's Kilim.-Meru Exp. 12(6):92. (R)
1912 *Aspongopus lividus:* Schouteden, Rev. Zool. Afr. 2(1):108. (R)
1913 *Aspongopus lividus:* Jeannel, Voy. Alluaud, Hém.: 100. (R)
1913 *Aspongopus (Aspongopus) lividus:* Schouteden, Gen. Ins. 153:8. (L)
1913 *Aspongopus (Aspongopus) spissus:* Schouteden, Gen. Ins. 153:9, pl. 2 fig. 10.
1913 *Aspongopus spissus:* Schouteden, Rev. Zool. Afr. 2(2):196. (R)
1952 *Coridius lividus:* Leston, Ann. Mag. Nat. Hist. (12)5:519. (R)
1959 *Aspongopus lividus:* LePelley, Agric. Ins. E. Afr.: 55, 131. (H)
1969 *Aspongopus spissus:* Synave, Bull. Inst. R. Sci. Nat. Belg. 45(37):18. (T)
1982 *Coridius spissus:* Linnavuori, Acta Zool. Fenn. 163:12. (R)
1987 *Coridius lividus:* Durai, Oriental Ins. 21:189, 209-210. figs. 323-233. (D, K, R, S, T)
1990 *Coridius lividus:* Lis, Ann. Upper Silesian Mus., Ent. 1:116, 141. (R, S)
Distribution: Central African Republic, Congo, Malawi, Mt. Kilimandjaro, Republic of South Africa, Ruwenzori Mountains, Tanzania(Usambara), Uganda, Zaire, Zambia, Zimbabwe.

Coridius makranensis Ahmad & Khan, 1979 (*Nomen nudum*)
1979 *Coridius makranensis* Ahmad & Khan, Ent. Soc. Karachi, suppl. 4(5):4, 7. (*nomen nudum*)
1990 *Coridius makranensis:* Lis, Ann. Upper Silesian Mus., Ent. 1:144. (*nomen nudum*)
Distribution: Baluchistan.

Coridius marginatus (A. Costa, 1847)
1847 *Aspongopus marginatus* Costa, Bull. Soc. Ent. Fr. (2)5:27.
1847 *Aspongopus marginatus:* Costa, Ann. Acc. Asp. Nat. Napoli (2)1:56.
1868 *Aspongopus mülleri* Vollenhoven, Faune Ent. Indo-N éerl. 3:39-40, pl. 4 fig. 5. (syn. by Stål, 1870)
1868 *Aspongopus Mülleri:* Walker, Cat. Het. 3:483. (L)
1870 *Aspongopus marginatus*: Stål, Sv. Vet.-Akad. Handl. 9(1):85-86. (S)
1873 *Aspongopus marginatus:* Walker, Cat. Het., suppl.: 28. (L)
1893 *Aspongopus marginatus:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (S)
1900 *Aspongopus marginatus:* Breddin, Stett. Ent. Ztg. 61:332. (R)
1907 *Aspongopus Müllieri*: Schouteden, NotesLeyden Mus. 30:45.(S,T)
1909 *Aspongopus marginatus:* Kirkaldy, Cat. Hem. 1:256. (S)
1913 *Aspongopus (Aspongopus) marginatus:* Schouteden, Gen. Ins. 153:8. (L)
1928 *Aspongopus marginatus:* China, J.F.M.S. Mus. 8(3):193. (R)
1986 *Coridius marginatus:* Durai, Planti News 5(1):4, 5, 6. (R)
1987 *Coridius marginatus:* Durai, Oriental Ins. 21:188, 200, figs. 186-188. (D, K, R, S, T)
1990 *Coridius marginatus:* Lis, Ann. Upper Silesian Mus., Ent. 1:114, 141. (R, S)
Distribution: Java, Malaya, Sumatra.

Coridius mayumbensis (Schouteden, 1910) - see *Coridiellus mayumbensis*
Coridius mysticus Stål, 1865 - see *Coridius nubilis*

Coridius nepalensis (Westwood, 1837)
1837 *Aspongopus Nepalensis* Westwood, Cat. Hope 1:6, 26.
1837 *Aspongopus Nigriventris* Westwood, Cat. Hope 1:6, 26. (syn. by Durai, 1978)
1851 *Aspongopus nigriventris:* Dallas, List Hem. 1:349. (R)
1851 *Aspongopus nepalensis:* Dallas, List Hem. 1:349. (R)
1859 *Aspongobus* [sic] *nigriventris:* Dohrn, Cat. Hem.: 21. (L)
1859 *Aspongobus* [sic] *nepalensis:* Dohrn, Cat. Hem.: 21. (L)
1868 *Aspongopus nigriventris:* Vollenhoven, Faune Ent. Indo-Néerl. 3:39. (Dn)
1868 *Aspongopus nigriventris:* Walker, Cat. Het. 3:482. (R)
1868 *Aspongopus nepalensis:* Walker, Cat. Het. 3:483. (R)

1870 *Aspongopus nigriventris:* Stål, Sv. Vet.-Akad. Handl. 9(1):85.
1870 *Aspongopus nepalensis:* Stål, Sv. Vet.-Akad. Handl. 9(1):85.
1879 *Aspongopus nigriventris:* Distant, Ann. Mag. Nat. Hist. (5)3:45. (R)
1879 *Aspongopus nepalensis:* Distant, Ann. Mag. Nat. Hist. (5)3:45. (R)
1889 *Aspongopus nigriventris:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):89. (Dn, R, S)
1889 *Aspongopus nepalensis:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):90. (Dn, R, S)
1892 *Aspongopus nigriventris:* Kirby, J. Linn. Soc. London 24:88. (R)
1893 *Aspongopus Nepalensis:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (S)
1893 *Aspongopus nigriventris*: Lethierry & Severin, Cat. Gén. Hém. 1:237 (S)
1900 *Aspongopus nigriventris:* Breddin, Stett. Ent. Ztg. 61:331-332. (D)
1900 *Aspongopus nepalensis:* Waterhouse, Entomologist 34:251. (R; human food, habitat)
1900 *Aspongopus nepalensis:* Waterhouse, Proc. Ent. Soc. Lond.: 9.
1901 *Aspongopus nigriventris:* Distant, Proc. Zool. Soc. Lond. 1900(4):819. (Ts)
1901 *Aspongopus nepalensis:* Distant, Proc. Zool. Soc. Lond. 1900(4):819. (Ts)
1901 *Aspongopus nepalensis:* Distant, Trans. Ent. Soc. Lond. 1901(1):104. (R)
1902 *Aspongopus nepalensis:* Distant, Fauna Brit. India, Rh. 1:283. (D)
1902 *Aspongopus nigriventris:* Distant, Fauna Brit. India, Rh. 1:284. (H, D)
1909 *Aspongopus nepalensis:* Kirkaldy, Cat. Hem. 1:256. (S)
1909 *Aspongopus nigriventris:* Kirkaldy, Cat. Hem. 1:256. (S)
1909 *Aspongopus nepalensis:* Maxwell-Lefroy, Indian Ins. Life: 678. (as human food)
1913 *Aspongopus (Aspongopus) nepalensis:* Schouteden, Gen. Ins. 153:8. (S)
1913 *Aspongopus (Aspongopus) nigriventris:* Schouteden, Gen. Ins. 153:8. (S)
1917 *Aspongopus nigriventris:* Schumacher, Sber. Ges. Naturf. Freunde Berl. 1917:446. (pollination)
1921 *Aspongopus nigriventris:* Distant, Entomologist 54:166. (R)
1932 *Aspongopus nepalensis:* Strickland, Indian J. Med. Res. 19(3):873, 874, 875. (Dn, human food)
1935 *Aspongopus nigriventris:* Hoffmann, Lingnan Univ. Sci. Bull. 7:120. (R, S)
1940 *Coridius nepalensis:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):7, 8. (Ge)
1940 *Coridius nigriventris:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):7, 10, 21-22, fig. 6. (D, Ge, K, R, S)
1948 *Coriduis nigriventris:* Hoffmann, Lingnan Sci. J. 22(1-4):23. (S)
1952 *Aspongopus nigriventris:* Villiers, Init. Afr. 9:85. (pollinates sago palm)
1956 *Aspongopus nepalensis:* Miller, Biol. Het. (1st ed.): 38. (human food)
1962 *Aspongopus nigriventris:* Yang, Econ. Ins. Fauna China 2:46, 48. (D, K)
1977 *Aspongopus nigriventris:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:70, pl. 8, fig. 122. (K)
1985 *Aspongopus nigriventris:* Datta *et al.*, Rec. Zool. Surv. India Occ. Paper, no. 60:5 fig. 8. (Dn)
1987 *Coridius nepalensis:* Durai, Oriental Ins. 21:190, 198, 265. (D, H, K, S, T)
1987 *Coridius nigriventris:* Schaefer & Ahmad, Phytophaga 1:30. (H)
1987 *Coridius nigriventris:* Zhang & Lin, Agric. Ins. Xizang 1:76. (R)
1988 *Aspongopus nigriventris:* Zhang & Lin, Ins. Mt. Namjagbarwa: 85. (R)
1989 *Aspongopus nigriventris:* Hua, List Ins. Zhongshan Univ.: 43.
1990 *Coridius nepalensis:* Lis, Ann. Upper Silesian Mus., Ent. 1:114, 141. (R, S)
1992 *Coridius nepalensis:* Lis, Ann. Upper Silesian Mus., Ent. 3:37. (R)
Distribution: Bhutan, Borneo, China (Yunnan, Xizang), India (Assam, Bhoutan), Indo-China, Indonesia, Java, Myanmar, Nepal, Sri Lanka, Sumatra, Vietnam.

Coridius nigriventris (Westwood, 1937) - see *Coridius nepalensis*

Coridius nigroaeneus (Reuter, 1881) - *Nomen dubium*
1881 *Aspongopus nigroæneus* Reuter, Ent. Mon. Mag. 17:234.
1889 *Aspongopus nigro-aeneus.* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):91. (D)
1893 *Aspongopus nigroæneus:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (S)
1909 *Aspongopus nigroaeneus:* Kirkaldy, Cat. Hem. 1:256.
1913 *Aspongopus (Aspongopus) nigroæneus:* Schouteden, Gen. Ins. 153:8. (L)
1940 *Coridius nigroaeneus:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):7. (Ge)
1987 *Coridius nigroaeneus:* Durai, Oriental Ins. 21:221. (S) (*Nomen dubium*)
1990 *Coridius nigroaeneus:* Lis, Ann. Upper Silesian Mus., Ent. 1:144. (*Nomen dubium*)

Distribution: Thailand.

Coridius nubilus (Westwood, 1837)

1837 *Aspongopus Nubilus* Westwood, Cat. Hope 1:6, 25.
1838 *Aspongopus erythrocerus* Germar, Silb. Rev. Ent. 5:158-159. (syn. by Herrich-Schäffer, 1844; concurrence by Lis, 1990)
1844 *Aspongopus erythrocerus:* Herrich-Schäffer, Wanz. Ins. 7:79, fig. 745. (Dn, S)
1850 *Amacosia Delegorguei* Spinola, Gen. Ins. Arthr.: 78-79. (syn. by Stål, 1865)
1851 *Aspongopus nubilus*: Dallas, List Hem. 1:350. (R, S)
1852 *Amacosia Delegorguei:* Spinola, Mem. Soc. Ital. Sci. Modena 25:118-119. (reprint of 1850 paper)
1853 *Aspongopus sutor* Stål, Öfv. Vet.-Akad. Förh. 10(9):223. (K) (syn. by Stål, 1865)
1853 *Aspongopus monachus* Stål, Öfv. Vet.-Akad. Förh. 10(9):223. (syn. by Stål, 1865)
1853 *Aspongopus sartor* Stål, Öfv. Vet.-Akad. Förh. 10(9):223. (K) (syn. by Dohrn, 1859, concurrence by Durai, 1987)
1859 *Aspongobus* [sic] *nubilus:* Dohrn, Cat. Hem.: 21. (S)
1859 *Aspongobus* [sic] *monachus*: Dohrn, Cat. Hem.: 22. (L)
1859 *Aspongobus* [sic] *sartor:* Dohrn, Cat. Hem.: 22. (L)
1865 *Aspongopus mysticus* Stål, Hem. Afr. 1:218. (K) (syn. by Durai, 1987)
1865 *Aspongopus nubilus*: Stål, Hem. Afr. 1:218-219. (D, K, S, varr.)
1865 *Aspongopus Sartor:* Stål, Hem. Afr. 1:219. (D, K)
1868 *Aspongopus nubilis* [sic]: Walker, Cat. Het. 3:480. (R)
1868 *Aspongopus sartor:* Walker, Cat. Het. 3:481. (L)
1868 *Aspongopus mysticus:* Walker, Cat. Het. 3:481. (L)
1870 *Aspongopus (Aspongopus) mysticus:* Stål, Sv. Vet.-Akad. Handl. 9(1):84. (L)
1870 *Aspongopus (Aspongopus) nubilus*: Stål, Sv. Vet.-Akad. Handl. 9(1):84. (S)
1870 *Aspongopus (Aspongopus) sartor:* Stål, Sv. Vet.-Akad. Handl. 9(1):84. (S)
1875 *Aspongopus nubilus:* Wallengren, Öfv. Vet.-Akad. Förh. 32(1):133. (R)
1892 *Aspongopus nubilus*: Distant, Nat. in Transv.: 246. (R)
1892 *Aspongopus nubilus:* Gerstäcker, Jb. Hamb. Wiss. Anst. 9(2):5. (R)
1893 *Aspongopus mysticus:* Bergroth, J. Sci. Lisboa (2)10:125. (R)
1893 *Aspongopus mysticus:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (L)
1893 *Aspongopus nubilus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1893 *Aspongopus sartor:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1898 *Aspongopus mysticus:* Distant, Ann. Mag. Nat. Hist. (7)2:302. (R)
1898 *Aspongopus nubilus:* Distant, Ann. Mag. Nat. Hist. (7)2:302, 310, 315. (R)
1901 *Aspongopus nubilus:* Distant, Proc. Zool. Soc. Lond. 1900(4):819. (Ts)
1909 *Aspongopus mysticus:* Kirkaldy, Cat. Hem. 1:256. (L)
1909 *Aspongopus nubilus:* Kirkaldy, Cat. Hem. 1:257, 380. (H, S)
1909 *Aspongopus sartor:* Kirkaldy, Cat. Hem. 1:257. (S)
1909 *Aspongopus nubilus:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):74. (R)
1910 *Aspongopus nubilus:* Schouteden, Sjöstedt's Kilim.-Meru Exp. 12(6):92. (R)
1912 *Aspongopus nubilus:* Schouteden, Rev. Zool. Afr. 2(1):108. (R)
1913 *Aspongopus nubilus:* Jeannel, Voy. Alluaud, Hém.: 101. (Dn, R, S)
1913 *Aspongopus (Aspongopus) nubilus:* Schouteden, Gen. Ins. 153:8, pl. 1 figs. 2, 15. (S)
1913 *Aspongopus (Aspongopus) mysticus:* Schouteden, Gen. Ins. 153:8. (L)
1913 *Aspongopus (Aspongopus) sartor:* Schouteden, Gen. Ins. 153:9. (S)
1913 *Aspongopus nubilus:* Schumacher, Denkschr. Med. Naturw. Ges. Jena 17:58. (R)
1913 *Aspongopus sartor:* Schumacher, Denkschr. Med. Naturw. Ges. Jena 17:59. (R)
1922 *Aspongopus nubilus:* Courteaux, Anim. Art. 1:273. (R)
1925 *Aspongopus nubilus:* Hesse, Ann. S. Afr. Mus. 23(1):41. (R, S)
1925 *Aspongopus sartor:* Hesse, Ann. S. Afr. Mus. 23(1):42. (R, S)
1939 *Aspongopus nubilus:* Mancini, Ann. Mus. Civ. Storia Nat. Genova 58:305. (R)
1952 *Coridius nubilus:* Leston, Ann. Mag. Nat. Hist. (12)5:519. (R)
1953 *Coridius nubilus:* Leston, Ann. S. Afr. Mus. 41:59. (R)
1973 *Aspongopus nubilus:* Linnavuori, Ann. Ent. Fenn. 39(2):73. (R)

1982 *Coridius nubilus:* Linnavuori, Monit. Zool. Ital. (ns), suppl. 16(1):19. (R)
1986 *Coridius nubilus:* Jacobs, in: Scholtz, Ins. S. Afr.: fig. 16.91. (fig. only)
1986 *Coridius nubilus:* Linnavuori, Monit. Zool. Ital. (ns), suppl. 21(6):112. (R)
1987 *Coridius nubilus:* Durai, Oriental Ins. 21:188, 213-214, figs. 256-272. (D, K, R, S, R)
1990 *Coridius nubilus:* Lis, Ann. Upper Silesian Mus., Ent. 1:121, 141, fig. 24. (R, S, Tn)
1991 *Coridius nubilus*: Lis, Ann. Upper Silesian Mus., Ent. 2:84, 85, 87, fig. 3. (D, I, K, R)
Distribution: Angola, Cameroon, Congo, Ethiopia, India, Kalahari, Kenya, Malawi, Mozambique, Namibia, Republic of South Africa, Somalia, Tanzania, Uganda, Zaire, Zambia, Zimbabwe.

Cordius obscurus (Fabricius, 1794) - see *Coridius brunneus*
Coridius ochreus (Westwood, 1837) - see *Coridius brunneus*
Coridius orientalis (Kirkaldy, 1909) - see *Coridius brunneus*
Coridius patruelis (Stål, 1853) - see *Coridiellus patruelis*

Coridius prolixus (Lethierry, 1881)
1881 *Aspongopus prolixus* Lethierry, Ann. Mus. Civ. Storia Nat. Genova 16:283. (treated as jr. syn. of *A. reuteri* by Durai, 1987)
1893 *Aspongopus prolixus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (L)
1894 *Aspongopus Reuteri* Haglund, Öfv. Vet.-Akad. Förh. 51(8):407. (D) (treated as valid name by Durai, 1987)
1894 *Aspongopus monticola* Karsch, Stett. Ent. Ztg. 55:101. (syn. with *A. reuteri* by Bergroth, 1908)
1901 *Aspongopus prolixus:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1904 *Aspongopus monticola:* Schouteden, Mem. Soc. Esp. Hist. Nat. 1:160. (R)
1908 *Aspongopus Reuteri:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (S)
1909 *Aspongopus prolixus*: Kirkaldy, Cat. Hem. 1:257. (L)
1909 *Aspongopus reuteri:* Kirkaldy, Cat. Hem. 1:257. (S)
1913 *Aspongopus (Aspongopus) prolixus:* Schouteden, Gen. Ins. 153:9. (L)
1913 *Aspongopus (Aspongopus) Reuteri:* Schouteden, Gen. Ins. 153:9. (L)
1929 *Aspongopus Reuteri:* Schouteden, Rev. Zool. Bot. Afr. 17(1):64. (R)
1934 *Aspongopus monticola:* Mayné & Ghesquière, Ann. Gembloux 40(1):7. (H, R)
1943 *Aspongopus Reuteri:* Schouteden, Rev. Zool. Bot. Afr. 37:326. (R)
1949 *Aspongopus Reuteri:* Villiers, I.F.A.N. Cat. 5:89. (R)
1950 *Aspongopus reuteri:* Villiers, Bull. I.F.A.N. 12(4):938. (R)
1952 *Aspongopus reuteri:* Villiers, Mem. I.F.A.N. 19:307. (R)
1957 *Coridius Reuteri:* Schouteden, Ann. Mus. Congo Zool. 58:278. (R)
1967 *Aspongopus reuteri:* Villiers, Bull. I.F.A.N. (A)29(4):1809. (R)
1982 *Coridius reuteri:* Linnavuori, Acta Zool. Fenn. 163:12. (R)
1987 *Coridius reuteri:* Durai, Oriental Ins. 21:189, 211-212, figs. 236-250. (D, K, S, T)
1990 *Coridius prolixus:* Lis, Ann. Upper Silesian Mus., Ent. 1:117, 141. (R, S, Tn)
Distribution: Cameroon, Congo, Ethiopia, Equatorial Guinea, Gabon, Ivory Coast, Liberia, Mt. Nimba Reserve, Ruanda, Togo, Zaire.

Coridius putoni (Bolivar, 1879)
1879 *Aspongopus Putonii* Bolivar, An. Soc. Esp. Hist. Nat. 8:139.
1893 *Aspongopus laboriosus* Bergroth, J. Sci. Lisboa (2)10:125. (syn. by Durai, 1987)
1893 Aspongopus *Putoni*: Lethierry & Severin, Cat. Gén. Hém. 1.238. (L)
1901 *Aspongopus laboriosus:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1908 *Aspongopus laboriosus:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Aspongopus laboriosus*: Kirkaldy, Cat. Hem. 1:256. (L)
1909 *Aspongopus putoni:* Kirkaldy, Cat. Hem. 1:257.
1909 *Aspongopus laboriosus*: Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):72. (R)
1913 *Aspongopus Putoni:* Jeannel, Voy. Alluaud, Hém.: 101. (R)
1913 *Aspongopus (Aspongopus) laboriosus:* Schouteden, Gen. Ins. 153:8. (L)
1913 *Aspongopus (Aspongopus) Putoni:* Schouteden, Gen. Ins. 153:9. (L)
1954 *Coridius laboriosus:* Leston, Publ. Cult. Comp. Diam. Angola 24:17. (L)

1987 *Coridius putoni:* Durai, Oriental Ins. 21:189, 210-211. (D, K, R, S)
1990 *Coridius putoni:* Lis, Ann. Upper Silesian Mus., Ent. 1:116-117, 141-142. (R, S)
1991 *Coridius putoni:* Lis, Ann. Upper Silesian Mus., Ent. 2:84, 89, fig. 7. (D, I, K, R)
Distribution: Angola, Congo, Kenya, Malawi, Republic of South Africa, Tanzania, Uganda, Zaire, Zambia, Zanzibar.

Coridius remipes (Stål, 1858)
1858 *Aspongopus remipes* Stål, Öfv. Vet.-Akad. Förh. 15:438-439.
1865 *Aspongopus remipes:* Stål, Hem. Afr. 1:214. (D, K)
1868 *Cyclopelta dorsalis* Walker, Cat. Het. 3:478. (syn. by Durai, 1987)
1868 *Aspongopus remipes:* Walker, Cat. Het. 3:481. (L)
1870 *Aspongopus (Aspongopus) remipes*: Stål, Sv. Vet.-Akad. Handl. 9(1):83. (R, S)
1890 *Aspongopus cruralis* Distant, Ann. Soc. Ent. Belg. 34(5):liv, lviii. (syn. by Durai, 1987)
1893 *Cyclopelta dorsalis*: Lethierry & Severin, Cat. Gén. Hém. 1:235. (L)
1893 *Aspongopus cruralis*: Lethierry & Severin, Cat. Gén. Hém. 1:236. (L)
1893 *Aspongopus remipes*: Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1894 *Aspongopus remipes:* Haglund, Öfv. Vet.-Akad. Förh. 51(8):407. (Dn, R)
1894 *Aspongopus remipes:* Karsch, Stett. Ent. Ztg. 55:101. (R)
1900 *Cyclopelta dorsalis:* Distant, Ann. Mag. Nat. Hist. (7)6:220, 233. (Dn, Ts)
1901 *Aspongopus remipes:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1901 *Aspongopus cruralis:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1904 *Aspongopus remipes:* Schouteden, Mem. Soc. Esp. Hist. Hat. 1:149, 160. (R)
1909 *Cyclopelta dorsalis:* Kirkaldy, Cat. Hem. 1:254. (S)
1909 *Aspongopus cruralis:* Kirkaldy, Cat. Hem. 1:255. (L)
1909 *Aspongopus remipes:* Kirkaldy, Cat. Hem. 1:257. (S)
1909 *Aspongopus cruralis:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):72. (R)
1909 *Aspongopus remipes:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):74. (R)
1911 *Aspongopus cruralis:* Schouteden, Rev. Zool. Afr. 1:183. (R)
1913 *Aspongopus (Aspongopus) cruralis:* Schouteden, Gen. Ins. 153:7. (L)
1913 *Aspongopus (Aspongopus) dorsalis:* Schouteden, Gen. Ins. 153:7. (S)
1913 *Aspongopus (Aspongopus) remipes*: Schouteden, Gen. Ins. 153:9, pl. 2 figs. 12, 13. (S)
1943 *Aspongopus remipes*: Schouteden, Rev. Zool. Bot. Afr. 37:326. (R)
1952 *Aspongopus remipes:* Villiers, Bull. I.F.A.N. 14(4):1211.
1952 *Aspongopus (Aspongopus) remipes:* Villiers, Init. Afr. 9:87. (Dn)
1952 *Aspongopus remipes:* Villiers, Mem. I.F.A.N. 19:307. (R)
1956 *Aspongopus remipes:* Villiers, Ent. Arb. Mus. Gg. Frey 7:214. (R)
1964 *Coridius remipes:* Schouteden, Rev. Zool. Bot. Afr. 70(1-2):94. (R)
1967 *Aspongopus cruralis:* Villiers, Bull. I.F.A.N. (A)29(4):1809. (R)
1969 *Aspongopus remipes:* Lodos, Ghana J. Agric. Sci. 2:64. (H, R)
1969 *Aspongopus cruralis:* Synave, Bull. Inst. R. Sci. Nat. Belg. 45(37):7. (T)
1980 *Coridius (Coridius) remipes:* Medler, Mem. Am. Ent. Inst., no. 30:120. (R)
1980 *Cyclopelta dorsalis:* Medler, Mem. Am. Ent. Inst., no. 30:120. (R)
1982 *Coridius remipes:* Linnavuori, Acta Zool. Fenn. 163:12. (R)
1987 *Coridius remipes:* Durai, Oriental Ins. 21:189, 220-221, figs. 291-297, 265. (D, H, K, R, S, T)
1990 *Coridius remipes:* Lis, Ann. Upper Silesian Mus., Ent. 1:125-126, 142. (R, S)
Distribution: Angola, Benin, Cameroon, Congo, Equatorial Guinea, Ghana, Guinea, Ivory Coast, Mt. Nimba Reserve, Nigeria, Tanzania,Togo, Zaire.

Coridius reuteri (Haglund, 1894) - see *Coridius prolixus*

Coridius rotundatus (Signoret, 1863)
1863 *Aspongopus rotundatus* Signoret, in: Maillard, Notes l'Ile Réunion, Annexe 2:26.
1865 *Aspongopus rotundatus:* Stål, Hem. Afr. 1:217. (D, K)
1868 *Aspongopus rotundatus:* Walker, Cat. Het. 3:481. (L)
1870 *Aspongopus (Aspongopus) rotundatus:* Stål, Sv. Vet.-Akad. Handl. 9(1):84. (S)

1878 *Aspongopus intermedius* Distant, Ent. Mon. Mag. 15:99. (syn. by Durai, 1987)
1893 *Aspongopus intermedius:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (L)
1893 *Aspongopus rotundatus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1909 *Aspongopus intermedius:* Kirkaldy, Cat. Hem. 1:256. (L)
1909 *Aspongopus rotundatus:* Kirkaldy, Cat. Hem. 1:257. (S)
1913 *Aspongopus (Aspongopus) intermedius:* Schouteden, Gen. Ins. 153:8. (L)
1913 *Aspongopus (Aspongopus) rotundatus:* Schouteden, Gen. Ins. 153:9. pl. 9 fig. 7. (S)
1952 *Aspongopus intermedius:* Cachan, Mem. Inst. Sci. Madagascar (E)1(2):294, 296-297, figs. 158-160, pl. 8 fig. 8. (D, K, R, S)
1987 *Coridius rotundatus:* Durai, Oriental Ins. 21:188, 207-208, figs. 216-222. (D, K, R, S, T)
1990 *Coridius rotundatus:* Lis, Ann. Upper Silesian Mus., Ent. 1:115-116, 142. (R, S)
Distribution: Madagascar, Reunion Island.

Coridius rufomarginatus (Carlini, 1895)
1895 *Aspongopus rufomarginatus* Carlini, Ann. Mus. Civ. Storia Nat. Genova (2)15:110-111.
1909 *Aspongopus rufomarginatus:* Kirkaldy, Cat. Hem. 1:257.
Distribution: Ethiopia.

Coridius sanguinolentus (Westwood, 1837)
1837 *Aspongopus Sanguinolentus* Westwood, Cat. Hope 1:6, 26.
1851 *Aspongopus sanguinolentus:* Dallas, List Hem. 1:350. (R)
1859 *Aspongobus* [sic] *sanguinolentus:* Dohrn, Cat. Hem.: 21. (L)
1868 *Aspongopus sanguinolentus:* Walker, Cat. Het. 3:483. (R)
1868 *Aspongopus circumcinctus* Walker, Cat. Het. 3:483. (syn. by Distant, 1902)
1870 *Aspongopus sanguinolentus:* Stål, Sv. Vet.-Akad. Handl. 9(1):85. (S)
1889 *Aspongopus sanguinolentus:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):89-90. (Dn, R, S)
1889 *Aspongopus circumcinctus:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):91. (D)
1893 *Aspongopus sanguinolentus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1893 *Aspongopus circumcinctus:* Lethierry & Severin, Cat Gén. Hém. 1:236. (S)
1900 *Aspongopus circumcinctus:* Distant, Ann. Mag. Nat. Hist. (7)6:233. (Ts)
1901 *Aspongopus sanguinolentus:* Distant, Proc. Zool. Soc. Lond. 1900(4):819. (Ts)
1901 *Aspongopus circumcinctus:* Distant, Trans. Ent. Soc. Lond. 1901(1):104. (R)
1902 *Aspongopus sanguinolentus:* Distant, Fauna Brit. India, Rh. 1:284. (D)
1909 *Aspongopus sanguinolentus:* Kirkaldy, Cat. Hem. 1:257. (S)
1913 *Aspongopus (Aspongopus) sanguinolentus:* Schouteden, Gen. Ins. 153:9. (S)
1932 *Aspongopus sanguinolentus* ?: Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1932 *Aspongopus sanguinolentus* ?: Hoffmann, Lingnan Sci. J. 11(1):140. (R)
1933 *Aspongopus sanguinolentus* ?: Wu, Lingnan Sci. J., suppl. 12:216. (R, S)
1934 *Aspongopus* (?) *sanguinolentus:* Chatterjee, Indian For. Rec. 20(9):27. (H, R)
1935 *Aspongopus sanguinolentus:* Hoffmann, Lingnan Univ. Sci. Bull 7:120. (R, S)
1935 *Aspongopus (Aspongopus) sanguinolentus:* Tang, in: Wu, Cat. Ins. Sin. 2:356. (S)
1940 *Coridius sanguinolentus:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):10; 22-23, fig. 7. (D, K, R, S)
1948 *Coridius sanguinolentus:* Hoffmann, Lingnan Sci. J. 22(1-4):23. (S)
1962 *Coridius sanguinolentus:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Coridius sanguinolentus:* Stichel, Verz. Pal. Hem-Het. 4:205. (L)
1962 *Aspongopus sanguinolentus:* Yang, Econ. Ins. Fauna China 2:46, 49, pl. 4 fig. 32. (D, K)
1985 *Aspongopus sanguinolentus:* Zhang, Econ. Ins. China 31:54, pl. 47 fig. 159. (D)
1986 *Coridius sanguinolentus:* Durai, Planti News 5(1):6. (R)
1987 *Coridius sanguinolentus:* Durai, Oriental Ins. 21:188, 206, figs. 212-213. (D, K, R, S, T)
1989 *Aspongopus sanguinolentus:* Hua, List Ins. Zhongshan Univ.: 43.
1990 *Coridius sanguinolentus:* Lis, Ann. Upper Silesian Mus., Ent. 1:115, 142. (R, S)
Distribution: China (Guangdong, Hainan Island), India (Assam, Hindustan), Java, Myanmar, Sumatra, Vietnam.

Coridius singhalanus (Distant, 1900)

1900 *Aspongopus singhalanus* Distant, Ann. Mag. Nat. Hist (7)6:222.
1902 *Aspongopus singhalanus:* Distant, Fauna Brit. India, Rh. 1:283-284. (D)
1908 *Aspongopus singhalanus:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Aspongopus singhalanus:* Kirkaldy, Cat. Hem. 1:257. (S)
1913 *Aspongopus (Aspongopus) singhalanus:* Schouteden, Gen. Ins. 153:9. (S)
1915 *Aspongopus singhalanus:* Gravely, Rec. Indian Mus. 11:509-510. (prey of bird)
1986 *Coridius singhalanus:* Durai, Planti News 5(1):6. (R)
1986 *Coridius singhalanus:* Mathew, Rec. Zool. Surv. India 84(1-4):43-44. (D, R)
1987 *Coridius singhalanus:* Durai, Oriental Ins. 21:190, 196-197, figs. 173-175. (D, K, R, T)
1990 *Coridius singhalanus:* Lis, Ann. Upper Silesian Mus., Ent. 1:113, 142. (R, S)
1992 *Coridius singhalanus:* Lis, Ann. Upper Silesian Mus., Ent. 3:37. (R)
Distribution: India (Kerala), Sri Lanka.

Coridius viduatus (Fabricius, 1794)

1794 *Cimex viduatus* Fabricius, Ent. Syst. 4:117. (D, R)
1803 *Edessa viduatus:* Fabricius, Syst. Rh.: 153. (R)
1807 *Pentatoma nigro-violacea* Palisot de Beauvois, Ins. Afr. Am., Hem. 1807(4-5):83, pl. 7 fig. 4. (syn. by Stål, 1865)
1829 *Edessa (Dinidor) viduata:* Latreille, Régne An. 5:195. (L)
1837 *Aspongopus nigro-violacea:* Spinola, Essai: 304. (L)
1839 *Aspongopus unicolor* Herrich-Schäffer, Wanz. Ins. 4:93, fig. 433. (syn by Stichel, 1962)
1843 *Aspongopus viduatus:* Amyot & Serville, Hist. Nat. Ins., Hém.: 174. (L)
1844 *Dinidor unicolor:* Herrich-Schäffer, Wanz. Ins. 7:76. (K)
1844 *Aspongopus melanopterus* Herrich-Schäffer, Wanz. Ins. 7:78-79, fig. 746. (syn. by Dallas, 1857)
1851 *Cyclopelta nigroviolacea:* Dallas, List Hem. 1:347. (R, S)
1851 *Aspongopus viduatus:* Dallas, List Hem. 1:348. (R, S)
1851 *Aspongopus viduatus:* Herrich-Schäffer, Wanz. Ins. 9:306. (D)
1853 *Aspongopus unicolor:* Herrich-Schäffer, Verz. Wanz. Ins.: 21. (L)
1853 *Aspongopus viduatus:* Schaum, Sitzber. Akad. Berl. 1853:357. (R)
1858 *Aspongopus nigro-violaceus:* Fairmaire & Signoret, in: Thomson, Arch. Ent. 2:290. (R)
1859 *Cyclopelta nigroviolacea:* Dohrn, Cat. Hem.: 21. (S)
1859 *Aspongobus* [sic] *viduatus:* Dohrn, Cat. Hem.: 21. (S)
1861 *Aspongopus niger* Fieber, Eur. Hem.: 330. (syn. by Stål, 1865)
1862 *Aspongopus viduatus:* Schaum, Peter's Reise nach Mossambique 2:40. (R, S)
1865 *Aspongopus viduatus:* Stål, Hem. Afr. 1:216-217. (D, K, S, varr.)
1866 *Aspongopus niger:* Mulsant & Rey, Hist. Nat. Pun. Fr.: 234-235. (D)
1867 *Aspongopus niger:* Mulsant & Rey, Ann. Soc. Linn. Lyon (2)14:157-158. (reprint of 1866 work)
1868 *Cyclopelta nigroviolacea:* Walker, Cat. Het. 3:478. (R)
1868 *Aspongopus viduatus:* Walker, Cat. Het. 3:480. (R)
1869 *Aspongopus viduatus:* Puton, Cat. Hém. Hét. Eur.: 6. (S)
1870 *Aspongopus niger:* Gredler, Verh. Zool. Bot. Ges. 20:101. (R)
1870 *Aspongopus (Aspongopus) viduatus:* Stål, Sv. Vet.-Akad. Handl. 9(1):83. (L)
1870 *Aspongopus unicolor:* Stål, Sv. Vet.-Akad. Handl. 9(1):85. (L)
1873 *Aspongopus viduatus:* GerstAcker, Decken's Reisen Ost-Afr. 3(2):402-403. (R, S)
1875 *Aspongopus viduatus:* Puton, Cat. Hém. Eur. (2nd ed.): 24.
1875 *Aspongopus viduatus:* Wallengren, Öfv. Vet.-Akad. Förh. 32(1):133. (R)
1878 *Aspongopus nigro-violacea:* Distant, Ent. Mon. Mag. 15:10-11. (S, cf. *A. viduatus*)
1882 *Aspongopus viduatus:* Chicote, Ann. Soc. Ent. Belg. 26:88. (R)
1884 *Aspongopus viduatus:* Distant, Proc. Zool. Soc. Lond. 1884:461. (R)
1886 *Aspongopus viduatus:* Puton, Cat. Hém. Pal. (3rd ed.): 15. (S)
1888 *Aspongopus viduatus:* Reuter, Rev. Syn. 2:152. (S)
1889 *Aspongopus unicolor:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):90. (Dn, S)
1889 *Aspongopus Japetus* Distant, Oates Matabele Land (2nd ed.): 387. (syn. by Distant, 1903)
1890 *Aspongopus viduatus:* Distant, Ann. Soc. Ent. Belg. 34(5):liv. (R)

1890 *Aspongopus nigro-violaceus:* Distant, Ann. Soc. Ent. Belg. 34(5):liv. (R)
1890 *Aspongopus japetus:* Distant, Proc. Zool. Soc. Lond. 1890(3):477. (R)
1890 *Aspongopus viduatus:* Reuter, Rev. Ent. 9(8):238. (R)
1891 *Aspongopus viduatus:* Reuter, Rev. Ent. 10(5):137. (R)
1892 *Aspongopus japetus:* Distant, Nat. in Transv.: 246. (R)
1893 *Aspongopus japetus:* Lethierry & Severin, Cat. Gén. Hém. 1:237. (L)
1893 *Aspongopus nigro-violaceus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1893 *Aspongopus unicolor:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1893 *Aspongopus viduatus:* Lethierry & Severin, Cat. Gén. Hém. 1:238. (S)
1898 *Aspongopus japetus:* Distant, Ann. Mag. Nat. Hist. (7)2:302. (R)
1899 *Aspongopus assar* Kirkaldy, Bull. Liverpool Mus. 2:47. (syn. by Distant, 1903; syn. with var. *japetus* by Kirkaldy, 1909)
1899 *Aspongopus viduatus:* Puton, Cat. Hém. Pal. (4th ed.): 18. (S)
1901 *Aspongopus viduatus:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1903 *Aspongopus viduatus:* Distant, Ann. Mag. Nat. Hist. (7)12:477. (S)
1903 *Aspongopus assar:* Kirkaldy, in: Forbes, Nat. Hist. Sokotra: 389-390, pl. 23 figs. 10, 10a. (D, I; habitat)
1904 *Aspongopus viduatus:* Balfour, Wellc. Lab. Rep. 1:43, pl. B figs. a-d. (Dn, H)
1904 *Aspongopus nigroviolaceus:* Schouteden, Mem. Soc. Esp. Hist. Nat. 1:149. (R)
1905 *Aspongopus viduatus:* Bergroth & Schouteden, Ann. Soc. Ent. Belg. 49:380. (R)
1905 *Aspongopus viduatus:* Schouteden, Ann. Soc. Ent. Belg. 49:10. (R)
1905 *Aspongopus viduatus* var. *unicolor:* Schouteden, Ann. Soc. Ent. Belg. 49:10. (R)
1906 *Aspongopus viduatus:* Oshanin, Verz. Pal. Hem. 1:161-162. (S)
1909 *Aspongopus nigroviolaceus:* Distant, Trans. Zool. Soc. Lond. 19(1):73. (R)
1909 *Aspongopus nigroviolaceus:* Kirkaldy, Cat. Hem. 1:256. (S)
1909 *Aspongopus viduatus:* Kirkaldy, Cat. Hem. 1:257, 380. (H, S)
1909 *Aspongopus viduatus* var. *unicolor:* Kirkaldy, Cat. Hem. 1:257. (S)
1909 *Aspongopus viduatus* var. *japetus:* Kirkaldy, Cat. Hem. 1:258. (S)
1909 *Aspongopus japetus:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):72. (L)
1909 *Aspongopus nigroviolaceus:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):74. (R)
1909 *Aspongopus viduatus:* Schouteden, Ann. Mus. Congo Belge, Zool. (3)2,1(1):74. (H, R)
1910 *Aspongopus viduatus:* Kirkaldy, Can. Ent. 42:62. (R)
1910 *Aspongopus viduatus:* Schouteden, Sjöstedt's Kilim.-Meru Exp. 12(6):92. (R)
1911 *Aspongopus viduatus:* Horváth, Bull. Soc. Ent. Egypt 3:103. (R)
1911 *Aspongopus viduatus:* Schouteden, Rev. Zool. Afr. 1:183. (R)
1912 *Aspongopus viduatus:* Oshanin, Kat. Pat. Hem.: 19. (R, S)
1912 *Aspongopus viduatus:* Schouteden, Rev. Zool. Afr. 2(1):108. (R)
1913 *Aspongopus nigroviolaceus:* Jeannel, Voy. Alluaud, Hém.: 100. (R)
1913 *Aspongopus viduatus:* Jeannel, Voy. Alluaud, Hém.: 101. (R, S)
1913 *Aspongopus (Aspongopus) nigroviolaceus:* Schouteden, Gen. Ins. 153:8. (L)
1913 *Aspongopus (Aspongopus) viduatus:* Schouteden, Gen. Ins. 153:9, pl. 1 fig. 11. (S)
1913 *Aspongopus viduatus:* Schouteden, Rev. Zool. Afr. 2(2):196. (R)
1913 *Aspongopus viduatus:* Schouteden, Rev. Zool. Afr. 3(2):328. (R)
1913 *Aspongopus viduatus:* Schumacher, Denkschr. Med. Naturw. Ges. Jena 17:58. (R)
1914 *Aspongopus viduatus:* Royer, Ann. Soc. Ent. Fr. 83:132. (R)
1917 *Aspongopus viduatus:* Schumacher, Sber. Ges. Naturf. Freunde Berl. 1917:446. (pollination)
1925 *Aspongopus viduatus:* Hesse, Ann. S. Afr. Mus. 23(1):41. (S)
1925 *Aspongopus viduatus* var. *japetus:* Hesse, Ann. S. Afr. Mus. 23(1):42. (R)
1926 *Aspongopus viduatus:* Seabra, Mem. Mus. Zool. Univ. Coimbra (1)(10):61. (R)
1927 *Coridius viduatus:* Bergroth, Ark. Zool. 18A(26):7.
1929 *Aspongopus viduatus:* Schouteden, Rev. Zool. Bot. Afr. 17(1):65. (R)
1934 *Aspongopus viduatus:* Bergevin, Bull. Mus. Natn. Hist. Nat. (2)6:411. (R)
1934 *Aspongopus viduatus var. niger:* Bergevin, Bull. Mus. Natn. Hist. Nat. (2)6:411. (R)
1934 *Aspongopus viduatus:* Mayné& Ghesquiére, Ann. Gembloux 40(1):7. (H, R)
1935 *Aspongopus viduatus:* Golding, Bull. Ent. Res. 26:264. (H)

1935 *Aspongopus viduatus:* Hesse, Ann. Transv. Mus. 16(4):589. (R)
1937 *Aspongopus viduatus:* Bodenheimer, Mem. Inst. Egypte 33:200. (R)
1937 *Aspongopus nigroviolaceus:* Hargreaves, Bull. Ent. Res. 28:518. (H)
1939 *Aspongopus viduatus:* Mancini, Ann. Mus. Civ. Storia Nat. Genova 58:305. (H, R)
1949 *Aspongopus viduatus*: Vidal, Mém. Soc. Sci. Nat. Maroc 48:215. (D)
1949 *Aspongopus viduatus* var. *unicolor:* Vidal, Mém. Soc. Sci. Nat. Maroc 48:215. (D, S)
1950 *Aspongopus viduatus:* Villiers, Bull. I.F.A.N. 12(4):938. (R)
1950 *Aspongopus viduatus:* Villiers, Mem. I.F.A.N. 10:326. (R)
1950 *Aspongopus viduatus* var. *niger:* Villiers, Mem. I.F.A.N. 10:326. (R)
1952 *Aspongopus viduatus:* Hoberlandt, Acta Ent. Mus. Natn. Pragae 27(381)[1951]:12. (R)
1952 *Coridius viduatus:* Leston, Ann. Mag. Nat. Hist. (12)5:902. (R)
1952 *Aspongopus (Aspongopus) nigriviolaceus* [sic]: Villiers, Init. Afr. 9:86. (Dn)
1952 *Aspongopus (Aspongopus) viduatus*: Villiers, Init. Afr. 9:87, fig. 110. (Dn, H, R)
1952 *Aspongopus viduatus:* Villiers, Mem. I.F.A.N. 19:307. (R)
1953 *Aspongopus viduatus:* Linnavuori, Ann. Ent. Fenn. 19:149. (R)
1953 *Aspongopus viduatus* f. *unicolor:* Priesner & Alfieri, Bull. Soc. Fouad Ist. Ent. 37:29. (Dn, H, R)
1954 *Aspongopus viduatus:* Hoberlandt, Acta Ent. Mus. Natn. Hung. 29:134. (R)
1954 *Coridius viduatus:* Leston, Publ. Cult. Comp. Diam. Angola 24:17, 19, figs. 15-22. (D, H, R)
1955 *Coridius viduatus:* Leston, Ent. Mon. Mag. 91:214-215, fig. 1. (aedeagus)
1956 *Aspongopus viduatus:* Hoberlandt, Acta Ent. Mus. Natn. Prague, suppl. 3[1955]:207. (H, R)
1956 *Aspongopus viduatus* var. *unicolor*: Mancini, Fragm. Ent. 2(8):95. (R)
1956 *Aspongopus viduatus:* Villiers, Ent. Arb. Mus. Gg. Frey 7:215. (R)
1960 *Aspongopus viduatus:* Linnavuori, Ann. Zool. Soc. Vanamo 22(1):21. (R)
1962 *Aspongopus viduatus:* Eckerlein, Bull. Soc. Ent. Egypte 46:330. (R)
1962 *Coridius viduatus:* Stichel, Ill. Bestimm. Wanz. (2)4(1):660-661, 725. (D, R)
1962 *Coridius viduatus* f. *viduatus:* Stichel, Ill. Bestimm. Wanz. (2)4(1):661. (K)
1962 *Coridius viduatus* f. *unicolor:* Stichel, Ill. Bestimm. Wanz. (2)4(1):661, 725. (K)
1962 *Coridius viduatus:* Stichel, Verz. Pal. Hem.-Het. 4:205. (R)
1962 *Coridius viduatus* f. *unicolor:* Stichel, Verz. Pal. Hem.-Het. 4:205. (L)
1963 *Aspongopus viduatus:* Mancini, Ann. Mus. Civ. Storia Nat. Giacomo Doria 73:182. (R)
1963 *Aspongopus viduatus:* Wagner, Ann. Naturh. Mus. Wien. 66[1962]:480. (R)
1964 *Coridius viduatus:* Linnavuori, Ann. Zool. Fenn. 1:309. (H, R)
1964 *Coridius viduatus:* Sienkiewicz, Cat. Montandon Coll.: 112. (R)
1964 *Coridius viduatus* f. *unicolor:* Sienkiewicz, Cat. Montandon Coll.: 112. (L)
1965 *Coridius viduatus:* Gentry, USDA Agric. Res. Serv. Handb., no. 273:147. (H, R)
1967 *Aspongopus viduatus:* Villiers, Bull. I.F.A.N. (A)29(4):1810. (R)
1975 *Coridius viduatus:* Linnavuori, Bol. Soc. Port. Cienc. Nat. (2)15(2):10. (R)
1980 *Coridius (Coridius) viduatus:* Medler, Mem. Am. Ent. Inst., no. 30:120. (R)
1982 *Coridius viduatus:* Linnavuori, Acta Zool. Fenn. 163:12, figs. 1b, 2a. (H, R)
1982 *Coridius viduatus:* Linnavuori, Monit. Zool. Ital. (ns), suppl. 16(1):18. (R)
1986 *Coridius viduatus:* Linnavuori, Monit. Zool. Ital. (ns), suppl. 21(6):112. (R)
1986 *Coridius viduatus:* Linnavuori, Fauna Saudi Arabia 8:47. (H, R)
1987 *Coridius viduatus:* Durai, Oriental Ins. 21:189, 218-219, figs. 277-278, 285. (D, H, K, R, S, T)
1987 *Coridius viduatus japectus* [sic]: Schaefer & Ahmad, Phytophaga 1:30. (H)
1989 *Coridius viduatus:* Linnavuori, Acta Ent. Fenn. 54:7. (R)
1990 *Coridius viduatus:* Lis, Ann. Upper Silesian Mus., Ent. 1:122-123, 142. (R, S)
1994 *Coridius viduatus:* Linnavuori, Ent. Fenn. 5(3):155. (R)

Distribution: Angola, Benin, Botswana, Cameroon, Central African Republic, Congo, Djibouti, Egypt, Equatorial Guinea, Ethiopia, Gabon, Gambia, Guinea, Guinea Bissau, Iran, Israel, Jordan, Lebanon, Libya, Kalahari, Kenya, Mozambique, Mt. Nimba Reserve, Namibia, Niger, Nigeria, Philae Island, Republic of South Africa, Ruwenzori Mountains, Saudi Arabia, Senegal, Sinai, Somalia, Socotra Island, South Yemen, Sudan, Syria, Tanzania (Usambara), Togo, Turkey, Uganda, Upper Volta, Yemen, Zaire, Zambia, Zanzibar, Zimbabwe.

Coridius viduatus japetus (Distant, 1889) - see *Coridius viduatus*

Coridius xanthopterus (Fairmaire, 1858)

1858 *Aspongopus xanthopterus* Fairmaire, in: Thomson, Arch. Ent. 2:291.
1865 *Aspongopus xanthopterus:* Stål, Hem. Afr. 1:214. (D, K)
1868 *Aspongopus xanthopterus:* Walker, Cat. Het. 3:481. (L)
1870 *Aspongopus (Aspongopus) xanthopterus:* Stål, Sv. Vet.-Akad. Handl. 9(1):83. (S)
1890 *Aspongopus xanthopterus:* Distant, Ann. Soc. Ent. Belg. 34(5):liv, lviii. (R, Ts)
1890 *Aspongopus xanthopterus* var.: Distant, Proc. Zool. Soc. Lond. 1890(3):477. (R)
1893 *Aspongopus xanthopterus:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (S)
1901 *Aspongopus xanthopterus:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1904 *Aspongopus xanthopterus:* Schouteden, Mem. Soc. Esp. Hist. Nat. 1:148, 160. (R)
1905 *Aspongopus xanthopterus:* Schouteden, Ann. Soc. Ent. Belg. 49:15. (R)
1909 *Aspongopus xanthopterus:* Distant, Trans. Zool. Soc. Lond. 19(1):73. (R)
1909 *Aspongopus xanthopterus:* Kirkaldy, Cat. Hem. 1:258. (S)
1909 *Aspongopus xanthopterus:* Schouteden, Ann. Mus. Congo Belg., Zool. (3)2,1(1):74. (R)
1910 *Aspongopus xanthopterus:* Schouteden, Ann. Soc. Ent. Belg. 54:404. (R)
1913 *Aspongopus xanthopterus:* Jeannel, Voy. Alluaud, Hém.: 100. (R)
1913 *Aspongopus (Aspongopus) xanthopterus:* Schouteden, Gen. Ins. 153:9, pl. 2 fig. 8. (S)
1913 *Aspongopus xanthopterus:* Schouteden, Rev. Zool. Afr. 2(2):196. (R)
1927 *Coridius xanthopterus:* Bergroth, Ark. Zool. 18A(26):7. (R)
1929 *Aspongopus xanthopterus*: Schouteden, Rev. Zool. Bot. Afr. 17(1):65. (R)
1952 *Aspongopus (Aspongopus) xanthopterus:* Villiers, Init. Afr. 9:87. (Dn, R)
1954 *Coridius xanthopterus:* Leston, Publ. Cult. Comp. Diam. Angola 24:17. (R)
1956 *Coridius xanthopterus:* Leston, Bull. I.F.A.N. (A)18(2):619. (R)
1957 *Coridius xanthopterus:* Schouteden, Ann. Mus. Congo Zool. 58:278. (R)
1967 *Aspongopus xanthopterus:* Villiers, Bull. I.F.A.N. (A)29(4):1810. (R)
1975 *Coridius xanthopterus:* Linnavuori, Bol. Soc. Port. Cienc. Nat. (2)15(2):10. (R)
1982 *Coridius xanthopterus:* Linnavuori, Acta Zool. Fenn. 163:12. (H, R)
1987 *Coridius xanthopterus*: Durai, Oriental Ins. 21:188, 219-220, figs. 285-290. (D, K, R, S)
1990 *Coridius xanthopterus:* Lis, Ann. Upper Silesian Mus., Ent. 1:123, 125, 142, figs. 18, 20. (Dn, R, S)
1991 *Coridius xanthopterus:* Lis, Ann. Upper Silesian Mus., Ent. 2:84, 89-90, fig. 7. (D, I, K, R)

Distribution: Angola, Burkina, Cameroon, Central African Republic, Congo, Equatorial Guinea, Ethiopia, Gabon, Guinea, Ruanda, Ruwenzori Mountains, Somalia, Sudan, Tanzania, Uganda, Zaire.

CYCLOPELTA Amyot & Serville, 1843

Type species: *Tessaratoma obscura* Lepeletier & Serville, 1825, by subsequent designation (Kirkaldy, 1903).

1843 *Cyclopelta* Amyot & Serville, Hist. Nat. Ins., Hém.: XXIX, 172. (K)
1846 *Cyclopelta:* Agassiz, Nom. Zool. Hem. Add.: 4. (Ety)
1850 *Pycanum:* Spinola, Tavola Sinottica: 32. (misdet. sec. Kirkaldy, 1909)
1851 *Cyclopelta:* Dallas, List Hem. 1:318, 346-347. (K, S)
1851 *Cyclopelta:* Herrich-Schäffer, Wanz. Ins. 9:282. (K)
1852 *Pycanum:* Spinola, Mem. Soc. Ital. Sci. Modena 25(1):72. (L) (reprint of 1850 paper)
1865 *Dinidor:* Stål, Hem. Afr. 1:81, 211. (D, K; misdet. sec. Stål, 1870)
1867 *Dinidor:* Stål, Öfv. Vet.-Akad. Förh. 24(7):522. (K)
1868 *Cyclopelta:* Vollenhoven, Faune Ent. Indo-Néerl. 3:36-37. (D)
1868 *Cyclopelta:* Walker, Cat. Het. 3:477. (L)
1870 *Cyclopelta:* Stål, Sv. Vet.-Akad. Handl. 9(1):80. (S)
1889 *Cyclopelta:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):85. (D, S)
1893 *Cyclopelta:* Lethierry & Severin, Cat. Gén. Hém. 1:235. (S)
1902 *Cyclopelta:* Distant, Fauna Brit. India, Rh. 1:279-280. (D, K, S)
1903 *Cyclopelta:* Kirkaldy, Entomologist 36(484):231. (Tsp)

1906 *Cyclopelta:* Oshanin, Verz. Pal. Hem. 1:162. (S)
1909 *Cyclopelta*: Kirkaldy, Cat. Hem. 1:254. (S)
1912 *Cyclopelta*: Oshanin, Kat. Pal. Hem.: 19. (S,Tsp)
1913 *Cyclopelta:* Kirkaldy, Can. Ent. 45:84. (K)
1913 *Cyclopelta:* Schouteden, Gen. Ins. 153:4, 5-6. (D, K, R, S)
1935 *Cyclopelta:* Tang, in: Wu, Cat. Ins. Sin. 2:354. (S)
1940 *Cyclopelta:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):7, 8, 23-25. (D, Ge, K, S)
1952 *Cyclopelta:* Villiers, Init. Afr. 9:85-86. (D)
1953 *Cyclopelta:* Priesner & Altieri, Bull. Soc. Fouad Ist. Ent. 37:14. (K)
1977 *Cyclopelta:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:69, 70-71. (K, Ks)
1987 *Cyclopelta:* Durai, Oriental Ins. 21:171, 175-176. (D, K, Ks)

Cyclopelta abdominalis Distant, 1902
1902 *Cyclopelta abdominalis* Distant, Fauna Brit. India, Rh. 1:281.
1908 *Cyclopelta abdominalis*: Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Cyclopelta abdominalis*: Kirkaldy, Cat. Hem. 1:254.
1913 *Cyclopelta abdominalis:* Schouteden, Gen. Ins. 153:5. (L)
1921 *Cyclopelta abdominalis:* Distant, Entomologist 54:166. (R)
1935 *Cyclopelta abdominalis:* Hoffmann, Lingnan Univ. Sci. Bull. 7:116. (R, S)
1986 *Cyclopelta abdominalis:* Durai, Planti News 5(1):4, 5, 6. (R)
1987 *Cyclopelta abdominalis:* Durai, Oriental Ins. 21:176, 180-181, figs. 84-88. (D, K, R, T)
1990 *Cyclopelta abdominalis*: Lis, Ann. Upper Silesian Mus., Ent. 1:108, 139. (R, sex of lectotype)
Distribution: Cambodia, Myanmar (Tenasserim), Malaysia, Vietnam.

Cyclopelta abyssinica Distant, 1910 - see *Cyclopelta funebris*

Cyclopelta bechynei Durai,1987
1987 *Cyclopelta bechyne* Durai, Oriental Ins. 21:176, 184-185, figs. 137-143. (K)
1990 *Cyclopelta bechynei:* Lis, Ann. Upper Silesian Mus., Ent. 1:111, 139, fig. 7. (Emendation, R)
1991 *Cyclopelta bechynei:* Lis, Ann. Upper Silesian Mus., Ent. 2:84, 85, fig. 1. (D, I, K, R)
Distribution: Kenya, Nigeria, Togo.

Cyclopelta brunciensis Lis, 1992
1992 *Cyclopelta bruneiensis* Lis, Ann. Upper Silesian Mus., Ent. 3:36, fig. 1.
Distibution: N. Borneo (Brunei).

Cyclopelta dorsalis Walker, 1868 - see *Coridius remipes*
Cyclopelta dotata Walker, 1868 - see *Coridiellus patruelis*

Cyclopelta funebris (Fabricius, 1775)
1775 *Cimex funebris* Fabricius, Syst. Ent.: 713. (D, R)
1778 *Cimex Funebris*: Goeze, Ent. Beytr. 2:247. (Dn)
1781 *Cimex funebris*: Fabricius, Spec. Ins. 2:356. (Dn)
1787 *Cimex funebris*: Fabricius, Mant. Ins. 2:294. (Dn)
1790 *Cimex funebris:* Gmelin, Syst. Nat. (13th ed.) 1(4):2151.
1794 *Cimex funebris*: Fabricius, Ent. Syst. 4:116. (Dn, R)
1803 *Cimex funebris:* Fabricius, Syst. Rh.: 171. (R)
1851 *Cyclopelta funebris*: Dallas, List Hem. 1:347.
1858 *Aspongopus funebris*: Fairmaire & Signoret, in: Thomson, Arch. Ent. 2:291. (R)
1859 *Cyclopelta funebris:* Dohrn, Cat. Hem.: 21. (L)
1865 *Dinidor funebris*: Stål, Hem. Afr. 1:212. (D, S)
1868 *Cyclopelta funebris*: Walker, Cat. Het. 3:478. (R)
1870 *Cyclopelta funebris*: Stål, Sv. Vet.-Akad. Handl. 9(1):80. (S)
1890 *Cyclopelta funebris*: Distant, Ann. Soc. Ent. Belg. 34(5):liv. (R)
1893 *Cyclopelta funebris:* Bergroth, J. Sci. Lisboa (2)10:125. (R)

1893 *Cyclopelta funebris:* Lethierry & Severin, Cat. Gén. Hém. 1:235. (S)
1904 *Cyclopelta funebris:* Schouteden, Mem. Soc. Esp. Hist. Nat. 1:160. (R)
1909 *Cyclopelta funebris:* Kirkaldy, Cat. Hem. 1:254. (S)
1909 *Cyclopelta funebris:* Schouteden, Ann. Mus. Congo Belg., Zool (3)2,1(1):71.
1910 *Cyclopelta abyssinica* Distant, Ann. Mag. Nat. Hist. (8)6:220-221. (syn. by Durai, 1987)
1913 *Cyclopelta funebris*: Jeannel, Voy. Alluaud, Hém.: 100. (R)
1913 *Cyclopelta abyssinica*: Schouteden, Gen. Ins. 153:5. (L)
1913 *Cyclopelta funebris*: Schouteden, Gen. Ins. 153:5. (S)
1913 *Cyclopelta funebris*: Schouteden, Rev. Zool. Afr. 3(2):328. (R)
1914 *Cyclopelta funebris:* Royer, Ann. Soc. Ent. Fr. 83:133. (Sinai record by Walker erroneous)
1952 *Cyclopelta funebris:* Villiers, Bull. I.F.A.N. 14(4):1211. (R)
1952 *Cyclopelta funebris:* Villiers, Init. Afr. 9:86. (Dn, R)
1952 *Cyclopelta funebris:* Villiers, Mem. I.F.A.N. 19:307. (R)
1953 *Cyclopelta funebris:* Priesner & Alfieri, Bull. Soc. Fouad Ist. Ent. 37:29. (R)
1956 *Cyclopelta funebris:* Villiers, Ent. Arb. Mus. Gg. Frey 7:213. (R)
1963 *Cyclopelta funebris:* Schouteden, Rev. Zool. Bot. Afr. 68(3-4):398. (R)
1967 *Cyclopelta funebris:* Villiers, Bull. I.F.A.N. (A)29(4):1808. (R)
1972 *Cyclopelta funebris:* Gillon, Ann. Univ. Abidjan (E)5(1):291, 295, 352-353, fig. 24. (D, E, I, K)
1972 *Cyclopelta funebris:* Gillon, Proc. Ann. Tall Timb. Fire Ecol. Conf., no. 11:380, 405, 406. (ecology)
1973 *Cyclopelta funebris:* Linnavuori, Ann. Ent. Fenn. 39(2):73. (R)
1974 *Cyclopelta funebris:* Gillon, Ann. Univ. Abidjan (E)7(1):219, 244, 246, 283. (B, H)
1974 *Cyclopelta funebris:* Gillon, Ann. Univ. Abidjan (E)7(1):337, 338, 353. (habitat)
1978 *Cyclopelta funebris:* Gillon, Ann. Univ. Abidjan (E)9[1976]:117, 149, 156, 157, 163. (ecology)
1980 *Cyclopelta funebris:* Medler, Mem. Am. Ent. Inst., no. 30:120. (R)
1982 *Cyclopelta funebris:* Linnavuori, Acta Zool. Fenn. 163:12. (R)
1987 *Cyclopelta funebris:* Durai, Oriental Ins. 21:176, 183-184, figs. 116-136. (D, K, R, S, T)
1990 *Cyclopelta funebris:* Lis, Ann. Upper Silesian Mus., Ent. 1:110-111, 139, fig. 6. (R, S)
Distribution: Angola, Cameroon, Congo, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Ivory Coast, Kenya, Mt. Nimba Reserve, Nigeria, Sierra Leone, Tanzania, Togo, Uganda, Zaire (Katanga).

Cyclopelta impicticollis (Stål, 1870) - see *Dinidor impicticollis*
Cyclopelta mactans (Fabricius, 1798) - see *Dinidor mactabilis*
Cyclopelta nigroviolacea Palisot de Beauvois, 1807 - see *Coridius viduatus*

Cyclopelta obscura (Lepeletier & Serville, 1825)
1825 *Tessaratoma obscura* Lepeletier & Serville, Enc. Méth. 10:592.
1837 *Aspongopus Alternans* Westwood, Cat. Hope 1:6, 26. (unnecessary Nn for *Tessaratoma obscura* Lepeletier & Serville, 1825)
1838 *Aspongopus depressicornis* Herrich-Schäffer, Wanz. Ins. 4:85-86, fig. 418. (syn. by Dallas, 1851)
1843 *Cyclopelta obscura:* Amyot & Serville, Hist. Nat. Ins., Hém.: 172. (Dn)
1844 *Dinidor depressicornis:* Herrich-Schäffer, Wanz. Ins. 7:78. (Ts)
1851 *Cyclopelta obscura:* Dallas, List Hem. 1:347. (R, S)
1859 *Cyclopelta obscura:* Dohrn, Cat. Hem.: 21. (S)
1868 *Cyclopelta obscura:* Vollenhoven, Faune Ent. Indo-Néerl. 3:37. (D, R, S)
1868 *Cyclopelta obscura:* Walker, Cat. Het. 3:479. (R)
1870 *Cyclopelta obscura:* Stål, Sv. Vet.-Akad. Handl. 9(1):80. (S)
1871 *Cyclopelta obscura:* Stål, Öfv. Vet.-Akad. Förh. 27(7):609, 645. (R)
1879 *Cyclopelta obscura:* Distant, J. Asiat. Soc. Beng. 48(2):37. (R)
1883 *Cyclopelta obscura:* Lethierry, Ann. Mus. Civ. Storia Nat. Genova 18:649. (R)
1889 *Cyclopelta obscura:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):85-86. (D, R, S)
1893 *Cyclopelta obscura:* Lethierry & Severin, Cat. Gén. Hém. 1:235-236. (S)
1897 *Cyclopelta obscura:* Koningsberger, Med's Lands Plant. 20:20.
1899 *Cyclopelta obscura* var. *brunnescens* Breddin, Beih. Jb. Hamb. Wiss. Anst. 16(2):168. (p. 14 in separate; syn. by Durai, 1987)

1900 *Cyclopelta obscura:* Breddin, Abh. Senckenb. Naturf. Ges. 25:148. (Dn, R)
1900 *Cyclopelta obscura:* Breddin, Stett. Ent. Ztg. 61:331. (R)
1901 *Cyclopelta obscura:* Breddin, Abh. Naturf. Ges. Halle 24:14, 63. (Dn, R)
1901 *Cyclopelta obscura:* Distant, Proc. Zool. Soc. Lond. 1900(4):823. (S)
1901 *Cyclopelta obscura:* Distant, Trans. Ent. Soc. Lond. 1901(1):104. (R)
1902 *Cyclopelta obscura:* Distant, Fauna Brit. India, Rh. 1:280. (D, R, S)
1903 *Cyclopelta obscura:* Kirkaldy, Entomologist 36(484):231. (Tsp)
1905 *Cyclopelta obscura:* Breddin, Mitt. Nat. Mus. Hamb. 22(2):117. (R)
1909 *Cyclopelta obscura*: Kirkaldy, Cat. Hem. 1:254. (S)
1909 *Cyclopelta obscura* var. *brunnescens:* Kirkaldy, Cat. Hem. 1:254. (L)
1910 *Cyclopelta obscura:* Kirkaldy, Ann. Soc. Ent. Belg. 54(4):109. (L)
1913 *Cyclopelta obscura*: Schouteden, Gen. Ins. 153:5-6, pl. 1 fig. 6. (S)
1920 *Cyclopelta obscura:* Shroff, in: Fletcher, Proc. 3rd Ent. Meet. Pusa 1919:344. (H)
1921 *Cyclopelta obscura:* Distant, Entomologist 54:166. (R)
1923 *Cyclopelta obscura*: Lehmann, Zool. Anz. 57(7-8):182. (R)
1928 *Cyclopelta obscura:* China, J.F.M.S. Mus. 8(3):196. (R)
1929 *Cyclopelta obscura:* Dammerman, Agric. Zool. Malay Archipelago: 222-223, pl. 27 fig. 3. (B, P)
1932 *Cyclopelta obscura:* Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1933 *Cyclopelta obscura:* Schouteden, Mem. Mus. Hist. Nat. Belg. 4(8):53. (R)
1935 *Cyclopelta obscura:* Hoffmann, Lingnan Univ. Sci. Bull. 7:116-117. (R, S)
1935 *Cyclopelta obscura:* Tang, in: Wu, Cat. Ins. Sin. 2:354. (S)
1940 *Cyclopelta obscura:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):30. (S; cf *C. parva*)
1947 *Cyclopelta obscura:* Bibby, Philipp. J. Sci. 77(1):74. (R)
1948 *Cyclopelta obscura:* Hoffmann, Lingnan Sci. J. 22(1-4):23. (S)
1950 *Cyclopelta obscura:* Kalshoven, Plagen Cultuurgewassen Indonesië 1:204, pl 4 fig. 1. (I)
1958 *Cyclopelta obscura:* Vayssiere, J. Agric. Trop. Bot. Appl. 5(11):800, fig. 10. (H)
1962 *Cyclopelta obscura*: Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R, S)
1962 *Cyclopelta obscura:* Stichel, Verz. Pal. Hem.-Het. 4:205. (R, S)
1962 *Cyclopelta obscura:* Yang, Econ. Ins. Fauna China 2:47, 49-50, pl 8 fig. 69. (D, K)
1964 *Cyclopelta obscura:* Sienkiewicz, Cat. Montandon Coll.: 113. (R)
1968 *Cyclopelta obscura:* Black, Ent. Medd. 36:562. (R)
1972 *Cyclopelta obscura var. brunnescens*: Weidner, Mitt. Hamburg Zool. Mus. Inst. 68:115. (T)
1977 *Cyclopelta obscura:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:71, pl. 8 fig. 127. (K)
1981 *Cyclopelta obscura:* Kalshoven, Pests Crops Indonesia: pl. C fig. 58i.
1985 *Cyclopelta obscura:* Yukawa & Yamane, Kontyû 53(4):693. (R)
1985 *Cyclopelta obscura*: Zhang, Econ. Ins. China 31:54-55, pl 11 figs. 26.1-26.5. (D, E, I)
1986 *Cyclopelta obscura:* Durai, Planti News 5(1):4, 5, 6. (R)
1987 *Cyclopelta obscura:* Durai, Oriental Ins. 21:176-177, 265, figs. 28-60. (D, H, K, R, S, T)
1989 *Cyclopelta obscura:* Hua, List Ins. Zhongshan Univ.: 43.
1990 *Cyclopelta obscura:* Lis, Ann. Upper Silesian Mus., Ent. 1:104-105, 139, figs. 1, 3. (R, S)
1990 *Cyclopelta obscura:* Zheng & Jin, Contr. Shanghai Inst. Ent. 9:142. (R)
1992 *Cyclopelta obscura:* Lis, Ann. Upper Silesian Mus., Ent. 3:35. (R)

Distribution: Borneo, Cambodia, Celebes, China (Xizang), Enggano Island, India (Assam, Calcutta, Madras, Mysore, Sikkim), Indonesia (Nias Island, Talaur Islands), Java, Lesser Sundas (Flores, Lombok), Laos, Malaysia (Malacca), Myanmar, Philippines (Luzon), Sarawak, Sangihe Islands, Solomons (Kei Island), Sri Lanka, Sumatra, Taiwan, Thailand, Vietnam.

Cyclopelta obscura brunnescens Breddin, 1899 - see *Cyclopelta obscura*
Cyclopelta obscura siccifolia (Westwood, 1837) - see *Cyclopelta siccifolia*
Cyclopelta obscura trimaculata Vollenhoven, 1868 - see *Cyclopelta trimaculata*

Cyclopelta ornata Stål, 1871

1871 *Cyclopelta ornata* Stål, Öfv. Vet.-Akad. Förh. 27(7):645.
1873 *Cyclopelta ornata*: Walker, Cat. Het., suppl.: 28. (L)
1893 *Cyclopelta ornata:* Lethierry & Severin, Cat. Gén. Hém. 1:236.

1909 *Cyclopelta ornata:* Kirkaldy, Cat. Hem. 1:254.
1913 *Cyclopelta ornata*: Schouteden, Gen. Ins. 153:6. (L)
1986 *Cyclopelta ornata:* Durai, Planti News 5(1):6. (R)
1987 *Cyclopelta ornata:* Durai, Oriental Ins. 21:176, 182, figs. 98-106. (D, K, R, T)
1990 *Cyclopelta ornata:* Lis, Ann. Upper Silesian Mus., Ent. 1:108, 139. (R)
1992 *Cyclopelta ornata:* Lis, Ann. Upper Silesian Mus., Ent. 3:36. (R)
Distribution: Philippines.

Cyclopelta parva Distant, 1900
1900 *Cyclopelta parva* Distant, Ann. Mag. Nat. Hist. (7)6:220-221.
1902 *Cyclopelta parva:* Distant, Fauna Brit. India, Rh. 1:280. (D, R)
1906 *Cyclopelta parva:* Oshanin, Verz. Pal. Hem. 1:162.
1908 *Cyclopelta parva:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Cyclopelta parva:* Kirkaldy, Cat. Hem. 1:254. (S)
1912 *Cyclopelta parva:* Oshanin, Kat. Pal. Hem.: 19. (R)
1913 *Cyclopelta parva:* Schouteden, Gen. Ins. 153:6. (S)
1917 *Cyclopelta parva:* Schumacher, Sber. Ges. Naturf. Fruende Berl. 1917:446. (pollination)
1926 *Cyclopelta parva:* Esaki, Ann. Mus. Natn. Hung. 24:152. (R, S)
1931 *Cyclopelta parva:* Matsumura, 6000 Ill. Ins. Jap.-Empire: 1180, fig.
1932 *Cyclopelta parva:* Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1934 *Cyclopelta parva:* Yang, Bull. Fan Mem. Inst. Biol. 5(2):70, 72-73, fig. 11. (D, K, S)
1935 *Cyclopelta parva:* Cheo, Peking Nat. Hist. Bull. 10(1):29. (H, R)
1935 *Cyclopelta parva:* Hoffmann, Lingnan Univ. Sci. Bull. 7:117, 176. (R, S)
1935 *Cyclopelta parva:* Tang, in: Wu, Cat. Ins. Sin. 2:355. (R, S)
1940 *Cyclopelta parva:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):25-26, 28, figs. 8, 9. (D, R, S)
1948 *Cyclopelta parva:* Hoffmann, Lingnan Sci. J. 22:(1-4)23. (S)
1954 *Cyclopelta parva:* Shiraki, Cat. Inj. Ins. Ryukyus: 15.
1957 *Cyclopelta parva:* Takara, Sci. Bull. Coll. Agric. Univ. Ryukyus 4:33. (H, R, S)
1962 *Cyclopelta parva:* Stichel, Ill. Bestimm. Wanz.(2)4(1):725. (R)
1962 *Cyclopelta parva:* Stichel, Verz. Pal. Hem.-Het. 4:205. (R)
1962 *Cyclopelta parva:* Yang, Econ. Ins. Fauna China 2:47, 49. (D, K)
1965 *Cyclopelta parva:* Miyamoto, Spec. Bull. Lep. Soc. Jap. 1:230. (R)
1974 *Cyclopelta parva:* Chang, Acta Ent. Sin. 17(3):357. (R)
1977 *Cyclopelta parva:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:70-71, pl. 8, fig. 126. (K)
1985 *Cyclopelta parva:* Zhang, Econ. Ins. China 31:56-57, pl. 12, figs. 27.1-27.6. (D, E, I)
1987 *Cyclopelta parva:* Durai, Oriental Ins. 21:176, 178-179, figs. 69-77. (D, K, R, T)
1987 *Cyclopelta parva:* Zhang & Lin, Agric. Ins. Xizang 1:76. (R)
1988 *Cyclopelta parva:* Zhang & Lin, Ins. Mt. Namjagbarwa: 85. (R)
1989 *Cyclopelta parva:* Hirashima, Check List Jap. Ins.: 183. (L)
1989 *Cyclopelta parva:* Hua, List Ins. Zhongshan Univ.: 43.
1990 *Cyclopelta parva:* Lis, Ann. Upper Silesian Mus., Ent. 1:108, 140. (H, R)
1992 *Cyclopelta parva:* Lis, Ann. Upper Silesian Mus., Ent. 3:36. (R)
Distribution: China (Fujian, Guangdong, Guizhou, Jiangsu, Jiangxi, Shangdong, Sichuan, Xixang, Zhejiang), India (Bhoutan), Japan,Myanmar (Pegu), Taiwan.

Cyclopelta patruelis Stål, 1853 - see *Coridiellus patruelis*
Cyclopelta rufocinctus (Stål, 1870) - see *Dinidor rufocinctus*

Cyclopelta rugosa Distant, 1921
1921 *Cyclopelta rugosa* Distant, Entomologist 54:167.
1932 *Cyclopelta rugosa:* Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1935 *Cyclopelta rugosa:* Hoffmann, Lingnan Univ. Sci. Bull. 7:117. (L)
1935 *Cyclopelta rugosa:* Tang, in: Wu, Cat. Ins. Sin. 2:355. (S)
1940 *Cyclopelta rugosa:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):21.
1948 *Cyclopelta rugosa:* Hoffmann, Lingnan Sci. J. 22:(1-4)23. (S)

1962 *Cyclopelta rugosa:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Cyclopelta rugosa:* Stichel, Verz. Pal. Hem.-Het. 4:205. (L)
1986 *Cyclopelta rugosa:* Durai, Planti News 5(1):6. (R)
1987 *Cyclopelta rugosa:* Durai, Oriental Ins. 21:176, 179-180, figs. 78-83. (D, K, R, T)
1990 *Cyclopelta rugosa:* Lis, Ann. Upper Silesian Mus., Ent. 1:108, 140. (R)
Distribution: China (Zhejiang), India, Laos, Malaysia, Myanmar, Thailand.

Cyclopelta saucia (Stål, 1870) - see *Dinidor saucius*

Cyclopelta siccifolia (Westwood, 1837)
1837 *Aspongopus Siccifolius* Westwood, Cat. Hope 1:6, 26.
1851 *Cyclopelta siccifolia*: Dallas, List Hem. 1:347. (R)
1854 *Cyclopelta tartarea* Stål, Öfv. Vet.-Akad. Förh. 11(8):234. (syn. by Schouteden, 1913)
1856 *Cyclopelta tartarea:* Stål, Öfv. Vet.-Akad. Förh. 13:64. (D)
1859 *Cyclopelta siccifolia*: Dohrn, Cat. Hem.: 21. (L)
1859 *Cyclopelta tartarea:* Dohrn, Cat. Hem.: 21. (L)
1860 *Aspongopus siccifolia:* Dohrn, Stett. Ent. Ztg. 21(7-9):401. (R)
1863 *Cyclopelta sicifolia* [sic]: Motschoulsky, Bull. Soc. Nat. Moscou 36(3):76. (R)
1868 *Cyclopelta siccifolia*: Walker, Cat. Het. 3:479. (R)
1868 *Cyclopelta tartana* [sic]: Walker, Cat. Het. 3:480.
1870 *Cyclopelta tartarea:* Stål, Sv. Vet.-Akad. Handl. 9(1):80. (Dn)
1870 *Aspongopus siccifolius:* Stål, Sv. Vet.-Akad. Handl. 9(1):85. (S)
1879 *Cyclopelta tartarea:* Distant, Ann. Mag. Nat. Hist. (5)3:45. (R)
1889 *Cyclopelta tartarea:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):86-87. (D, S)
1889 *Aspongopus siccifolius*: Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):89.
1892 *Cyclopelta siccifolia:* Kirby, J. Linn. Soc. London 24:87. (R, S)
1893 *Cyclopelta siccifolia:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (S)
1901 *Cyclopelta siccifolia:* Distant, Proc. Zool. Soc. Lond. 1900(4):820. (Ts)
1901 *Cyclopelta siccifolia*: Distant, Trans. Ent. Soc. Lond. 1901(1):104. (R)
1902 *Cyclopelta siccifolia:* Distant, Fauna Brit. India, Rh. 1:280-281, fig. 178. (D, R, S)
1909 *Cyclopelta siccifolia:* Kirkaldy, Cat. Hem. 1:254. (S)
1909 *Cyclopelta siccifolia:* Maxwell-Lefroy, Indian Ins. Life: 678, pl. 74 fig. 11. (E, H)
1913 *Cyclopelta siccifolia:* Schouteden, Gen. Ins. 153:6. (S)
1914 *Cyclopelta siccifolia:* Fletcher, Some South Indian Ins.: 476, fig. 357. (B, D, H)
1914 *Cyclopelta siccifolia:* Rutherford, Rept. Ceylon Dept. Agric. July 1, 1912 to Dec. 31, 1913.: 9-12.
1914 *Cyclopelta siccifolia:* Rutherford, Trop. Agric. Peradeniya 43(2):134. (E, H, I, R)
1915 *Cyclopelta obscura* var. *siccifolia:* Bergroth, J. Bombay Nat. Hist. Soc. 24:172. (R)
1916 *Cyclopelta siccifolia:* Henry, Trop. Agric. Peradeniya 47(2):100. (H)
1917 *Cyclopelta siccifolia:* Fletcher, Proc. Second Ent. Meeting Pusa: 45, 78, 299, 300. (H)
1919 *Cyclopelta siccifolia:* Paiva, Rec. Indian Mus. 16(5):354. (R)
1920 *Cyclopelta siccifolia:* Hutson, Ceylon Administr. Rept. Dept. Agric. 1919:C8-C10. (H)
1921 *Cyclopelta siccifolia:* Fletcher, Bull. Agric. Res. Inst. Pusa 100:189. (H, R, S)
1923 *Cyclopelta siccifolia:* Hutson & Jardine, Ceylon Administr. Rept. Dept. Agric. 1922:D19. (H)
1924 *Cyclopelta siccifolia:* Jepson, Ceylon Administr. Rept. Dept. Agric. 1923:D20. (H)
1932 *Cyclopelta siccifolia:* Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1932 *Cyclopelta siccifolia:* Hoffmann, Lingnan Sci. J. 11(1):140. (R)
1933 *Cyclopelta siccifolia:* Wu, Lingnan Sci. J., suppl. 12:217. (R)
1935 *Cyclopelta siccifolia:* Hoffmann, Lingnan Univ. Sci. Bull. 7:117-118, 176. (R, S)
1935 *Cyclopelta siccifolia:* Tang, in: Wu, Cat. Ins. Sin. 2:355. (S)
1940 *Cyclopelta siccifolia:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):28-29, fig. 10. (D, R, S)
1948 *Cyclopelta siccifolia:* Hoffmann, Lingnan Sci. J. 22(1-4):23-24. (S)
1962 *Cyclopelta siccifolia:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Cyclopelta siccifolia:* Stichel, Verz. Pal. Hem.-Het. 4:205. (R)
1962 *Cyclopelta siccifolia:* Yang, Econ. Ins. Fauna China 2:47, 50. (Dn, K)
1967 *Cyclopelta siccifolia:* Bose & Sinha, Proc. Natn. Acad. Sci. India, Sect. B (Biol. Sci.) 37(4):327-332.

(Ge)
1967 *Cyclopelta siccifolia*: Bose & Sinha, Proc. Natn. Acad. Sci. India; Sect. B (Biol. Sci.) 37(4):356-360. (Ge)
1968 *Cyclopelta siccifolia:* Bose & Sinha, Entomologist 101:221-223. (E)
1969 *Cyclopelta siccifolia:* Sinha, Rev. Bras. Biol. 29(1):135-139. (anatomy nymphs)
1977 *Cyclopelta siccifolia:* Deshpande, J. Karnatak Univ. Sci. 22:180-185, pls. 1, 2. (anatomy)
1977 *Cyclopelta siccifolia:* Faruqui, Acta Ent. Bohemoslovaca 74(6):375-380. (physiology)
1977 *Cyclopelta siccifolia*: Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:71. (K)
1985 *Cyclopelta siccifolia:* Datta *et al.*, Rec. Zool. Surv. India Occ. Paper, no. 80:5-6, fig. 10. (Dn, R)
1986 *Cyclopelta siccifolia:* Durai, Planti News 5(1):6. (R)
1987 *Cyclopelta siccifolia:* Durai, Oriental Ins. 21:176, 181, 265, figs. 89-97. (D, H, K, R, S)
1990 *Cyclopelta siccifolia:* Lis, Ann. Upper Silesian Mus., Ent. 1:108, 140. (R, S)
1990 *Cyclopelta siccifolia:* Zheng & Jin, Contr. Shanghai Inst. Ent. 9:142. (R)
1992 *Cyclopelta siccifolia:* Lis, Ann. Upper Silesian Mus., Ent. 3:36. (Dn, R)
Distribution: China (Guizhou, Hainan Island, Yunnan, Xizang), India (Assam, Bengal, Bombay, Himalayas, Hindistan, Maharashtra, Sikkim), Malaysia, Myanmar, Sri Lanka, Thailand, Vietnam.

Cyclopelta solmani Lis, 1990
1990 *Cyclopelta solmani* Lis, Ann. Upper Silesian Mus., Ent. 1:105-108, 140, figs. 2, 4.
Distribution: East Siberia.

Cyclopelta subhimalayensis Strickland, 1932 - *Nomen dubium*
1932 *Cyclopelta subhimalayensis* Strickland, Indian J. Med. Res. 19(3):875, pl. 49.
1987 *Cyclopelta subhimalayensis:* Durai, Oriental Ins. 21:263. (*Nomen dubium*)
1990 *Cyclopelta subhimalayensis:* Lis, Ann. Upper Silesian Mus., Ent. 1:144. (*Nomen dubium*)
Distribution: India.

Cyclopelta tartarea Stål, 1854 - see *Cyclopelta siccifolia*

Cyclopelta trimaculata Vollenhoven, 1868
1868 *Cyclopelta obscura* var. *trimaculata* Vollenhoven, Faune Ent. Indo-Néerl. 3:37, pl. 4 fig. 4.
1870 *Cyclopelta trimaculata:* Stål, Sv. Vet.-Akad. Handl. 9(1):80. (L)
1873 *Cyclopelta trimaculata:* Walker, Cat. Het., suppl.: 28. (L)
1889 *Cyclopelta trimaculata:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):86. (D, S)
1893 *Cyclopelta trimaculata:* Lethierry & Severin, Cat. Gén. Hém. 1:236. (S)
1900 *Cyclopelta obscura* var. *trimaculata:* Breddin, Stett. Ent. Ztg. 61:331. (R)
1907 *Cyclopelta obscura* var. *trimaculata:* Schouteden, Notes Leyden Mus. 30:44. (T)
1909 *Cyclopelta obscura* var. *trimaculata:* Kirkaldy, Cat. Hem. 1:254. (L)
1986 *Cyclopelta trimaculata:* Durai, Planti News 5(1):6. (R)
1987 *Cyclopelta trimaculata:* Durai, Oriental Ins. 21:176, 178, figs. 61-68. (D, K, R, S, T)
1990 *Cyclopelta trimaculata:* Lis, Ann. Upper Silesian Mus., Ent. 1:105, 140. (Dn, Neotype designation, R, S)
Distribution: Borneo, Indonesia (Sumatra), Malaysia (Malacca).

Cyclopelta tristis Stål, 1865
1865 *Dinidor tristis* Stål, Hem. Afr. 1:212.
1868 *Cyclopelta tristis:* Walker, Cat. Het. 3:478. (L)
1870 *Cyclopelta tristis:* Stål, Sv. Vet.-Akad. Handl. 9(1):81. (L)
1890 *Cyclopelta tristis:* Distant, Ann. Soc. Ent. Belg. 34(5):liv. (R)
1890 *Cyclopelta tristis:* Distant, Proc. Zool. Soc. Lond. 1890(3):477. (R)
1893 *Cyclopelta tristis:* Lethierry & Severin, Cat. Gén. Hém. 1:236.
1894 *Cyclopelta tristis:* Haglund, Öfv. Vet.-Akad. Förh. 51(8):407. (R)
1901 *Cyclopelta tristis:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1909 *Cyclopelta tristis:* Distant, Trans. Zool. Soc. Lond. 19(1):73. (R)
1909 *Cyclopelta tristis:* Kirkaldy, Cat. Hem. 1:254. (L)

1909 *Cyclopelta tristis:* Schouteden, Ann. Mus. Congo Belg., Zool. (3)2,1(1):71. (R)
1910 *Cyclopelta tristis:* Schouteden, Ann. Soc. Ent. Belg. 54:405.
1910 *Cyclopelta tristis:* Strand, Ent. Rdsch. 27:151, fig. 4. (R)
1913 *Cyclopelta tristis:* Jeannel, Voy. Alluaud, Hém.: 100. (R, S)
1913 *Cyclopelta tristis:* Schouteden, Gen. Ins. 153:6. (S)
1913 *Cyclopelta tristis:* Schouteden, Rev. Zool. Afr. 2(2):196. (R)
1929 *Cyclopelta tristis:* Schouteden, Rev. Zool. Bot. Afr. 17(1):64. (R)
1943 *Cyclopelta tristis:* Schouteden, Rev. Zool. Bot. Afr. 37:326. (R)
1949 *Cyclopelta tristis:* Villiers, I.F.A.N. Cat. 5:89. (R)
1952 *Cyclopelta tristis:* Leston, Ann. Mag. Nat. Hist. (12)5:902. (R)
1952 *Cyclopelta tristis:* Villiers, Bull. I.F.A.N. 14(4):1212. (R)
1952 *Cyclopelta tristis:* Villiers, Init. Afr. 9:86, fig. 109. (Dn, R)
1952 *Cyclopelta tristis:* Villiers, Mem. I.F.A.N. 19:307. (R)
1957 *Cyclopelta tristis:* Schouteden, Ann. Mus. Congo Zool. 58:278. (R)
1959 *Cyclopelta tristis:* LePelley, Agric. Ins. E. Afr.: 55, 152. (H)
1967 *Cyclopelta tristis:* Villiers, Bull. I.F.A.N. (A)29(4):1808. (R)
1969 *Cyclopelta tristis:* Lodos, Ghana J. Agric. Sci. 2:64. (H, R)
1975 *Cyclopelta tristis:* Linnavuori, Bol. Soc. Port. Cienc. Nat. (2)15(2):10. (R)
1980 *Dinidor tristis:* Medler, Mem. Am. Ent. Inst., no. 30:120. (R)
1982 *Cyclopelta tristis:* Linnavuori, Acta Zool. Fenn. 163:12. (H, R)
1987 *Cyclopelta tristis:* Durai, Oriental Ins. 21:176, 182-183, figs. 107-115. (D, K, R, S, T)
1990 *Cyclopelta tristis:* Lis, Ann. Upper Silesian Mus., Ent. 1:109-110, 140, fig. 5. (R, S)
1991 *Cyclopelta tristis:* Lis, Ann. Upper Silesian Mus., Ent. 2:84, 85, fig. 2. (D, I, K, R)

Distribution: Angola, Benin, Cameroon, Central African Republic, Congo, Equatorial Guinea, Ghana, Guinea, Ivory Coast, Liberia, Mt. Nimba Reserve, Nigeria, Rwanda, Ruwenzori Mountains, Sudan, Tanzania, Togo, Uganda.

Cyclopelta vilis Walker, 1868 - see *Colpoproctus vilis*

DICTYOCORIS Mayr, 1864 - see *Dinidor*

Dictyocoris mactans (Fabricius, 1798) - see *Dinidor mactabilis*

DINIDOR Latreille, 1829

Type species: *Cimex mactans* Fabricius, 1798, by subsequent designation (Kirkaldy, 1902).

1829 *Edessa (Dinidor)* Latreille, Règne An. 5:195.
1836 *Aspongopus*: Herrich-Schäffer, Wanz. Ins. 3:64. (misdet.; D)
1850 *Dinidor*: Spinola, Gen. Ins. Arthr.: 31. (K)
1852 *Dinidor*: Spinola, Mem. Soc. Ital. Sci. Modena 25(1):71. (reprint of 1850 paper)
1863 *Dinidor:* Carpenter & Westwood, Animal Kingdom (new ed.): 564. (Dn)
1864 *Dictyocoris* Mayr, Verh. Zool. Bot.-Ges. Wien 14:913. (type species: *Cimex mactans* Fabricius, 1798, by monotypy; syn. by Lethierry & Severin, 1893)
1865 *Dinidor*: Stål, Hem. Afr. 1:81, 212. (D, K; see Cyclopelta)
1867 *Dinidor*: Stål, Öfv. Vet.-Akad. Förh. 24(7):522. (K)
1867 *Cyclopelta*: Stål, Öfv. Vet.-Akad. Förh. 24(7):532. (K) (misdet. sec. Stål, 1870)
1870 *Dinidor*: Stål, Sv. Vet.-Akad. Handl. 9(1):79. (S)
1881 *Dinidor:* Distant, Biol. Cent. Am., Rh. 1:103. (D, S)
1893 *Dinidor:* Lethierry & Severin, Cat. Gén. Hém. 1:235. (S)
1902 *Dinidor*: Kirkaldy, Entomologist 35:137. (S, Tsp)
1909 *Dinidor*: Kirkaldy, Cat. Hem. 1:xxxiii-xxxiv, 253. (genn., R, S, Tsp)
1913 *Dinidor*: Kirkaldy, Can. Ent. 45:84. (K)

1913 *Dinidor*: Schouteden, Gen. Ins. 153:4-5. (D, K, spp)
1982 *Dinidor*: Nuamah, Insect Sci. Appl. 3(1):24, 25. (C)
1987 *Dinidor*: Durai, Oriental Ins. 21:171, 227-228. (D, K, Ks, S)

Dinidor amethystinus (Weber, 1801) - see *Pycanum rubens* [Tessaratomidae]

Dinidor brazilensis Durai, 1987
1987 *Dinidor brazilensis* Durai, Oriental Ins. 21:228, 231, figs. 348-352. (K)
Distribution: Brazil, Paraguay.

Dinidor depressicornis (Herrich-Schäffer, 1838) - see *Cyclopelta obscura*
Dinidor dispar Westwood, 1837 - see *Hyrmine dispar* [Pentatomidae]
Dinidor funebris (Fabricius, 1775) - see *Cyclopelta funebris*

Dinidor impicticollis Stål, 1870
1870 *Dinidor impicticollis* Stål, Sv. Vet.-Akad. Handl. 9(1):80.
1873 *Cyclopelta impicticollis*: Walker, Cat. Het., suppl.: 27. (L)
1893 *Dinidor impicticollis:* Lethierry & Severin, Cat. Gén. Hém. 1:235. (L)
1909 *Dinidor impicticollis:* Kirkaldy, Cat. Hem. 1:253. (L)
1913 *Dinidor impicticollis:* Schouteden, Gen. Ins. 153:4.
1987 *Dinidor impicticollis:* Durai, Oriental Ins. 21:228, 233-234, figs. 376-378. (D, K, R, T)
Distribution: Colombia, Ecuador, Surinam.

Dinidor mactabilis (Perty, 1833)
1798 *Cimex mactans* Fabricius, Ent. Syst. Suppl.: 534. (preoccupied by *Cimex mactans* Fabricius, 1781, Pentatomidae)
1803 *Edessa mactans:* Fabricius, Syst. Rh.: 153. (Dn, R)
1829 *Edessa (Dinidor) mactans:* Latreille, Règne An. 5:195. (L)
1833 *Dinidor mactabilis* Perty, Del. Ins.: 168, pl. 33 fig. 12. (syn. with *Cimex mactans* Fabricius, 1798 by Burmeister, 1835; spelled *Dinidor mutabilis* on plate legend; D, R, S)
1835 *Aspongopus mactans*: Burmeister, Handb. Ent. 2:351. (Dn, S)
1836 *Aspongopus mactans:* Herrich-Schäffer, Wanz. Ins. 3:65, fig. 278. (D, S)
1837 *Aspongopus Mactans:* Westwood, Cat. Hope 1:6. (S)
1840 *Aspongopus mactans*: Blanchard, Hist. Nat. Ins. 3:143. (D, S)
1844 *Aspongopus mactans:* Herrich-Schäffer, Wanz. Ins. 7:76. (Ts)
1851 *Cyclopelta mactans*: Dallas, List Hem. 1:347-348. (R, S)
1859 *Cyclopelta mactans*: Dohrn, Cat. Hem.: 21. (S)
1860 *Cyclopelta mactans:* Stål, Sv. Vet.-Akad. Handl. 2(7)[1858]:29. (R)
1863 *Dinidor mactans*: Carpenter & Westwood, Animal Kingdom (new ed.): 584. (L)
1864 *Dictyocoris mactans:* Mayr, Verh. Zool.-Bot. Ges. Wien 14:913. (R, Ts)
1868 *Cyclopelta mactans*: Walker, Cat. Het. 3:477. (R)
1870 *Dinidor mactans:* Stål, Sv. Vet.-Akad. Handl. 9(1):79. (R, S)
1887 *Dinidor mactans:* Distant, Ann. Soc. Ent. Belg. 31:lxvi. (L)
1893 *Dinidor mactans:* Lethierry & Severin, Cat. Gén. Hém. 1:235. (S)
1909 *Dinidor mactabilis:* Kirkaldy, Cat. Hem. 1:253. (S)
1913 *Dinidor mactabilis:* Schouteden, Gen. Ins. 153:5, pl. 1 fig. 1.
1940 *Dinidor mactabilis:* Costa Lima, Ins. Bras. 2:51, fig. 254. (R)
1948 *Dinidor mactans:* Pirán, Acta Zool. Lill. 5:16, 17. (R)
1987 *Dinidor mactans:* Durai, Oriental Ins. 21:228, 229-230, figs. 325-347, 353-362. (D, K, R, S, T)
Distribution: Argentina, Brazil (Amazonas, Rio de Janeiro), Colombia, Paraguay, Surinam.

Dinidor mactans (Fabricius, 1798) - see *Dinidor mactabilis*
Dinidor obscura (Fabricius, 1794) - see *Coridius brunneus*

Dinidor pulsator Schouteden, 1913

1913 *Dinidor pulsator* Schouteden, Gen. Ins. 153:5, pl. 1 fig. 4. (figure only)
1971 *Dinidor pulsator*: Becker & Grazia-Vieira, Iheringia. (Zool.) 40:11. (R)
1987 *Dinidor pulsator*: Durai, Oriental Ins. 21:228, 230. (D, K, T)
Distribution: Peru, Venezuela.

Dinidor robustus (Lepeletier & Serville, 1825) - see *Eusthenes robustus* [Tessaratomidae]

Dinidor rufocinctus Stål, 1870
1870 *Dinidor rufo-cinctus* Stål, Sv. Vet.-Akad. Handl. 9(1):79.
1873 *Cyclopelta rufocincta:* Walker, Cat. Het., suppl.: 27. (L)
1881 *Dinidor rufocinctus:* Distant, Biol. Cent. Am., Rh. 1:103, pl. 10 fig. 6. (Dn, R)
1886 *Dinidor rufocinctus:* Uhler, Check-List Hem. N. Am.: 9. (L)
1893 *Dinidor rufocinctus:* Lethierry & Severin, Cat. Gén. Hém. 1:235. (L)
1909 *Dinidor rufocinctus:* Kirkaldy, Cat. Hem. 1:254. (S)
1913 *Dinidor rufocinctus:* Schouteden, Gen. Ins. 153:5. (R, S)
1947 *Dinidor rufocinctus:* Schrader, Evolution 1(3):136-137, 140, figs. 6-11. (C)
1982 *Dinidor rufocinctus*: Nuamah, Insect Sci. Appl. 3(1):16, 25. (C)
1987 *Dinidor rufocinctus:* Durai, Oriental Ins. 21:228, 232-233, figs. 370-375. (D, K, R, T)
Distribution: Bolivia, Brazil, Colombia, Costa Rica, Ecuador, Mexico, Panama, Peru.

Dinidor saucius Stål, 1870
1870 *Dinidor saucius* Stål, Sv. Vet.-Akad. Handl. 9(1):79.
1873 *Cyclopelta saucia:* Walker, Cat. Het., suppl.: 27. (L)
1893 *Dinidor saucius:* Lethierry & Severin, Cat. Gén. Hém. 1:235. (L)
1909 *Dinidor saucius:* Kirkaldy, Cat. Hem. 1:254. (L)
1913 *Dinidor saucius:* Schouteden, Gen. Ins. 153:5. (L)
1987 *Dinidor saucius:* Durai, Oriental Ins. 21:228, 231-232. (D, K, T)
Distribution: Brazil (Rio de Janeiro).

Dinidor tristis Stål, 1865 - see *Cyclopelta tristis*
Dinidor unicolor (Herrich-Schäffer, 1839) - see *Coridius viduatus*

Dinidor vicarius Horváth, 1892 - *Nomen dubium*
1892 *Dinidor vicarius* Horváth, Term. Füzet. 15(4):259.
1893 *Dinidor vicarius:* Lethierry & Severin, Cat. Gén. Hém. 1:235. (L)
1909 *Dinidor vicarius:* Kirkaldy, Cat. Hem. 1:254. (L)
1909 *Dinidor vicarius:* Schouteden, Ann. Mus. Congo Belg., Zool. (3)2,1(1):74. (provenance)
1913 *Dinidor vicarius:* Schouteden, Gen. Ins. 153:5. (L)
1987 *Dinidor vicarius:* Durai, Oriental Ins. 21:234. (*nomen dubium*)
1990 *Dinidor vicarius:* Lis, Ann. Upper Silesian Mus., Ent. 1:144. (*nomen dubium*)
Distribution: Central Africa.

PATANOCNEMA Karsch, 1892

Type species: *Patanocnema ovata* Karsch, 1892, by monotypy.
1892 *Patanocnema* Karsch, Ent. Nachr., Berlin 18:130.
1893 *Patanocnema:* Lethierry & Severin, Cat. Gén. Hém. 1:235. (L)
1894 *Patanocnema:* Karsch, Stett. Ent. Ztg. 55:100-101. (as n. gen.)
1909 *Patanocnema:* Kirkaldy, Cat. Hem. 1:254. (L)
1913 *Patanocnema:* Kirkaldy, Can. Ent. 45:84. (K)
1913 *Patanocnema:* Schouteden, Gen. Ins. 153:3, 10. (D, K, Tsp)
1987 *Patanocnema:* Durai, Oriental Ins. 21:170, 171-172. (D, K, Ks)

Patanocnema maculata Lehmann, 1921

1921 *Patanocnema maculata* Lehmann, Arch. Naturges., Berlin 87A(6):39-40, fig. 2. (cf. *P. ovata*)
1987 *Patanocnema maculata*: Durai, Oriental Ins. 21:172, 173-174, figs. 12-19. (D, K, R, T)
1990 *Patanocnema maculata:* Lis, Ann. Upper Silesian Mus., Ent. 1:139. (L)
Distribution: Central African Republic, Zaire.

Patanocnema maynei Schouteden, 1916
1916 *Patanocnema Maynéi* Schouteden, Rev. Zool. Afr. 4(3):283-284.
1957 *Patanocnema Maynéi*: Schouteden, Ann. Mus. Congo Zool. 58:279. (R)
1987 *Patanocnema maynei*: Durai, Oriental Ins. 21:172-173, figs. 4-11. (D, K, R, T)
1990 *Patanocnema maynei*: Lis, Ann. Upper Silesian Mus., Ent. 1:139. (L)
Distribution: Congo, Ruanda, Zaire.

Patanocnema ovata Karsch, 1892
1892 *Patanocnema ovata* Karsch, Ent. Nachr., Berlin 18:130-131.
1893 *Patanocnema ovata*: Lethierry & Severin, Cat. Gén. Hém. 1:235. (L)
1894 *Patanocnema ovata:* Karsch, Stett. Ent. Ztg. 54:100, pl. 1 fig. 9.
1901 *Patanocnema ovata:* Distant, Ann. Soc. Ent. Belg. 45(1):28. (R)
1904 *Patanocnema ovata*: Schouteden, Mem. Soc. Esp. Hist. Nat. 1:149, 160. (R)
1909 *Patanocnema ovata:* Kirkaldy, Cat. Hem. 1:254. (S)
1909 *Patanocnema ovata:* Schouteden, Ann. Mus. Congo Belg., Zool. (3)2,1(1):71.
1913 *Patanocnema ovata:* Schouteden, Gen. Ins. 153:10, pl. 1 fig. 5, pl. 2 figs. 14, 16.
1921 *Patanocnema ovata:* Lehmann, Arch. Naturges., Berlin 87A(6):40. (cf. *P. maculata*)
1980 *Patanocnema ovata*: Medler, Mem. Am. Ent. Inst., no. 30:120. (R)
1987 *Patanocnema ovata*: Durai, Oriental Ins. 21:172, 174-175, figs. 20-27. (D, K, R, T)
1990 *Patanocnema ovata:* Lis, Ann. Upper Silesian Mus., Ent. 1:104, 139. (R)
Distribution: Cameroon, Congo, Equatorial Guinea, Gabon, Tanzania.

Patanocnema schubotzi Schouteden, 1913 - *Nomen nudum*
1913 *Patanocnema schubotzi* Schouteden, Gen. Ins. 153:10. (*Nomen nudum*)
1990 Patanocnema *schubotzi*: Lis, Ann. Upper Silesian Mus., Ent. 1:144. (*nomen nudum*)
Distribution: Zaire.

PELTAGOPUS Signoret, 1861 - *see Coridius*

Peltagopus flavomarginatus Signoret, 1861 - *see Coridius flavomarginatus*

SAGRIVA Spinola, 1850

Type species: *Sagriva vittata* Spinola, 1850, by original designation.
1850 *Sagriva Spinola*, Gen. Ins. Arthr.: 33, 75-77. (K)
1852 *Atelides* Dallas, Ann. Mag. Nat. Hist. (2)10:360-361. (type species: *Atelides centrolineata* Dallas, 1852 = *Sagriva vittata* Spinola, 1850], by monotypy; syn. by Bergroth, 1904)
1852 *Sagriva*: Spinola, Mem. Soc. Ital. Sci. Modena 25(1):73, 115-117. (reprint of 1850 paper)
1867 *Atelides*: Stål, Öfv. Vet.-Akad. Förh. 24(7):522. (K)
1868 *Atelides*: Walker, Cat. Het. 3:500. (L)
1870 *Atelides*: Stål, Sv. Vet.-Akad. Handl. 9(1):89. (S)
1889 *Atelides:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):94-95. (D, S)
1893 *Atelides:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (S)
1893 *Sagriva*: Lethierry & Severin, Cat. Gén. Hém. 1:240. (L)
1902 *Atelides:* Distant, Fauna Brit. India, Rh. 1:279, 288-289. (D, K, S)
1904 *Sagriva:* Bergroth, Wien. Ent. Ztg. 23(2):37. (M)
1908 *Sagriva*: Bergroth, Mém. Soc. Ent. Belg. 15:188. (S)
1909 *Sagriva:* Kirkaldy, Cat. Hem. 1:260. (S)

1913 *Sagriva:* Kirkaldy, Can. Ent. 45:84. (K)
1913 *Sagriva:* Schouteden, Gen. Ins. 153:3, 10-11. (D, K, S, Tsp)
1948 *Sagriva:* Hoffmann, Lingnan Sci. J. 22(1-4):25-26. (S)
1987 *Sagriva:* Durai, Oriental Ins. 21:170, 236.

Sagriva sumatranus (Breddin, 1904) - see *Sagriva vittata*

Sagriva vittata Spinola,1850
1850 *Sagriva vittata* Spinola, Gen. Ins. Arthr.: 77-79.
1852 *Atelides centrolineatus* Dallas, Ann. Mag. Nat. Hist. (2)10:361-362, pl. 5 figs. 1-5. (syn. by Bergroth, 1904)
1852 *Sagriva vittata*: Spinola, Mem. Soc. Ital. Sci. Modena 25(1):117-119.
1868 *Atelides centrolineatus:* Walker, Cat. Het. 3:500. (L)
1870 *Atelides centro lineatus:* Stål, Sv. Vet.-Akad. Handl. 9(1):89. (L)
1889 *Atelides centrolineatus*: Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):95-96. (D, S)
1893 *Atelides centrolineatus:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (S)
1893 *Sagriva vittata*: Lethierry & Severin, Cat. Gén. Hém. 1:240. (L)
1902 *Atelides centro-lineatus:* Distant, Fauna Brit. India, Rh. 1:289, fig. 182. (D, S)
1904 *Sagriva vittata:* Bergroth, Wien. Ent. Ztg. 23(2):37. (S)
1904 *Atelides sumatranus* Breddin, Wien. Ent. Ztg. 23(1):18-19. (syn. by Durai, 1987)
1908 *Sagriva sumatrana:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Sagriva sumatranus*: Kirkaldy, Cat. Hem. 1:260. (L)
1909 *Sagriva vittata:* Kirkaldy, Cat. Hem. 1:260. (S)
1910 *Sagrina* [sic] *vittata:* Kirkaldy, Can. Ent. 42:62. (Dn, S)
1913 *Sagriva sumatranus:* Schouteden, Gen. Ins. 153:11. pl. 2 fig. 1.
1913 *Sagriva vittata:* Schouteden, Gen. Ins. 153:11, pl. 2 figs. 4, 15.
1948 *Sagriva vittata:* Hoffmann, Lingnan Sci. J. 22(1-4):26. (S)
1971 *Atelides sumatranus:* Gaedike, Beitr. Ent. 21(1-2):100. (T)
1985 *Atelides centrolineata:* Datta *et al.*, Rec. Zool. Surv. India Occ. Paper, no. 80:5, fig. 9. (Dn)
1986 *Sagriva vittata:* Durai, Planti News 5(1):6. (R)
1987 *Sagriva vittata:* Durai, Oriental Ins. 21:236237, figs. 398-407. (D, R, S, T)
1990 *Sagriva vittata:* Lis, Ann. Upper Silesian Mus., Ent. 1:142. (L)
1991 *Sagriva vittata:* Lis, Ann. Upper Silesian Mus., Ent. 2:84, 91-92, fig. 9. (D, I, K, R)
1992 *Sagriva vittata:* Lis, Ann. Upper Silesian Mus., Ent. 3:38. (R)
Distribution: Bangladesh, Indo-China, India (Assam), Malaysia (Sarawak), Sumatra, Vietnam.

SPONGOPODIUM Spinola, 1837 - see *Coridius*

Spongopodium obscurum (Fabricius, 1794) - see *Coridius brunneus*

THALMINI Nuamah, 1982

Type genus: *Thalma* Walker, 1868
1982 **Thalmini** Nuamah, Insect Sci. Appl. 3(1):24. (classification)
1987 **Thalmini:** Durai, Oriental Ins. 21:170, 238. (K, Kg)
1990 **Thalmini:** Lis Ann. Upper Silesian Mus., Ent. 1:142. (L)
[Note:The tribe Thalmini was first proposed by Durai (1979) in a Ph. D thesis, Univ. of Ghana].

FOLENGUS Distant, 1914

Type species: *Folengus papuensis* Distant, 1914, by monotypy.

1914 *Folengus* Distant, Trans. Zool. Soc. Lond. 20(1):339.
1961 *Parafolengus* Ghauri, Proc. R. Ent. Soc. Lond. (B)30:90-91; 93. (type species: *Parafolengus pipturuscus* Ghauri, 1961, by original designation; syn. by Durai, 1987)
1987 *Folengus:* Durai, Oriental Ins. 21:238, 239-249. (D, K, S)

Folengus papuensis Distant, 1914
1914 *Folengus papuensis* Distant, Trans. Zool. Soc. Lond. 20(1):339, pl. 34 figs. 17, 17a.
1961 *Parafolengus pipturuscus* Ghauri, Proc. R. Ent. Soc. Lond. (B)30:93, figs. 1-18. (H) (syn. by Durai, 1987)
1987 *Folengus papuensis:* Durai, Oriental Ins. 21:240-241, 265, figs. 416-420. (D, H, S)
1987 *Parafolengus pipturuscus*: Schaefer & Ahmad, Phytophaga 1:27. (H)
1990 *Folengus papuensis*: Lis, Ann. Upper Silesian Mus., Ent. 1:143. (L)
Distribution: New Guinea.

PARAFOLENGUS Ghauri, 1961 - see *Folengus*

Parafolengus pipturuscus Ghauri, 1961 - see *Folengus papuensis*

THALMA Walker, 1868

Type species: *Thalma biguttata* Walker, 1868, by monotypy.
1868 *Thalma* Walker, Cat. Het. 3:503.
1889 *Thalma:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):93-94. (D)
1893 *Thalma:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (L)
1900 *Thalma:* Distant, Ann. Mag. Nat. Hist. (7)6:232. (Ts)
1909 *Thalma:* Kirkaldy, Cat. Hem. 1:260. (L)
1913 *Thalma:* Kirkaldy, Can. Ent. 45:84. (K)
1913 *Thalma:* Schouteden, Gen. Ins. 153:3,17. (D, K, Tsp)
1987 *Thalma:* Durai, Oriental Ins. 21:238. (D, K)

Thalma biguttata Walker, 1868
1868 *Thalma biguttata* Walker, Cat. Het. 3:503.
1889 *Thalma biguttata:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):94. (D)
1893 *Thalma biguttata:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (S)
1900 *Thalma biguttata:* Distant, Ann. Mag. Nat. Hist. (7)6:233. (Ts)
1909 *Thalma biguttata:* Kirkaldy, Cat. Hem. 1:260. (L)
1913 *Thalma biguttata:* Schouteden, Gen. Ins. 153:17, pl. 2 fig. 6
1986 *Thalma biguttata:* Durai, Planti News 5(1):6. (R)
1987 *Thalma biguttata:* Durai, Oriental Ins. 21:239, 265, figs. 408-415. (D, H, R, T)
1990 *Thalma biguttata:* Lis, Ann. Upper Silesian Mus., Ent. 1:142. (L)
Distribution: Australia, Melanesia, New Guinea.

URUSA Walker, 1868

Type species: *Urusa crassa* Walker, 1868, by monotypy.
1868 *Urusa* Walker, Cat. Het. 3:504.
1893 *Urusa:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (L)
1900 *Urusa:* Distant, Ann. Mag. Nat. Hist. (7)6:232. (Ts)
1909 *Urusa:* Kirkaldy, Cat. Hem. 1:260.
1913 *Urusa:* Schouteden, Gen. Ins. 153:3, 11-12. (D, K)
1987 *Urusa:* Durai, Oriental Ins. 21:238, 241. (D, K)

Urusa crassa Walker, 1868

1868 *Urusa crassa* Walker, Cat. Het. 3:504.
1893 *Urusa crassa*: Lethierry & Severin, Cat. Gén. Hém. 1:240. (L)
1900 *Urusa crassa:* Distant, Ann. Mag. Nat. Hist. (7)6:233. (Ts)
1909 *Urusa crassa:* Kirkaldy, Cat. Hem. 1:260. (L)
1913 *Urusa crassa:* Schouteden, Gen. Ins. 153:12, pl. 1 fig. 14, pl. 2 fig. 5.
1956 *Urusa crassa:* Miller, Biol. Het. (1st ed.): pl. 1 fig. 21. (fig. only)
1986 *Urusa crassa:* Durai, Planti News 5(1):4, 5, 6. (R)
1987 *Urusa crassa*: Durai, Oriental Ins. 21:242, figs. 421-427. (D, R, T)
1990 *Urusa crassa*: Lis, Ann. Upper Silesian Mus., Ent. 1:143. (L)
1992 *Urusa crassa*: Lis, Ann. Upper Silesian Mus., Ent. 3:38.
Distribution: Borneo, Malaysia (Sabah, Sarawak), Sumatra.

MEGYMENINAE Amyot & Serville, 1843

Type genus: *Megymenum* Guérin-Menéville, 1831.
1843 **Mégyménides** Amyot & Serville, Hist. Nat. Ins., Hém.: XXIX, 181.
1851 **Megymenid** Dallas, List Hem. 1:362-363. (Kg)
1868 **Megymenidæ:** Vollenhoven, Fauna Ent. Indo-Néerl. 3:44. (L)
1868 **Megymenidæ:** Walker, Cat. Het. 3:500. (L)
1879 **Megymenidæ:** Distant, Ann. Mag. Nat. Hist. (5)3:45. (L)
1982 **Megyminae** [sic]: Nuamah, Insect Sci. Appl. 3(1):24, 25. (classification)
1987 **Megymeninae**: Durai, Oriental Ins. 21:169, 170, 242. (K, K tribes, S)
1990 **Megymeninae:** Lis, Ann. Upper Silesian Mus., Ent. 1:143. (L)
1991 **Megymeninae:** Lis, Ann. Upper Silesian Mus., Ent. 2:83. (K to immatures)

MEGYMENINI Amyot & Serville, 1843

Type genus: *Megymenum* Guérin-Menéville, 1831.
1982 **Megymenini:** Nuamah, Insect Sci. Appl. 3(1):24. (classification)
1987 **Megymenini:** Durai, Oriental Ins. 21:170, 242. (K, Kg)
1990 **Megymenini:** Lis, Ann. Upper Silesian Mus., Ent. 1:143. (L)

AMAURUS Burmeister, 1834 - see *Megymenum*

Amaurus brevicornis (Fabricuis, 1787) - see *Megymenum brevicorne*
Amaurus inermis Herrich-Schäffer, 1840 - see *Megymenum inerme*
Amaurus spinosus Burmeister, 1834 - see *Megymenum spinosum*

ANOPLOCEPHALA Stål, 1870 - see *Megymenum*

BYRSODEPSUS Stål, 1872

Type species: *Byrsodepsus coriarius* Stål, 1872, by monotypy.
1872 *Byrsodepsus* Stål, Sv. Vet.-Akad. Handl. 10(4):130-131.
1893 *Byrsodepsus:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (L)
1902 *Byrsodepsus:* Distant, Fauna Brit. India, Rh. 1:279, 287-288. (D, K)
1909 *Byrsodepsus:* Kirkaldy, Cat. Hem. 1:259. (L)
1913 *Byrsodepsus:* Kirkaldy, Can. Ent. 45:84. (K)

1913 *Byrsodepsus:* Schouteden, Gen. Ins. 153:3, 16. (D, K)
1987 *Byrsodepsus:* Durai, Oriental Ins. 21:170, 234. (D, K)

Byrsodepsus coriarius Stål, 1872
1872 *Byrsodepsus coriarius* Stål, Sv. Vet.-Akad. Handl. 10(4):131.
1893 *Byrsodepsus coriarius:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (L)
1901 *Byrsodepsus nigritus* Distant, Trans. Ent. Soc. Lond. 1901(1):112-113. (syn. by Durai, 1987)
1902 *Byrsodepsus coriarius:* Distant, Fauna Brit. India, Rh. 1:288. (D)
1902 *Byrsodepsus nigritus:* Distant, Fauna Brit. India, Rh. 1:288, fig. 181.
1908 *Byrsodepsus nigrita*: Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Byrsodepsus coriarius:* Kirkaldy, Cat. Hem. 1:259. (S)
1909 *Byrsodepsus nigritus:* Kirkaldy, Cat. Hem. 1:260. (S)
1913 *Byrsodepsus coriarius:* Schouteden, Gen. Ins. 153:16, pl.2 fig. 2.
1913 *Byrsodepsus nigrita:* Schouteden, Gen. Ins. 153:16. (L)
1986 *Byrsodepsus coriarius*: Durai, Planti News 5(1):5. (R)
1987 *Byrsodepsus coriarius:* Durai, Oriental Ins. 21:235, figs. 391-397. (D, R, S, T)
1990 *Byrsodepsus coriarius:* Lis, Ann. Upper Silesian Mus., Ent. 1:131, 133, 143. (R, T)
Distribution: India (Assam), Myanmar (Pegu, Palon), Singapore, Sumatra, Vietnam.

Byrsodepsus nigritus Distant, 1901 - see *Byrsodepsus coriarius*

Byrsodepsus sundanus Breddin, 1900
1900 *Byrsodepsus sundanus* Breddin, Stett. Ent. Ztg. 61:334.
1908 *Byrsodepsus sundanus:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1909 *Byrsodepsus sundanus:* Kirkaldy, Cat. Hem. 1:260. (L)
1913 *Byrsodepsus sundanus:* Schouteden, Gen. Ins. 153:16. (L)
1987 *Byrsodepsus sundanus:* Durai, Oriental Ins. 21:235. [*nomen dubium*]
1990 *Byrsodepsus sundanus:* Lis, Ann. Upper Silesian Mus., Ent. 1:133-135, 143, figs. 29-31. (D, R, Tn)
Distribution: Sumatra.

DOESBERGIANA Durai, 1987

Type species: *Doesbergiana borneoensis* Durai, 1987, by original designation.
1986 *Doesbergiana* Durai, Planti News 5(1):6. (L; *nomen nudum*)
1987 *Doesbergiana* Durai, Oriental Ins. 21:242-243. (K)

Doesbergiana borneoensis Durai, 1987
1986 *Doesbergiana borneoensis* Durai, Planti News 5(1):6. (R only; *nomen nudum*)
1987 *Doesbergiana borneoensis* Durai, Oriental Ins. 21:243-244, figs. 428-430.
1990 *Doesbergiana borneoensis*: Lis, Ann. Upper Silesian Mus., Ent. 1:143. (L)
Distribution: Borneo.

MEGYMENUM Guérin-Méneville, 1831

Type species: *Megymenum dentatum* Guérin-Méneville, 1831, by monotypy.
1831 *Megymenum* Guérin-Méneville, Voy. Coq. 2: pl. 12 fig.1. (no text: *Megymenum dentatum* figured)
1833 *Megymenum* Laporte, Mag. Zool. 2:51, 52-53. (D)
1834 *Pseudaradus* Burmeister, Silb. Rev. Ent. 2:18, 19, 20, 21. (type species: *Cimex brevicornis* Fabricius, 1787, by original designation; syn. with *Amaurus* by Burmeister, 1835)
1834 *Amaurus* Burmeister, Acta Acad. Leopold Carol. 16 suppl: 294. (type species: *Cimex brevicornis* Fabricius, 1787; syn. by Burmeister, 1835)

1835 *Megymenum:* Boisduval, Voy. Astrolabe, Ins. 2:632. (D)
1835 *Amaurus*: Burmeister, Handb. Ent. 2:347, 349. (D, K, S)
1835 *Megalymenum* Burmeister, Handb. Ent. 2:349. (D) (unjustified emendation)
1835 *Platydius* Westwood, Zool. J. Lond. 5[1834]:446. (type species: *Cimex brevicornis* Fabricius, 1787, by original designation; syn. by Stål, 1870)
1837 *Megymenum*: Spinola, Essai: 301-303. (D, K)
1838 *Megymenum:* Guérin-Méneville, Voy. Coq. 2:171-172. (D)
1840 *Megymenum:* Blanchard, Hist. Nat. Ins. 3:141. (D)
1840 *Amaurus:* Herrich-Schäffer, Wanz. Ins. 5:61. (D)
1843 *Megymenum:* Amyot & Serville, Hist. Nat. Ins., Hém.: XXIX, 181-182. (D, K)
1846 *Amarus* [sic]: Agassiz, Nom. Zool. Hem.: 2.
1846 *Megymenum:* Agassiz, Nom. Zool. Hem.: 12. (Ety)
1846 *Amaurus:* Agassiz, Nom. Zool. Hem. Add.: 1. (Ety)
1846 *Pseudaradus:* Agassiz, Nom. Zool. Hem. Add.: 17. (Ety, S)
1850 *Amaurus:* Spinola, Gen. Ins. Arthr.: 33. (K)
1850 *Megymenum*: Spinola, Gen. Ins. Arthr.: 37. (K)
1851 *Megymenum:* Dallas, List Hem. 1:363. (part; K, S)
1852 *Amaurus:* Spinola, Mem. Soc. Ital. Sci. Modena 25(1):73. (reprint of 1850 paper)
1852 *Megymenum:* Spinola, Mem. Soc. Ital. Sci. Modena 25(1):77. (reprint of 1850 paper)
1866 *Megymenum:* Mayr, Reise Novara Zool. 2(1):70. (S)
1867 *Megymenum:* Stål,Öfv. Vet.-Akad. Förh. 24(7):522. (K)
1868 *Megymenum:* Vollenhoven, Faune Ent. Indo-Néerl. 3:44-45. (D)
1868 *Megymenum*: Walker, Cat. Het. 3:500. (L)
1870 *Megymenum (Megymenum)*: Stål, Sv. Vet.-Akad. Handl. 9(1):86-87. (D, S)
1870 *Megymenum (Pseudaradus)*: Stål, Sv. Vet.-Akad. Handl. 9(1):86. (D)
1870 *Megymenum (Anoplocephala)* Stål, Sv. Vet.-Akad. Handl. 9(1):88. (type species: *Megymenum semivestitum* Vollenhoven, 1868, by subsequent designation (Kirkaldy, 1909); syn. by Durai, 1987)
1870 *Megymenum (Pissistes)* Stål, Sv. Vet.-Akad. Handl. 9(1):88. (type species: *Megymenum gracilicorne* Dallas, 1851, by monotypy; syn. by Durai, 1987)
1889 *Megymenum:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):91-92. (D, S)
1893 *Megymenum:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (S)
1900 *Megymenum*: Kirkaldy, Entomologist 33:240. (authorship erroneous in Lethierry & Severin, 1893, catalog)
1902 *Megymenum:* Distant, Fauna Brit. India, Rh. 1:279, 285. (D, K, S)
1905 *Megymenum*: Kirkaldy, Trans. Ent. Soc. Lond. 1905(3):353. (R, S)
1906 *Megymenum:* Oshanin, Verz. Pal. Hem. 1:162. (S)
1909 *Megymenum:* Kirkaldy, Cat. Hem. 1:258.
1909 *Megymenum (Pissistes)*: Kirkaldy, Cat. Hem. 1:258, 259.
1909 *Megymenum (Anoplocephala)*: Kirkaldy, Cat. Hem. 1:xxxiv, 258, 259. (Tsp)
1909 *Megymenum (Pseudaradus)*: Kirkaldy, Cat. Hem. 1:258, 259.
1912 *Megymenum:* Oshanin, Kat. Pal. Hem.: 19. (S, Tsp)
1912 *Megymenum (Pseudaradus)*: Oshanin, Kat. Pal. Hem.: 19. (Tsp)
1912 *Megymenum (Megymenum):* Oshanin, Kat. Pal. Hem.: 19. (Tsp)
1912 Megymenum *(Pissistes)*: Oshanin, Kat. Pal. Hem.: 19. (Tsp)
1913 *Megymenum:* Kirkaldy, Can. Ent. 45:84. (K)
1913 *Megymenum:* Schouteden, Gen. Ins. 153:3, 12-13. (D, K, Ksg, R, S)
1913 *Megymenum (Megymenum):* Schouteden, Gen. Ins. 153:13, 14. (D, K, S, Tsp)
1913 *Megymenum (Pissistes):* Schouteden, Gen. In. 153:13. (D, K, S, Tsp)
1913 *Megymenum (Pseudaradus)*: Schouteden, Gen. Ins. 153:13, 14. (D, K, S, Tsp)
1913 *Megymenum (Anoplocephala):* Schouteden, Gen. Ins. 153:13. (D, K, S, Tsp)
1914 *Megymenum:* Distant, Trans. Zool. Soc. Lond. 20(1):338.
1935 *Megymenum:* Tang, in: Wu, Cat. Ins. Sin. 2:356. (S)
1935 *Megymenum (Pissistes):* Tang, in: Wu, Cat. Ins. Sin. 2:356. (L)
1935 *Megymenum (Pseudaradus):* Tang, in: Wu, Cat. Ins. Sin. 2:357. (S)

1940 *Megymenum:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):7, 8, 30-32. (D, Ge, K, Ksg, S)
1940 *Megymenum (Pissistes):* Yang, Bull. Fan Mem. Inst. Biol. 10(1):32. (D, K)
1940 *Megymenum (Megymenum):* Yang, Bull. Fan Mem. Inst. Biol. 10(1):32, 39. (D, K)
1940 *Megymenum (Pseudaradus):* Yang, Bull. Fan Mem. Inst. Biol. 10(1):32, 41. (D, K)
1952 *Megymenum:* Dupuis, Bull. Soc. Zool. Fr. 77:450. (date of publication, author of genus)
1977 *Megymenum*: Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:69, 71-72. (K, Ks)
1982 *Megymenum:* Nuamah, Insect Sci. Appl. 3(1):24, 25. (classification, C)
1987 *Megymenum:* Durai, Oriental Ins. 21:242, 244-247. (D, K, Ks, S)

MEGYMENUM subgenus **ANOPLOCEPHALA** Stål, 1870 - see *Megymenum*

MEGYMENUM subgenus **PISSISTES** Stål, 1870 - see *Megymenum*

MEGYMENUM subgenus **PSEUDARADUS** Burmeister, 1834 - see *Megymenum*

Megymenum acutiangularis Yang, 1936 - *Nomen dubium*
1936 *Megymenum acutiangularis* Yang, Chinese J. Zool. 2:153-155, fig. 4
1987 *Megymenum acutiangularis:* Durai, Oriental Ins. 21:263. (*nomen dubium*)
1990 *Megymenum acutiangularis:* Lis, Ann. Upper Silesian Mus., Ent. 1:144. (*nomen dubium*)
Distribution: unknown.

Megymenum affine Boisduval, 1835
1835 *Megymenum affine* Boisduval, Voy. Astrolabe, Ins. 2:633-634, pl. 11 fig. 12.
1837 *Megymenum Insulare* Westwood, Cat. Hope 1:6, 26. (syn. by Vollenhoven, 1868)
1841 *Megymenum crenatum* LeGuillou, Rev. Zool. 4:261-262. (syn. by Vollenhoven, 1868)
1851 *Megymenum crenatum*: Dallas, List Hem. 1:363. (R)
1855 *Megymenum affine* Montrouzier, Ann. Soc. Agric. Lyon (2)7(1):101. (preoccupied by *Megymenum affine* Boisduval, 1835, *Megymenum affine;* syn. by Kirkaldy, 1905)
1859 *Megymenum insulare:* Dohrn, Cat. Hem: 23. (L)
1859 *Megymenum crenatum:* Dohrn, Cat. Hem.: 23. (L)
1868 *Megymenum affine:* Vollenhoven, Faune Ent. Indo-Néerl. 3:48. (D)
1868 *Megymenum insulare:* Vollenhoven, Faune Ent. Indo-Néerl. 3:49. (S)
1868 *Megymenum crenatum:* Walker, Cat. Het. 3:501. (R)
1868 *Megymenum affine:* Walker, Cat. Het. 3:502. (L)
1870 *Megymenum (Megymenum) affine* [Boisduval]: Stål, Sv. Vet.-Akad. Handl. 9(1):87. (R, S)
1870 *Megymenum (Megymenum) affine* [Montrouzier]: Stål, Sv. Vet.-Akad. Handl. 9(1):87. (R)
1870 *Megymenum (Megymenum) insulare:* Stål, Sv. Vet.-Akad. Handl. 9(1):87-88. (R)
1873 *Megymenum affine:* Walker, Cat. Het., suppl.: 29. (L)
1888 *Megymenum papuensis* Distant, Trans. Ent. Soc. Lond. 1888(4):480-481. (syn. by Horváth, 1914)
1891 *Megymenum affine:* Carpenter, Sci. Proc. R. Dublin. Soc. 7(3):139. (R)
1893 *Megymenum affine:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (S)
1893 *Megymenum insulare:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (L)
1893 *Megymenum Montrouzieri* Lethierry & Severin, Cat. Gén. Hém. 1:239. (Nn for *M. affine* Montrouzier, 1855)
1893 *Megymenum Papuense:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (L)
1900 *Megymenum insulare:* Horváth, in: Semon, Zoolog. Forschungsreisen 5:634. (R, S)
1901 *Megymenum insulare:* Distant, Proc. Zool. Soc. Lond. 1900(4):819. (Ts)
1902 *Megymenum insulare:* Froggatt, Agric. Gaz. N.S.W. 13(3):321. (Dn, R)
1905 *Megymenum affine:* Kirkaldy, Trans. Ent. Soc. Lond. 1905(3):354. (R, S)
1905 *Megymenum insulare:* Van Duzee, Bull. Am. Mus. Nat. Hist. 21:211. (Dn, R)
1907 *Megymenum insulare:* Froggatt, Austral. Ins.: 331. (Dn, R)
1907 *Megymenum Montrouzieri:* Schouteden, Ann. Soc. Ent. Belg. 51:113. (T)
1913 *Megymenum (Megymenum) affine:* Schouteden, Gen. Ins. 153:14. (S)

1913 *Megymenum (Megymenum) insulare:* Schouteden, Gen. Ins. 153:14. (S)
1913 *Megymenum (Megymenum) papuensis:* Schouteden, Gen. Ins. 153:14. (L)
1914 *Megymenum affine:* Horváth, Ann. Mus. Natn. Hung. 12:659. (S)
1919 *Megymenum affine:* Horváth, Abh. Senckenb. Naturf. Ges. 35(3):308. (R)
1926 *Megymenum insulare:* Tillyard, Ins. Austral. N. Zeal.: 148. (R)
1929 *Megymenum insulare:* Van Duzee, Pan-Pac. Ent. 6(2):95. (R)
1933 *Megymenum papuense:* Schouteden, Mem. Mus. Hist. Nat. Belg. 4(8):53. (R)
1963 *Megymenum affine:* Ruckes, Ins. Micronesia 7(7):355. (Dn, R)
1970 *Megymenum insulare:* Woodward *et al.*, Ins. Austral.: 450, fig. 26.64B. (Dn, H)
1975 *Megymenum insulare*: Malipatil & Kumar, J. Austral. Ent. Soc. 14(2):124-127, figs. 5, 7, 8, 14. (E, H, I)
1987 *Megymenum affine:* Durai, Oriental Ins. 21:247, 259-260, figs. 539-565. (D, K, R, S, T)
1990 *Megymenum affine:* Lis, Ann. Upper Silesian Mus., Ent. 1:139, 143. (R)
1992 *Megymenum affine:* Lis, Ann. Upper Silesian Mus., Ent. 3:42. (H, R)
Distribution: Australia (Melville Island, Murray Island, New South Wales, Queensland, Thursday Island), Caroline Island, Chuuk Island, Indonesia, Java, Kermadec Islands (Sunday Island), Lesser Sundas (Lombok Island), Moluccas (Aru Island, Buru Island, Ceram Island, Tenimbar Island), New Guinea (Woodlark Island), New Hebrides, Philippines, Solomons (Kei Island).

Megymenum anacanthum Vollenhoven, 1868
1868 *Megymenum anacanthum* Vollenhoven, Faune Ent. Indo-Néerl. 3:46-47, pl. 4 fig. 9.
1868 *Megymenum anacanthum:* Walker, Cat. Het. 3:501. (R)
1870 *Megymenum (Anoplocephala) anacanthum:* Stål, Sv. Vet.-Akad. Handl. 9(1):88. (L)
1873 *Megymenum (Anoplocephala) anacanthum:* Walker, Cat. Het., suppl.: 29. (L)
1893 *Megymenum anacanthum:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (L)
1907 *Megymenum anacanthum:* Schouteden, Notes Leyden Mus. 30:45. (T)
1909 *Megymenum (Anoplocephala) anacanthum:* Kirkaldy, Cat. Hem. 1:259. (L)
1913 *Megymenum (Anoplocephala) anacanthum:* Schouteden, Gen. Ins. 153:13. (L)
1987 *Megymenum anacanthum:* Durai, Oriental Ins. 21:246, 253, figs. 488-491.
1990 *Megymenum anacanthum:* Lis, Ann. Upper Silesian Mus., Ent. 1:138, 143. (R)
Distribution: China (Shanghai), Hong Kong, Java, Sumatra.

Megymenum basale basale Walker, 1868
1868 *Megymenum basale* Walker, Cat. Het. 3:502
1893 *Megymenum basale:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (L)
1900 *Megymenum basale:* Breddin, Stett. Ent. Ztg. 61:332-333. (D, R)
1900 *Megymenum basale:* Distant, Ann. Mag. Nat. Hist. (7)6:233. (Ts)
1909 *Megymenum (Pseudaradus) basale:* Kirkaldy, Cat. Hem. 1:259. (S)
1913 *Megymenum (Pseudaradus) basale:* Schouteden, Gen. Ins. 153:14, pl. 2 fig. 3. (R)
1936 *Megymenum basale:* Durai, Planti News 5(1):4; 5, 6. (R)
1987 *Megymenum basale:* Durai, Oriental Ins. 21:246, 248-249. figs. 439-441. (D, K, R, T,)
1990 *Megymenum basale basale:* Lis, Ann. Upper Silesian Mus., Ent. 1:135, 143, fig. 33. (R, Tn)
1992 *Megymenum basale basale:* Lis, Ann. Upper Silesian Mus., Ent. 3:38, 40. (R)
Distribution: Borneo, Malaysia (Sarawak), Sumatra.

Megymenum basale dohrni Lis, 1990
1990 *Megymenum basale dohrni* Lis, Ann. Upper Silesian Mus., Ent. 1:135-136, 143, fig. 32.
Distribution: Indonesia (Sumatra).

Megymenum brevicorne (Fabricius, 1787)
1787 *Cimex brevicornis* Fabricius, Mant. Ins. 2:294-295.
1790 *Cimex brevicornis*: Gmelin, Syst. Nat. (13th ed.) 1(4):2152. (Dn, R)
1794 *Cimex brevicornis:* Fabricius, Ent. Syst. 4:118. (D, R)
1803 *Edessa brevicornis:* Fabricius, Syst. Rh.: 154. (Dn)
1834 *Amaurus brevicornis:* Burmeister, Acta Acad. Leopold. Carol. 16 suppl.: 294. (R)

1834 *Pseudaradus brevicornis:* Burmeister, Silb. Rev. Ent. 2: pl. 16 fig. 1.
1835 *Amaurus brevicornis:* Burmeister, Handb. Ent. 2:350. (Dn)
1835 *Platydius brevicornis*: Westwood, Zool. J. Lond. 5[1834]:446. (L)
1837 *Edessa brevicornis*: Spinola, Essai: 304. (Ts)
1837 *Megymenum Brevicorne:* Westwood, Cat. Hope 1:6. (L)
1843 *Megymenum brevicornis:* Amyot & Serville, Nat. Hist. Ins., Hém.: 182. (Dn)
1851 *Megymenum brevicorne:* Dallas, List Hem. 1:364. (R, S)
1859 *Megymenum brevicorne:* Dohrn, Cat. Hem.: 23. (L)
1866 *Megymenum brevicorne:* Mayr, Reise Novara Zool. 2(1):70. (R, S)
1868 *Megymenum brevicorne*: Stål, Sv. Vet.-Akad. Handl. 7(11):38. (R, S)
1868 *Megymenum brevicorne:* Walker, Cat. Het. 3:501. (R)
1870 *Megymenum (Pseudaradus) brevicorne:* Stål, Sv. Vet.-Akad. Handl. 9(1):86. (R, S)
1873 *Megymenum (Pseudaradus) brevicorne:* Walker, Cat. Het., suppl.: 29. (L)
1889 *Megymenum brevicorne*: Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):92. (D, R, S)
1893 *Megymenum brevicorne:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (S)
1900 *Megymenum brevicorne*: Breddin, Stett. Ent. Ztg. 61:332. (R)
1901 *Megymenum brevicorne:* Distant, Trans. Ent. Soc. Lond. 1901(1):104. (R)
1902 *Megymenum brevicorne:* Distant, Fauna Brit. India, Rh. 1:286. (D, R, S)
1909 *Megymenum (Pseudaradus) brevicornis:* Kirkaldy, Cat. Hem. 1:259. (S)
1910 *Megymenum brevicorne:* Kirkaldy, Ann. Soc. Ent. Belg. 54(4):109. (R)
1911 *Megymenum brevicorne:* Oshanin, Rev. Russ. Ent. 10(4)[1910]:332. (R, S)
1913 *Megymenum (Pseudaradus) brevicorne:* Schouteden, Gen. Ins. 153:15, pl. 1 fig. 13. (R)
1921 *Megymenum brevicorne:* Distant, Entomologist 54:166. (R)
1929 *Megymenum brevicorne:* Miller, Malayan Agric. J. 17(12):421-426. (E, H, I, R)
1931 *Megymenum (Pseudaradus) brevicornis:* Hoffmann, USDA Ins. Pest Surv. Bull. 11(3):144. (H, R)
1932 *Megymenum brevicornis:* Hoffmann, Arch. Zool. Ital. 16(30-4):1019-1020. (B, H)
1932 *Megarhamphus* [sic] *(Pseudaradus) brevicornis*: Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1932 *Megymenum brevicornis*: Hoffmann, Lingnan Sci. J. 11(1):140. (R)
1932 *Megymenum brevicorne:* Wu, Mar. Biol. Assoc., China: 82. (R)
1933 *Megymenum brevicorne:* Corbett, Dept. Agric. S.S. & Fed. Malay Sts., Gen. Ser., no. 13:42043. (H)
1933 *Megymenum brevicorne:* Schouteden, Mem. Mus. Hist. Nat. Belg. 4(8):52. (R)
1933 *Megymenum brevicornis:* Wu, Lingnan Sci. J., suppl. 12:220. (R, S)
1934 *Megymenum brevicorne:* Miller, J.F.M.S. Mus. 17(3):517, fig. 33. (egg burster)
1935 *Megymenum brevicornis:* Cheo, Peking Nat. Hist. Bull. 10(1):30. (H, R)
1935 *Megymenum brevicornis:* Hoffmann, Lingnan Univ. Sci. Bull. 7:120-121. (R, S)
1935 *Megymenum (Pseudaradus) brevicorne:* Tang, in: Wu, Cat. Ins. Sin. 2:357. (S)
1940 *Megymenum (Pseudaradus) brevicornis:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):42-43, fig. 15. (D, R, S)
1948 *Megymenum brevicorne:* Hoffmann, Lingnan Sci. J. 22(1-4):24. (S)
1956 *Megymenum brevicorne:* Miller, Biol. Het. (1st ed.): 48. (E)
1956 *Megymenum brevicorne:* Southwood, Trans. R. Ent. Soc. Lond. 108(6):184. (E)
1958 *Megymenum brevicorne:* Banerjee, Proc. Zool. Soc. Calcutta 2:11, 16. (C)
1962 *Megymenum brevicorne:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Megymenum brevicorne:* Stichel, Verz. Pal. Hem.-Het. 4:205. (L)
1962 *Megymenum brevicornis:* Yang, Econ. Ins. Fauna China 2:47, 51-52. (Dn, K)
1963 *Meginenum* [sic] *brevicorne:* Bose & Sinha, Indian J. Ent. 25:269, 270. (scent gland pH)
1977 *Megymenum brevicorne:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:71, fig. 329, pl. 8 fig. 129. (K)
1982 *Megymenum brevicorne:* Nuamah, Insect Sci. Appl. 3(1):16. (C)
1985 *Megymenum brevicornis:* Zhang, Econ. Ins. China 31:57-58, fig. 118, pl. 12 figs. 28.1-28.5. (D, E, I)
1986 *Megymenum brevicornis:* Durai, Planti News 5(1):4, 5, 6. (R)
1987 *Megymenum brevicorne:* Durai, Oriental Ins. 21:245, 256-257, 265, figs. 516-522. (D, H, K, R, S, T)
1987 *Megymenum brevicorne:* Schaefer & Ahmad, Phytophaga 1:30. (H)

1987 *Megymenum brevicornis:* Zhang & Lin, Agric. Ins. Xizang 1:76. (R)
1988 *Megymenum brevicorne:* Zhang & Lin, Ins. Mt. Namjagbarwa: 85. (R)
1989 *Megymenum brevicornis:* Hua, List Ins. Zhongshan Univ.: 44.
1990 *Megymenum brevicorne:* Lis, Ann. Upper Silesian Mus., Ent. 1:137, 143. (R, S)
1990 *Megymenum brevicornis:* Zheng & Jin, Contr. Shanghai Inst. Ent. 9:142. (R)
1992 *Megymenum brevicorne:* Lis, Ann. Upper Silesian Mus., Ent. 3:41. (R)
1993 *Megymenum brevicornis*: Durai, Malays. Agric. J. 54(4):219-228. (B)
Distribution: Bhutan, Cambodia, China (Beijing, Fujian, Guangdong, Guizhou, Hainan Island, Macao, Xizang, Zhejiang), Hong Kong, India (Assam, Bengal, Nicobar Island, Sikkim), Laos, Malaysia, Myanmar, Sri Lanka, Sumatra, Taiwan, Thailand, Vietnam (Tonkin).

Megymenum crenatum LeGuillou, 1841 - see *Megymenum affine*
Megymenum cupreum Guérin-Méneville, 1838 - see *Megymenum spinosum*

Megymenum dentatum Guérin-Méneville 1831
1831 *Megymenum dentatum*: Guérin-Méneville, Voy. Coq. 2: pl. 12 fig. 1. (no text)
1833 *Megymenum dentatum:* Laporte, Mag. Zool. 2:53. (R)
1835 *Megymenum dentatum*: Boisduval, Voy. Astrolabe, Ins. 2:632-633, pl. 11 fig. 11.
1835 *Megymenum dentatum:* Brullé, Hist. Nat. Ins. 9:395-396, pl. 30 fig. 6. (Dn)
1835 *Megymenum dentatus:* Burmeister, Handb. Ent. 2:349. (Dn, R)
1837 *Megymenum dentatum:* Spinola, Essai: 301. (L)
1838 *Megymenum dentatum:* Guérin-Méneville, Voy. Coq.: 172. (D)
1840 *Megymenum dentatum:* Blanchard, Hist. Nat. Ins. 3:141. (D, S)
1843 *Megymenum dentatum:* Amyot & Serville, Hist. Nat. Ins., Hém.: 182. (Dn, S)
1851 *Megymenum dentatum:* Dallas, List Hem. 1:363. (R, S)
1859 *Megymenum dentatum*: Dohrn, Cat. Hem.: 23. (L)
1868 *Megymenum dentatum:* Vollenhoven, Faune Ent. Indo-Néerl. 3:45.
1868 *Megymenum dentatum:* Walker, Cat. Het. 3:501. (R)
1868 *Megymenum instructum* Walker, Cat. Het. 3:502-503. (syn. by Distant, 1900)
1870 *Megymenum (Megymenum) dentatum*: Stål, Sv. Vet.-Akad. Handl. 9(1):88. (S)
1893 *Megymenum dentatum:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (S)
1893 *Megymenum instructum:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (L)
1900 *Megymenum dentatum:* Distant, Ann. Mag. Nat. Hist. (7)6:222, 234. (S)
1910 *Megymenum dentatum:* Kirkaldy, Can. Ent. 42:62. (R)
1913 *Megymenum (Megymenum) dentatum:* Schouteden, Gen. Ins. 153:14, pl. 2 figs. 7, 12. (S)
1914 *Megymenum dentatum:* Distant, Trans. Zool. Soc. Lond. 20(1):339. (R)
1933 *Megymenum dentatum*: Schouteden, Mem. Mus. Hist. Nat. Belg. 4(8):52. (R)
1952 *Megymenum dentatum*: Dupuis, Bull. Soc. Zool. Fr. 77:449, 451. (publication date of Voy. Coq.)
1986 *Megymenum dentatum*: Durai, Planti News 5(1):6. (R)
1987 *Megymenum dentatum:* Durai, Oriental Ins. 21:247-248, figs. 431-438. (D, K, R, S)
1990 *Megymenum dentatum:* Lis, Ann. Upper Silesian Mus., Ent. 1:135, 143. (R)
1992 *Megymenum dentatum:* Lis, Ann. Upper Silesian Mus., Ent. 3:38. (R)
Distribution: Australia, Ceram, China, Indonesia (Java), Moluccas (Amboina Island), New Guinea.

Megymenum gracilicorne Dallas, 1851
1851 *Megymenum gracilicorne* Dallas, List Hem. 1:364.
1859 *Megymenum gracilicorne:* Dohrn, Cat. Hem.: 23. (L)
1868 *Megymenum gracilicorne:* Walker, Cat. Het. 3:501. (R)
1870 *Megymenum (Pissistes) gracilicorne:* Stål, Sv. Vet.-Akad. Handl. 9(1):89. (L)
1873 *Megymenum (Pissistes) gracilicorne:* Walker, Cat. Het., suppl.: 29. (L)
1883 *Megymenum (Pissistes) tauriformis* Distant, Trans. Ent. Soc. Lond. 1883(4):416, 427-428. (syn. by Durai, 1987)
1893 *Megymenum gracilicorne:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (L)
1893 *Megymenum tauriforme:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (L)
1904 *Megymenum tauriforme:* Matsumura, Thous. Ins. Jap.: pl. 16 fig. 10.

1906 *Megymenum tauriforme:* Oshanin, Verz. Pal. Hem. 1:162. (L)
1909 *Megymenum (Pissistes) gracilicorne:* Kirkaldy, Cat. Hem. 1:259. (L)
1909 *Megymenum (Pissistes) tauriforme:* Kirkaldy, Cat. Hem. 1:259. (L)
1910 *Megymenum gracilicorne:* Kirkaldy, Ann. Soc. Ent. Belg. 54(4):109. (R)
1911 *Megymenum gracilicorne:* Oshanin, Rev. Russ. Ent. 10(4)[1910]:332. (R)
1912 *Megymenum (Pissistes) gracilicorne:* Oshanin, Kat. Pal. Hem.: 19. (L)
1912 *Megymenum (Pissistes) tauriforme:* Oshanin, Kat. Pal. Hem.: 19. (L)
1913 *Megymenum (Pissistes) gracilicorne:* Schouteden, Gen. Ins. 153:13. (L)
1913 *Megymenum (Pissistes) tauriforme:* Schouteden, Gen. Ins. 153:13. (L)
1930 *Megymemum* [sic] *tauriforme:* Matsumura, Ill. Thous. Ins. Jap. 1:95, pl. 10 fig. 10.
1931 *Megymenum tauriforme*: Matsumura, 6000 Ill. Ins. Jap.-Empire: 1185, fig.
1932 *Megarhamphus* [sic] *(Pissistes) gracilicorne:* Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1932 *Megymenum tauriforme:* Matsumura, Ill. Comm. Ins. Jap. 4:122, pl. 20 fig. 21. (Dn)
1933 *Megymenum gracilicornis*: Wu, Lingnan Sci. J., suppl. 12:220. (R)
1934 *Megymenum tauriforme* var. *capitatum* Yang, Bull. Fan Mem. Inst. Biol. 5(2):70, 74-76, figs. 12A, C. (syn. by Yang, 1940)
1935 *Megymenum (Pissistes) gracilicorne:* Hoffmann, Lingnan Univ. Sci. Bull. 7:121. (R, S)
1935 *Megymenum (Pissistes) gracilicorne:* Tang, in: Wu, Cat. Ins. Sin. 2:356. (S)
1935 *Megymenum (Pseudaradus) tauriforme:* Tang, in: Wu, Cat. Ins. Sin. 2:358. (L)
1935 *Megymenum (Pseudaradus) tauriforme* var. *capitatum:* Tang, in: Wu, Cat. Ins. Sin. 2:358. (L)
1937 *Megymenum gracilicorne*: Haku, Ent. World 5(44):697. (R)
1940 *Megymenum (Pissistes) gracilicorne:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):32-38, figs. 11-13. (D, R, S)
1948 *Megymenum gracilicorne*: Hoffmann, Lingnan Sci. J. 22(1-4):24. (S)
1950 *Megymenum gracilicorne*: Esaki, Icon. Ins. Jap. (2nd ed.): 210, fig. 532. (D)
1951 *Megymenum gracilicorne:* Esaki & Ishihara, Mushi 22(5):43. (R, S)
1953 *Megymenum gracilicorne*: Ishihara *et al.*, Trans. Shikoku Ent. Soc., suppl. 3:110. (R)
1954 *Megymenum gracilicorne:* Esaki, Icon. Ins. Jap. (emended 2nd ed.): 210, fig. 532.
1955 *Megymenum gracilicorne:* Kobayashi, Trans. Shikoku Ent. Soc. 4(5-6):79-82, figs. 1A-G. (I, E, K)
1960 *Megymenum gracilicornis:* Miyamoto & Hidaka, Kontyû 28(1):43. (R)
1961 *Megymenum gracilicorne:* Miyamoto, Sieboldia 2(4):207-208, pl. 25 figs. 37-41. (anatomy)
1962 *Megymenum gracilicorne:* Miyamoto, Icon. Ins. Jap. Col. Nat. 3:82, pl. 41 fig. 22. (D)
1962 *Megymenum gracilicorne*: Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Megymenum tauriforme:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Megymenum tauriforme* f. *capitata*: Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (L)
1962 *Megymenum gracilicorne*: Stichel, Verz. Pal. Hem.-Het. 4:205. (R)
1962 *Megymenum tauriforme:* Stichel, Verz. Pal. Hem.-Het. 4:206. (R)
1962 *Megymenum tauriforme* f. *capitata:* Stichel, Verz. Pal. Hem.Het. 4:206. (L)
1962 *Megymenum gracilicorne:* Yang, Econ. Ins. Fauna China 2:47, 50-51, pl. 4 fig. 33. (D, K)
1965 *Megymenum tauriforme:* Hasegawa, Major Pests Econ. Plants Jap.: 149. (H)
1974 *Megymenum gracilicorne:* Chang, Acta Ent. Sin. 17(3):357.
1977 *Megymenum gracilicorne:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:71, fig. 330, pl. 8 fig. 128. (K)
1982 *Megymenum gracilicorne:* Nuamah, Insect Sci. Appl. 3(1):16. (C)
1985 *Megymenum gracilicorne*: Zhang, Econ. Ins. China 31:58-59, fig. 120, pl. 41 figs. 117.1-117.2. (D, T)
1987 *Megymenum gracilicorne:* Durai, Oriental Ins. 21:245, 25-254, figs. 492-498. (D, K, R, S, T)
1987 *Megymenum gracilicorne:* Schaefer & Ahmad, Phytophaga 1:30. (H)
1989 *Megymenum gracilicorne:* Hirashima, Check List Jap. Ins.: 184. (L)
1989 *Megymenum gracilicornis:* Hua, List Ins. Zhongshan Univ.: 44.
1990 *Megymenum gracilicorne*: Lis, Ann. Upper Silesian Mus., Ent. 1:143. (L)
1991 *Megymenum gracilicorne:* Lis, Ann. Upper Silesian Mus., Ent. 2:84. (I, K)
1992 *Megymenum gracilicorne:* Lis, Ann. Upper Silesian Mus., Ent. 3:41. (R)
1992 *Megymenum gracilicorne*: Tayutivutikul & Kusigemati, Mem. Fac. Agric., Kagoshima Univ.

28(37):102, 117. (H)
Distribution: China (Gansu, Guangdong, Heilongjiang, Jiangsu, Jiangxi, Jilin, Liaoning, Shandong, Zhejiang), Hong Kong, Japan (Tokara),N. Korea.

Megymenum inerme (Herrich-Schäffer, 1840)
1840 *Amaurus inermis* Herrich-Schäffer, Wanz. Ins. 5:62, pl. 163 figs. G, H. (not pl. 164)
1843 *Megymenum inermis:* Amyot & Serville, Hist. Nat. Ins., Hém.: 182. (Dn)
1851 *Megymenum inerme:* Dallas, List Hem. 1:364. (R)
1859 *Megymenum inerme*: Dohrn, Cat. Hem.: 23. (L)
1868 *Megymenum inerme:* Walker, Cat. Het. 3:501. (R)
1870 *Megymenum (Pseudaradus) inerme:* Stål, Sv. Vet.-Akad. Handl. 9(1):86. (L)
1873 *Megymenum (Pseudaradus) inerme:* Walker, Cat. Het., suppl.: 29. (L)
1879 *Megymenum inerme:* Distant, Ann. Mag. Nat. Hist. (5)3:45. (R)
1889 *Megymenum inerme:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):93. (D, S)
1893 *Megymenum inerme:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (S)
1902 *Megymenum inerme:* Distant, Fauna Brit. India, Rh. 1:286. (D, R, S)
1909 *Megymenum inerme*: Breddin, Ann. Soc. Ent. Belg. 53:282. (Dn, R)
1909 *Megymenum (Pseudaradus) inerme:* Kirkaldy, Cat. Hem. 1:259. (L)
1910 *Megymenum inerme:* Kirkaldy, Ann. Soc. Ent. Belg. 54(4):109. (R)
1913 *Megymenum (Pseudaradus) inerme:* Schouteden, Gen. Ins. 153:15. (S)
1932 *Megarhamphus* [sic] *(Pseudaradus)* inermis: Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (S)
1935 *Megymenum (Pseudaradus) inerme:* Hoffmann, Lingnan Univ. Sci. Bull. 7:121-122. (R, S)
1935 *Megymenum (Pseudaradus) inerme:* Tang, in: Wu, Cat. Ins. Sin. 2:357. (S)
1940 *Megymenum (Pseudaradus) inerme:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):43-45, fig. 16. (D, R, S)
1948 *Megymenum inerme:* Hoffmann, Lingnan Sci. J. 22(1-4):24. (S)
1962 *Megymenum inerme:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Megymenum inerme:* Stichel, Verz. Pal. Hem.-Het. 4:205. (R)
1962 *Megymenum inerme:* Yang, Econ. Ins. Fauna China 2:47, 51. (D, K)
1964 *Megymenum inerme:* Sienkiewicz, Cat. Montandon Coll.: 113.
1974 *Megymenum inerme:* Chang, Acta Ent. Sin. 17(3):357. (R)
1977 *Megymenum inerme:* Hsiao et al., Handb. Chinese Hem.-Het. 1:71-72, fig. 328, pl. 9 fig. 130. (K)
1987 *Megymenum inerme:* Durai, Oriental Ins. 21:246, 257-258, figs. 523-527. (D, K, R, S)
1989 *Megymenum inerme:* Hua, List Ins. Zhongshan Univ.: 44.
1990 *Megymenum inerme:* Lis, Ann. Upper Silesian Mus., Ent. 1:143. (L)
Distribution: Cambodia, China (Guangdong, Guizhou, Hebei, Jiangsi, Macao, Yunnan), Hong Kong, India (Assam, Bengal), Sri Lanka,Thailand, Vietnam.

Megymenum instructum Walker, 1868 - see *Megymenum dentatum*
Megymenum insulare Westwood, 1837 - see *Megymenum affine*

Megymenum mekongum Distant, 1921
1921 *Megymenum mekongum* Distant, Entomologist 54:167-168.
1932 *Megarhamphus* [sic] *mekongum:* Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1935 *Megymenum mekongum:* Hoffmann, Lingnan Univ. Sci. Bull. 7:122. (L)
1935 *Megymenum (Pseudaradus) mekongum:* Tang, in: Wu, Cat. Ins. Sin. 2:358. (S)
1940 *Megymenum (Pseudaradus) mekongum:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):46. (S)
1948 *Megymenum mekongum:* Hoffmann, Lingnan Sci. J. 22(1-4):24. (R)
1962 *Megymenum mekongum:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Megymenum mekongum:* Stichel, Verz. Pal. Hem.-Het. 4:205. (R)
1987 *Megymenum mekongum:* Durai, Oriental Ins. 21:246, 249, figs. 442-445. (D, K, R, T)
1990 *Megymenum mekongum:* Lis, Ann. Upper Silesian Mus., Ent. 1:143. (L)
Distribution: China, India, Laos, Vietnam.

Megymenum meratii LeGuillou, 1841 - see *Megymenum spinosum*

Megymenum montrouzieri Lethierry & Severin, 1893 - see *Megymenum affine*

Megymenum obliquum Schouteden, 1913

1913 *Megymenum obliquum* Schouteden, Gen. Ins. 153: pl. 1 fig. 9. (fig. only)
1990 *Megymenum obliquum*: Lis, Ann. Upper Silesian Mus., Ent. 1:137-138, 143, figs. 34-36. (D, R, Tn)
Distribution: Indonesia (Aru Island).

Megymenum papuensis Distant, 1888 - see *Megymenum affine*

Megymenum parallelum Vollenhoven, 1868

1868 *Megymenum parallelum* Vollenhoven, Faune Ent. Indo-Néerl. 3:48, pl. 4 fig. 10.
1868 *Megymenum parallelum:* Walker, Cat. Het. 3:502. (R)
1870 *Megymenum (Anoplocephala) parallelum:* Stål, Sv. Vet.-Akad. Handl. 9(1):88. (L)
1870 *Megymenum (Pseudaradus) parallelum:* Stål, Sv. Vet.-Akad. Handl. 9(1):232. (Dn, R)
1873 *Megymenum (Anoplocephala) parallelum:* Walker, Cat. Het., suppl.: 29. (L)
1893 *Megymenum parallelum:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (S)
1902 *Megymenum parallelum*: Distant, Fauna Brit. India, Rh. 1:28-287, fig. 180.
1903 *Megymenum parallelum*: Distant, Fasc. Malay. Zool. 1(2):238. (R, S)
1907 *Megymenum parallelum:* Schouteden, Notes Leyden Mus. 30:45. (T)
1909 *Megymenum (Pseudaradus) parallelum:* Kirkaldy, Cat. Hem. 1:259. (S)
1909 *Megymenum parallelum:* Maxwell-Lefroy, Indian Ins. Life: 678. (R)
1910 *Megymenum parallelum:* Kirkaldy, Ann. Soc. Ent. Belg. 54(4):109. (R)
1913 *Megymenum (Pseudaradus) parallelum:* Schouteden, Gen. Ins. 153:15. (S)
1919 *Megymenum parallelum:* Paiva, Rec. Indian Mus. 16(5):355. (R)
1921 *Megymenum parallelum:* Distant, Entomologist 54:166. (R)
1932 *Megarhamphus* [sic] *(Pseudaradus) parallelum:* Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1933 *Megymenum parallelum*: Schouteden, Mem. Mus. Hist. Nat. Belg. 4(8):53. (R)
1935 *Megymenum (Pseudaradus) parallelum:* Hoffmann, Lingnan Univ. Sci. Bull. 7:122. (R, S)
1935 *Megymenum (Pseudaradus) parallelum:* Tang, in: Wu, Cat. Ins. Sin. 2:357. (S)
1940 *Megymenum (Pseudaradus) parallelum:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):45-46. (S)
1948 *Megymenum parallelum:* Hoffmann, Lingnan Sci. J. 22(1-4):25. (R, S)
1962 *Megymenum parallelum:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Megymenum parallelum:* Stichel, Verz. Pal. Hem.-Het. 4:205. (L)
1964 *Megymenum parallelum:* Sienkiewicz, Cat. Montandon Coll.: 113. (R)
1981 *Megymenum parallelum:* Mittal & Leelamma, CIS Tokyo 30:7. (C, G)
1985 *Megymenum parallelum:* Datta *et al.*, Rec. Zool. Surv. India Occ. Paper, no. 80:6, figs. 11, 11A. (Dn, R)
1986 *Megymenum parallelum*: Durai, Planti News 5(1):4, 5, 6. (R)
1987 *Megymenum parallelum*: Durai, Oriental Ins. 21:246, 252-253, figs. 476-487. (D, K, R, T)
1990 *Megymenum parallelum:* Lis, Ann. Upper Silesian Mus., Ent. 1:138, 144. (R)
1992 *Megymenum parallelum:* Lis, Ann. Upper Silesian Mus., Ent. 3:41. (R)
Distribution: China (Guangdong, Sichuan, Yunnan), India (Assam, Bengal, Sikkim, Andaman Island), Indo-China, Java, Laos, Malaysia (Sarawak), Sumatra, Vietnam.

Megymenum pratti Distant, 1911

1911 *Megymenum pratti* Distant, Ann. Mag. Nat. Hist. (8)7:353-354.
1913 *Megymenum (Pissistes) Pratti*: Schouteden, Gen. Ins. 153:13. (L)
1932 *Megarhamphus* [sic] *pratti:* Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1935 *Megymenum pratti:* Hoffmann, Lingnan Univ. Sci. Bull. 7:122. (L)
1935 *Megymenum (Pissistes) pratti*: Tang, in: Wu, Cat. Ins. Sin. 2:356. (S)
1940 *Megymenum (Pissistes) pratti:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):38. (Ts?)
1948 *Megymenum pratti:* Hoffmann, Lingnan Sci. J. 22(1-4):25. (S)
1962 *Megymenum pratti:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Megymenum pratti:* Stichel, Verz. Pal. Hem.-Het. 4:206. (L)

1987 *Megymenum pratti:* Durai, Oriental Ins. 21:246, 254-255, figs. 499-506. (D, K, T)
1990 *Megymenum pratti:* Lis, Ann. Upper Silesian Mus., Ent. 1:138, 144. (R)
Distribution: China (Jiangxi), Hong Kong.

Megymenum quadratum Vollenhoven, 1868
1868 *Megymenum quadratum* Vollenhoven, Faune Ent. Indo-Néerl. 3:46, pl. 4 fig. 7.
1868 *Megymenum quadratum*: Walker, Cat. Het. 3:501. (R)
1870 *Megymenum (Anoplocephala) quadratum:* Stål, Sv. Vet.-Akad. Handl. 9(1):88. (L)
1873 *Megymenum (Anoplocephala) quadratum*: Walker, Cat. Het., suppl.: 29. (L)
1893 *Megymenum quadratum:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (L)
1901 *Megymenum quadratum:* Breddin, Abh. Naturf. Ges. Halle 24:14. (R)
1907 *Megymenum quadratum:* Schouteden, Notes Leyden Mus. 30:45. (T)
1909 *Megymenum (Anoplocephala) quadratum*: Kirkaldy, Cat. Hem. 1:259. (L)
1913 *Megymenum (Anoplocephala) quadratum*: Schouteden, Gen. Ins. 153:14. (L)
1956 *Megymenum quadratum*: Miller, Biol. Het. (1st ed.): pl. 1 fig. 23.
1986 *Megymenum quadratum:* Durai, Planti News 5(1):6. (R)
1987 *Megymenum quadratum:* Durai, Oriental Ins. 21:246, 251-252, figs. 468-475. (D, K, R, T)
1990 *Megymenum quadratum:* Lis, Ann. Upper Silesian Mus., Ent. 1:144. (L)
Distribution: Celebes, Indonesia, Moluccas (Bachan Island, Morotai Island).

Megymenum rectangulatum Breddin, 1901
1901 *Megymenum rectangulatum* Breddin, Abh. Naturf. Ges. Halle 24:14, 63-64, pl. 1 fig. 3.
1908 *Megymenum rectangulatum:* Bergroth, Mém. Soc. Ent. Belg. 15:188. (L)
1913 *Megymenum (Megymenum) rectangulatum:* Schouteden, Gen. Ins. 153:14. (L)
1971 *Megymenum rectangulatum:* Gaedike, Beitr. Ent. 21(1-2):97. (T)
1986 *Megymenum rectangulatum:* Durai, Planti News 5(1):6. (R)
1987 *Megymenum rectangulum* [sic]: Durai, Oriental Ins. 21:246, 251, figs. 460-467. (D, K)
1990 *Megymenum rectangulatum*: Lis, Ann. Upper Silesian Mus., Ent. 1:136-137, 144. (S, Tn)
1992 *Megymenum rectangulatum*: Lis, Ann. Upper Silesian Mus., Ent. 3:40. (R, T)
Distribution: Celebes, Indonesia.

Megymenum salebrosum Lis, 1992
1992 *Megymenum salebrosum* Lis, Ann. Upper Silesia Mus. Ent. 3:40, figs. 2, 3.
Distribution: China (Tonkin), Vietnam (Tonkin).

Megymenum semivestitum Vollenhoven, 1868
1868 *Megymenum semivestitum* Vollenhoven, Faune Ent. Indo-Néerl. 3:46, pl. 4 fig. 6.
1868 *Megymenum semivestitum:* Walker, Cat. Het. 3:501. (L)
1870 *Megymenum (Anoplocephala) semivestitum:* Stål, Sv. Vet.-Akad. Handl. 9(1):88. (R)
1873 *Megymenum (Anoplocephala) semivestitum:* Walker, Cat. Het., suppl.: 29. (L)
1893 *Megymenum semivestitum:* Lethierry & Severin, Cat. Gén. Hém. 1:239. (L)
1901 *Megymenum semivestitum:* Breddin, Abh. Naturf. Ges. Halle 24:14. (R)
1907 *Megymenum semivestitum:* Schouteden, Notes Leyden Mus. 30:45. (T)
1909 *Megymenum (Anoplocephala) semivestitum:* Kirkaldy, Cat. Hem. 1:259.
1913 *Megymenum (Anoplocephala) semivestitum:* Schouteden, Gen. Ins. 153:14. (L)
1986 *Megymenum semivestitum*: Durai, Planti News 5(1):6. (R)
1987 *Megymenum semivestitum:* Durai, Oriental Ins. 21:246, 250, figs. 446-459. (D, K, R, T)
1990 *Megymenum semivestitum:* Lis, Ann. Upper Silesian Mus., Ent. 1:136, 144. (R)
1992 *Megymenum semivestitum:* Lis, Ann. Upper Silesian Mus., Ent. 3:41. (R)
Distribution: Celebes, Moluccas (Amboina Island, Buru Island, Ceram Island).

Megymenum serratum Germar [Note: *Megymenum serratum* Germar was included in a list of taxa in Dohrn, 1859, Cat. Hem.:23; we have not found this name used at any other time in the Dinidoridae].

Megymenum severini Bergroth, 1892

1892 *Megymenum severini* Bergroth, Ann. Soc. Ent. Belg. 36:504-505, text fig.
1893 *Megymenum Severini*: Lethierry & Severin, Cat. Gén. Hém. 1:239. (L)
1902 *Megymenum severini:* Distant, Fauna Brit. India, Rh. 1:287. (D, R)
1909 *Megymenum (Pseudaradus) severini:* Kirkaldy, Cat. Hem. 1:259. (S)
1913 *Megymenum (Pissistes) Severini:* Schouteden, Gen. Ins. 153:13, pl. 1 fig. 10.
1987 *Megymenum severini*: Durai, Oriental Ins. 21:246, 255, 256, figs. 507-518. (D, K, R, T)
1990 *Megymenum severini:* Lis, Ann. Upper Silesian Mus., Ent. 1:138, 144. (R)
Distribution: China (Taiwan), India (Bengal, Sikkim).

Megymenum spinosum (Burmeister, 1834)

1834 *Amaurus spinosus* Burmeister, Acta Acad. Leopold Carol. 16 suppl.: 294, pl. 41 fig. 7.
1835 *Amaurus spinosus*: Burmeister, Handb. Ent. 2:350. (Dn, R)
1835 *Platydius subpurpurascens* Westwood, Zool. J. Lond. 5[1834]:446, pl. 22 fig. 8. (syn. by Durai, 1987)
1837 *Megymenum Subpurpurascens:* Westwood, Cat. Hope 1:6. (L)
1837 *Megymenum Spinosum:* Westwood, Cat. Hope 1:6. (L)
1838 *Megymenum cupreum* Guérin-Méneville, Voy. Coq. 2:172-173. (syn. with *Amaurus spinosus* by Amyot & Serville, 1843; with *Platydius subpurpurascens* by Stål, 1870)
1840 *Megymenum spinosum:* Blanchard, Hist. Nat. Ins. 3:141-142. (D)
1840 *Amaurus cupreus*: Herrich-Schäffer, Wanz. Ins. 5:61-62, fig. 503. (D, S)
1841 *Megymenum meratii* LeGuillou, Rev. Zool. 4:261. (syn. with *Megymenum cupreum* by Vollenhoven, 1868)
1843 *Megymenum cupreum*: Amyot & Serville, Hist. Nat. Ins., Hém.: 182. (Dn, S)
1851 *Megymenum cupreum:* Dallas, List Hem. 1:363. (R, S)
1851 *Megymenum spinosum:* Dallas, List Hem. 1:363. (R, S)
1859 *Megymenum cupreum:* Dohrn, Cat. Hem.: 23. (L)
1859 *Megymenum spinosum:* Dohrn, Cat. Hem.: 23. (L)
1859 *Megymenum purpurascens* [sic]: Dohrn, Cat. Hem.: 23.
1859 *Megymenum Merrati:* Dohrn, Cat. Hem.: 23. (L)
1862 *Megymenum cupreum*: Ellenrieder, Nat. Tijd. Ned. Ind. 24:174. (R)
1868 *Megymenum cupreum*: Vollenhoven, Faune Ent. Indo-Néerl. 3:47-48, pl. 4 fig. 8. (D, R, S)
1868 *Megymenum cupreum:* Walker, Cat. Het. 3:500. (R)
1868 *Megymenum spinosum:* Walker, Cat. Het. 3:500. (R)
1870 *Megymenum (Megymenum) spinosum*: Stål, Sv. Vet.-Akad. Handl. 9(1):87.
1870 *Megymenum (Megymenum) subpurpurascens*: Stål, Sv. Vet.-Akad. Handl. 9(1):87. (R, S)
1871 *Megymenum spinosum*: Stål, Öfv. Vet.-Akad. Förh. 27(7):645. (R)
1873 *Megymenum subpurpurascens:* Walker, Cat. Het., suppl.: 29. (S)
1879 *Megymenum spinosum*:Horváth, Term. Füzet. 3(2-3):145. (R)
1880 *Megymenum spinosus:* Scott, Trans. Ent. Soc. 1880(4):308. (R)
1888 *Megymenum subpurpurascens:* Lethierry, Ann. Mus. Civ. Storia Nat. Genova (2)6(26):461. (R)
1889 *Megymenum subpurpurascens:* Atkinson, J. Asiat. Soc. Beng. 58(pt. 2):93. (D, R, S)
1893 *Megymenum spinosum:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (S)
1893 *Megymenum subpurpurascens:* Lethierry & Severin, Cat. Gén. Hém. 1:240. (S)
1900 *Megymenum cupreum:* Breddin, Abh. Senckenb. Natur. Ges. 25:148. (R)
1900 *Megymenum cupreum:* Breddin, Stett. Ent. Ztg. 61:334. (R)
1901 *Megymenum cupreum*: Breddin, Abh. Naturf. Ges. Halle 24:14. (R)
1901 *Megymenum subpurpurascens:* Distant, Trans. Ent. Soc. Lond. 1901(1):104. (R)
1902 *Megymenum subpurpurascens:* Distant, Fauna Brit. India, Rh. 1:287. (D, R, S)
1905 *Megymenum spinosum:* Breddin, Mitt. Nat. Mus. Hamb. 22:211. (R)
1906 *Megymenum spinosum:* Oshanin, Verz. Pal. Hem. 1:162. (S)
1909 *Megymenum subpurpurascens:* Banks, Philipp. J. Sci. 4(6):565. (R, S)
1909 *Megymenum spinosum:* Kirkaldy, Cat. Hem. 1:259. (L)
1909 *Megymenum subpurpurascens:* Kirkaldy, Cat. Hem. 1:259, 380. (H, R, S)
1912 *Megymenum (Megymenum) spinosum:* Oshanin, Kat. Pal. Hem.: 19. (L)

1913 *Megymenum (Megymenum) cupreum:* Schouteden, Gen. Ins. 153:14. (S)
1913 *Megymenum (Megymenum) spinosum:* Schouteden, Gen. Ins. 153:14. (L)
1913 *Megymenum (Megymenum) subpurpurascens:* Schouteden, Gen. Ins. 153:14. (L)
1921 *Megymenum spinosum:* Distant, Entomologist 54:166. (R)
1923 *Megymenum subpurpurascens:* Lehmann, Zool. Anz. 57(7-8):182. (R)
1923 *Megymenum spinosum:* Lehmann, Zool. Anz. 57(7-8):182. (R)
1932 *Megarhamphus* [sic] *subpurpurascens*: Hoffmann, J. Pan-Pac. Res. Inst. 7(1):9. (L)
1935 *Megymenum spinosum*: Hoffmann, Lingnan Univ. Sci. Bull. 7:122. (R, S)
1935 *Megymenum subpurpurascens:* Hoffmann, Lingnan Univ. Sci. Bull. 7:123. (R, S)
1935 *Megymenum (Pseudaradus) subpurpurascens*: Tang, in: Wu, Cat. Ins. Sin. 2:357. (S)
1940 *Megymenum (Megymenum) subpurpurascens:* Yang, Bull. Fan Mem. Inst. Biol. 10(1):39-40, fig. 14. (D, R, S)
1948 *Megymenum subpurpurascens:* Hoffmann, Lingnan Sci. J. 22(1-4):25. (R, S)
1962 *Megymenum spinosum:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Megymenum subpurpurascens:* Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (R)
1962 *Megymenum spinosum:* Stichel, Verz. Pal. Hem.-Het. 4:206. (L)
1962 *Megymenum subpurpurascens:* Stichel, Verz. Pal. Hem.-Het. 4:206. (R)
1964 *Megymenum subpurpurascens:* Sienkiewicz, Cat. Montandon Coll.: 113. (R)
1968 *Megymenum subpurpurascens:* Cobben, Evol. Trends Het. 1:112. (E)
1986 *Megymenum spinosum:* Durai, Planti News 5(1):4, 5, 6. (R)
1987 *Megymenum spinosum:* Durai, Oriental Ins. 21:247, 258-259, 265, figs. 533-538. (D, H, K, R, S, T)
1987 *Megymenum sulparpurascens* [sic]: Schaefer & Ahmad, Phytophaga 1:30. (H)
1990 *Megymenum spinosum:* Lis, Ann. Upper Silesian Mus., Ent. 1:138-139, 144. (R, S)
1991 *Megymenum spinosum*: Lis, Ann. Upper Silesian Mus., Ent. 2:84, 90-91, fig. 8. (D, I, K, R)
1992 *Megymenum spinosum*: Lis, Ann. Upper Silesian Mus., Ent. 3:41-42. (R)

Distribution: Australia, Borneo, Banca Island, Cambodia, Celebes, India (Assam), Japan, Java, Keisoa Island, Lesser Sundas (Flores, Solor, Timor), Malaysia (Banggi Island, Pinang Island), Moluccas (Bachan Island, Ceram, Halmahera, Morotai, Salawati, Waigeo), Myanmar, New Guinea, Nias Island, Philippines (Luzon, Mindanao, Palawan, S. Palawan), Rotti Island, Singapore, Sumatra, Thailand.

Megymenum subpurpurascens (Westwood, 1835) - see *Megymenum spinosum*
Megymenum tauriforme Distant, 1883 - see *Megymenum gracilicorne*
Megymenum tauriforme capitatum Yang, 1934 - see *Megymenum gracilicorne*

PISSISTES Stål, 1870 - see *Megymenum*

PLATYDIUS Westwood, 1835 - see *Megymenum*

Platydius brevicornis (Fabricius, 1787) - see *Megymenum brevicorne*
Platydius subpurpurascens Westwood, 1835 - see *Megymenum spinosum*

PSEUDARADUS Burmeister, 1834 - see *Megymenum*

Pseudaradus brevicornis (Fabricius, 1787) - see *Megymenum brevicorne*

EUMENOTINI Bergroth, 1907

Type genus: Eumenotes Westwood, 1844.
1907 **Eumenotaria** Bergroth, Dt. Ent. Z. 1907:500. (in Tessaratomidae)

1909 **Eumenotini:** Kirkaldy, Cat. Hem. 1:361. (in Tessaratomidae)
1922 **Eumenotinae:** Esaki, Insecutor Inscit. Menstr. 10:196-197. (in Aradidae)
1930 **Eumenotini:** Esaki, Ann. Mag. Nat. Hist. (10)5:629. (in Pentatomidae)
1937 **Eumenotinae:** Beier, Handb. Zool. 4(2):2185, 2186. (Dn, K)
1951 **Eumenotinae:** Poisson, Traité Zool. 10(2):1794. (Dn)
1955 **Eumenotinae:** China & Miller, Ann. Mag. Nat. Hist. (12)8:258. (S; under Pentatomidae)
1956 **Eumenotinae:** Miller, Biol. Het. (1st ed.): 49, 50. (Dn)
1956 **Eumenotinae:** Southwood, Trans. R. Ent. Soc. Lond. 108(6):184. (E)
1959 **Eumenotinae:** China & Miller, Bull. Brit. Mus. Nat. Hist., Ent. 8(1):5, 39. (K) (as subfamily of Pentatomidae)
1972 **Eumenotinae:** Jordan, Handb. Zool. 4(2)2/20:38, 39. (D, K)
1972 **Eumenotidae**: Štys & Kerzhner, Acta Ent. Bohemoslovaca 72(2):74. (classification)
1982 **Eumenotidae**: Nuamah, Insect Sci. Appl. 3(1):14. (C)
1982 **Eumenotini:** Nuamah, Insect Sci. Appl. 3(1):24. (classification)
1982 **Eumenotidae**: Slater, Syn. Class.: 445-446. (D)
1986 **Eumenotinae**: Abbasi, Pakistan J. Ent., suppl. 5:178. (Ts)
1987 **Eumenotini:** Durai, Oriental Ins. 21:170. (K)
1990 **Eumenotini:** Lis, Ann. Upper Silesian Mus., Ent. 1:143. (L)

EUMENOTES Westwood, 1844

Type species: *Eumenotes obscura* Westwood, 1844, by monotypy.
1844 *Eumenotes* Westwood, Proc. Ent. Soc. Lond. 1844:115.
1847 *Eumenotes:* Westwood, Trans. Ent. Soc. Lond. 4:246-247. (D)
1851 *Eumenotes:* Dallas, List Hem. 1:363, 364. (K)
1868 *Eumenotes:* Vollenhoven, Faune Ent. Indo-Néerl. 3:49. (D)
1868 *Eumenotes:* Walker, Cat. Het. 3:504. (L)
1870 *Eumenotes:* Stål, Sv. Vet.-Akad. Handl. 9(1):89. (S)
1890 *Odonia* Bergroth, Ann. Mus. Civ. Storia Nat. Genova 2(7)[1889]:733. (type species: *Aradus truncatus* Walker, 1873 [= *Eumenotes obscura* Westwood, 1844], by monotypy; syn. by Distant, 1903, concurrence by Bergroth, 1908)
1893 *Eumenotes*: Lethierry & Severin, Cat. Gén. Hém. 1:240. (S)
1900 *Eumenotes*: Kirkaldy, Entomologist 33:240. (date and place of original description; date and pagination of reprint)
1903 *Eumenotes*: Distant, Ann. Mag. Nat. Hist. (7)12:476. (S)
1903 *Eumenotes:* Distant, Fauna Brit. India, Rh. 2(1):155. (D, S)
1907 *Eumenotes:* Bergroth, Dt. Ent. Z. 1907:499, 500. (placed in Tessaratomidae; D, Ts)
1908 *Eumenotes:* Bergroth, Mém. Soc. Ent. Belg. 15:184. (S)
1909 *Eumenotes:* Banks, Philipp. J. Sci. 4(6):564-565. (Ts)
1909 *Eumenotes:* Kirkaldy, Cat. Hem. 1:361. (S)
1910 *Eumenotes*: Distant; Ann. Soc. Ent. Belg. 54:420. (Ts)
1913 *Eumenotes:* Schouteden, Gen. Ins. 153:3, 15-16. (D, K, S)
1930 *Eumenotes:* Esaki, Ann. Mag. Nat. Hist. (10)5:630. (D)
1962 *Eumenotes*: Stichel, Verz. Pal. Hem.-Het. 4:205. (S)
1977 *Eumenotes*: Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:69, 72. (K)
1982 *Eumenotes:* Nuamah, Insect Sci. Appl. 3(1):24, 25. (classification)
1987 *Eumenotes:* Durai, Oriental Ins. 21:261. (D, S)

Eumenotes insularis Distant, 1906 - see *Eumenotes obscura*

Eumenotes obscura Westwood, 1844
1844 *Eumenotes obscura* Westwood, Proc. Ent. Soc. Lond. 1844:115.
1847 *Eumenotes obscura*: Westwood, Trans. Ent. Soc. Lond. 4:247, pl. 18 fig. 4. (D)
1851 *Eumenotes obscura:* Dallas, List Hem. 1:364. (L)

1859 *Eumenotes obscura:* Dohrn, Cat. Hem.: 23. (L)
1868 *Eumenotes obscura:* Vollenhoven, Faune Ent. Indo-Néerl. 3:49. (D)
1868 *Eumenotes obscura:* Walker, Cat. Het. 3:504. (R)
1870 *Eumenotes obscura:* Stål, Sv. Vet.-Akad. Handl. 9(1):89. (S)
1871 *Eumenotes obscura:* Stål, Öfv. Vet.-Akad. Förh. 27(7):609, 645.
1873 *Aradus truncatus* Walker, Cat. Het. 7:39. (syn. by Distant, 1903)
1890 *Odonia truncatus:* Bergroth, Ann. Mus. Civ. Storia Nat. Genova 2(7)[1889]:733-734, pl. 12 fig. 4. (D)
1893 *Eumenotes obscura*: Lethierry & Severin, Cat. Gén. Hém. 1:240. (S)
1901 *Eumenotes obscurus:* Breddin, Abh. Naturf. Ges. Halle 24:14. (R)
1903 *Eumenotes obscura*: Distant, Ann. Mag. Nat. Hist. (7)12:476. (S)
1903 *Eumenotes obscura*: Distant, Fauna Brit. India, Rh. 2(1):155-156, fig. 114. (D, R, S)
1906 *Eumenotes insularis* Distant, Ann. Soc. Ent. Belg. 50(12):417. (under Aradinae; syn. by Esaki, 1930)
1907 *Eumenotes obscura:* Bergroth, Dt. Ent. Z. 1907:498. (S)
1908 *Eumenotes insularis:* Bergroth, Mém. Soc. Ent. Belg. 15:184. (L)
1909 *Eumenotes obscura:* Banks, Philipp. J. Sci. 4(6):564, pl. 2 fig. 4a. (R, S)
1909 *Eumenotes insularis:* Kirkaldy, Cat. Hem. 1:361. (L)
1909 *Eumenotes obscura*: Kirkaldy, Cat. Hem. 1:361. (S)
1910 *Eumenotes obscura*: Distant, Ann. Soc. Ent. Belg. 54:419-420. (S)
1911 *Eumenotes obscura:* Bergroth, Ann. Soc. Ent. Belg. 55:29. (Dn, Ts)
1913 *Eumenotes insularis*: Schouteden, Gen. Ins. 153:16. (L)
1913 *Eumenotes obscura:* Schouteden, Gen. Ins. 153:16. (S)
1919 *Eumenotes obscura:* Paiva, Rec. Indian Mus. 16(5):355. (R)
1922 *Eumenotes pacao* Esaki, Insecutor Inscit. Menstr. 10:197-198. (as aradid; syn. by Esaki, 1930)
1926 *Eumenotes pacao*: Esaki, Ann. Mus. Natn. Hung. 24:153. (R, S)
1930 *Eumenotes obscura*: Esaki, Ann. Mag. Nat. Hist. (10)5:630-631, fig. 3. (H, R, S)
1932 *Eumenotes obscura:* Esaki, Icon. Ins. Jap.: 1601, fig. 3161.
1935 *Eumenotes obscura:* Hoffmann, Lingnan Univ. Sci. Bull. 7:116. (R, S)
1935 *Eumenotes obscura*: Maki & Tamano, Oshima Br. Kagoshima Agric. Expt. Stn.: 1-29. (B)
1945 *Eumenotes obscura:* Blöte, Zool. Meded. 25:308. (R)
1948 *Eumenotes obscura:* Hoffmann, Lingnan Sci. J. 22(1-4):20. (R)
1951 *Eumenotes obscura*: Manna, Proc. Zool. Soc. Bengal 4(1-2):6, 44, 45-46, figs. 23 a-i. (C)
1956 *Eumenotes obscura:* Miller, Biol. Het. (1st ed.): 46. (habitat)
1957 *Eumenotes obscura:* Takara, Sci. Bull. Coll. Agric. Univ. Ryukyus 4:35, pl. 2 fig. 14. (H, R, S)
1959 *Eumenotes obscura:* Scudder, Trans. R. Ent. Soc. Lond. 111(14):414. (♀ Ge)
1960 *Eumenotes obscura:* Miyamoto & Hidaka, Kontyû 28(1):43. (R)
1962 *Eumenotes obscura*: Stichel, Ill. Bestimm. Wanz. (2)4(1):725. (S)
1962 *Eumenotes obscura:* Stichel, Verz. Pal. Hem.-Het. 4:205. (S)
1965 *Eumenotes obscura:* Miyamoto, Spec. Bull. Lep. Soc. Jap. 1:229. (R)
1968 *Eumenotes obscura:* Cobben, Evol. Trends Het. 1:116,118-119. (E, Ts)
1977 *Eumenotes obscura:* Hsiao *et al.*, Handb. Chinese Hem.-Het. 1:72, fig. 331, pl. 9, fig. 131. (K)
1986 *Eumenotes obscura:* Durai, Planti News 5(1):4, 5, 6. (R)
1987 *Eumenotes obscura*: Durai, Oriental Ins. 21:262-263. (D, H, R, S, T)
1987 *Eumenotes obscura:* Schaefer, Phytophaga 1:161. (H)
1988 *Eumenotes obscura:* Durai, Malays. Agric. J. 54(2):123-132. (B)
1989 *Eumenotes obscura:* Hirashima, Check List Jap. Ins.: 184. (L)
1989 *Eumenotes obscura:* Hua, List Ins. Zhongshan Univ.: 44.
1990 *Eumenotes obscura:* Lis, Ann. Upper Silesian Mus., Ent. 1:139, 143. (R)
1992 *Eumenotes obscura:* Lis, Ann. Upper Silesian Mus., Ent. 3:42. (R)
1993 *Eumenotes obscura:* Durai, Malays. Agric. J. 55(1):41-51. (B)

Distribution: Borneo, Buru Island, Celebes, India (Assam, Sikkim), Japan (Amami-Oshima Island, Okinawa, Tokara Island), Java, Malay Peninsula, Moluccas (Buru Island),Myanmar, Penang Island, Philippines, Sarawak, Sangihe Island, Sumatra, Taiwan.

Eumenotes pacao Esaki, 1922 - see *Eumenotes obscura*

ODONIA Bergroth, 1890 - see *Eumenotes*

Odonia truncatus (Walker, 1873) - see *Eumenotes obscura*

FOSSIL

DINIDORITES Cockerell, 1921

Type species: *Dinidorites margiformis* Cockerell, 1921, by original designation.
1921 *Dinidorites* Cockerell, Proc. U.S. Natn. Mus. 59(2358):34-35.

Dinidorites margiformis Cockerell, 1921
1921 *Dinidorites margiformis* Cockerell, Proc. U.S. Natn. Mus. 59(2358):35, pl. 8 fig. 10. (Eocene:Colorado)

SYNONYMS IN TAXA OUTSIDE OF DINIDORIDAE

ARADUS Fabricius, 1803

Aradus truncatus Walker, 1873 - see *Eumenotes obscura*

CIMEX Linnaeus, 1758

Cimex afer Drury, 1782 - see *Coridius janus*
Cimex bimaculatus Megerle von Muhlfeld, 1802 - *incertae sedis*
Cimex brevicornis Fabricius, 1787 - see *Megymenum brevicorne*
Cimex brunneus Thunberg, 1783 - see *Coridius brunneus*
Cimex funebris Fabricius, 1775 - see *Cyclopelta funebris*
Cimex janus Fabricius, 1775 - see *Coridius janus*
Cimex mactans Fabricius, 1798 - see *Dinidor mactabilis*
Cimex obscurior Turton, 1802 - see *Coridius brunneus*
Cimex obscurus Fabricius, 1794 - see *Coridius brunneus*
Cimex surinamensis Goeze, 1778 - see *Coridius janus*
Cimex surinamensis Gmelin, 1790 - see *Coridius janus*
Cimex viduatus Fabricius, 1794 - see *Coridius viduatus*

EDESSA Fabricius, 1803

Edessa janus (Fabricius, 1775) - see *Coridius janus*
Edessa mactans (Fabricius, 1798) - see *Dinidor mactabilis*
Edessa obscura (Fabricius, 1794) - see *Coridius brunneus*
Edessa viduata (Fabricius, 1794) - see *Coridius viduatus*

PENTATOMA Olivier, 1789

Pentatoma janus (Fabricius, 1775) - see *Coridius janus*
Pentatoma nigroviolacea Palisot de Beauvois, 1807 - see *Coridius viduatus*

TESSARATOMA Lepeletier & Serville, 1825

Tessaratoma obscura Lepeletier & Serville, 1825 - see *Cyclopelta obscura*

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ABBREVIATIONS AND TITLES FOR SERIALS IN REFERENCES

Abh. Naturf. Ges. Halle = Abhandlugen der Naturforchenden Gesellschaft zu Halle.
Abh. Senckenb. Naturf. Ges. = Abhandlungen hrsg. von Senckenbergischen der Naturforschenden Gesellschaft, Frankfurt a. M.
Acta Ent. Bohemoslovaca = Acta Entomologica Bohemoslovaca, Prague.
Acta Ent. Mus. Natn. Pragae = Acta Entomologica Musei Nationalis Pragae
Acta Ent. Sin. = Acta Entomologica Sinica, Beijing. (Peiping)
Acta Zool. Fenn. = Acta Zoologica Fennica, Helsinki.
Agric. Gaz. N.S.W. = Agricultural Gazette of New South Wales, Sydney.
Agric. Ins. Xizang = Agricultural Insects, Spiders, Plant Diseases and Weeds of Xizang.
An. Soc. Esp. Hist. Nat. = Anales de la Sociedad Española de Historia Natural. Madrid.
Ann. Acc. Asp. Nat. Napoli = Annali dell'Accademia delgi Aspirati Naturalist, Napoli.
Ann. Ent. Fenn. = Annales Entomologici Fennici.
Ann. Gembloux = Annales de l'Institut Agronomique et des Stations de Recherches de Gembloux.
Ann. Mag. Nat. Hist. = Annals and Magazine of Natural History, London.
Ann. Mus. Civ. Storia Nat. Genova = Annali del Museo Civico di Storia Naturale di Genova.
Ann. Mus. Civ. Storia Nat. Giacomo Doria = Annali del Museo Civico di Storia Naturale Giacomo Doria. Genova.
Ann. Mus. Congo Belge Zool. = Annales du Musée Royal du Congo Belge, Zoologie, Bruxelles, Tervuren.
Ann. Mus. Natn. Hung. = Annales Historico-Naturales Musei Nationalis Hungarici, Budapest.
Ann. Naturh. Mus. Wien = Annalen des K.K. Naturhistorischen Hofmuseums. Wien.
Ann. Soc. Agric. Lyon = Annales de la Société d'Agriculture, Sciences et Industries de Lyon.
Ann. Soc. Ent. Belg. = Annales de la Société Entomologique de Belgique, Bruxelles.
Ann. Soc. Ent. Fr. = Annales de la Société Entomologique de France, Paris.
Ann. S. Afr. Mus. = Annals of the South African Museum, Cape Town.
Ann. Transv. Mus. = Annals of the Transvaal Museum, Pretoria.
Ann. Univ. Abidjan = Annales de l'Universite d'Abidjan, ser E.
Ann. Upper Silesian Mus., Ent. = Annals of the Upper Silesian Museum, Entomology.
Ann. Zool. Soc. Vanamo = Annales Zoologici Societatis Zoologicae-Botanicae Fennicae, Vananmo.
Arch. Naturges. Berlin. = Archiv für Naturgeschichte, Berlin.
Arch. Zool. Ital. = Archivio Zoologico Italiano, Napoli, later Torino.
Ark. Zool. = Arkiv för Zoologie, Stockholm.
Beih. Jb. Hamb. Wiss. Anst. = Beiheft zum Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten, Hamburg. (until 1917, Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten)
Beitr. Ent. = Beitrage zur Entomologie. Berlin.
Ber. Akad. Wiss. = Berichte Uber die zur Bekanntmachung geeingneten Verhandlungen der Konigl. Preuss. Akademie der Wissenschaften zu Berlin.
Biol. Cent. Am. Rh. = Biologia Centrali-Americana, Rhynchota Heteroptera. Godman, F. D. and O. Salvin (eds.).
Bol. Soc. Port. Cienc. Nat. = Boletim da Sociedade Portuguesa de Ciêcias Naturais, Lisbon.
Bull. Agric. Dept. Madras = Bulletin. Agricultural Department, Madras.
Bull. Agric. Res. Inst. Pusa. = Bulletin. Agricultrual Research Institute, Pusa.
Bull. Am. Mus. Nat. Hist. = Bulletin of the Museum of Natural History, New York.
Bull. Brit. Mus. Nat. Hist., Ent. = Bulletin of the British Museum of Natural History, Entomology Series, London.
Bull. Fan. Mem. Inst. Biol. = Bulletin of the Fan Memorial Institute of Biology, Beijing. (Peiping).
Bull. I.F.A.N. = Bulletin de l'Institut Français d'Afrique Noire, Dakar.
Bull. Inst. R. Sci. Nat. Belg. = Bulletin de l'Institut Royal d'Histoire Naturelles de Belgique, Bruxelles.
Bull. Mus. Natn. Hist. Nat. = Bulletin du Museum National d'Histoire Naturelle, Paris.
Bull. Soc. Ent. Egypte = Bulletin de la Société Entomologique d'Egypte. Cairo.
Bull Soc. Ent. Fr. = Bulletin de la Société Entomologique de France. Paris
Bull. Soc. Nat. Moscou. = Bulletin de la Société Imperiale des Naturalistes de Moscou.
Café-Cacao-Thé = Supplemént à l'Agronomie Tropicale Nogent-sur-Marne.
Can. Ent. = Canadian Entomologist, Ottawa.
Caryologia = Giornale de Citologia, Citosistematica e Citogenetica. Torino.

CIS Tokyo = Chromosome Information Service, Tokyo.
Contr. Shanghai Inst. Ent. = Contributions of the Shanghai Institute of Entomology.
Denkschr. Med. Naturw. Ges. Jena = Denkschriften der Medizinisch Naturwissenschaftlichen Gesellschaft zu Jena.
Dept. Agric. S.S. & F.M.S. Sci. Ser. = Department of Agriculture Straits Settlements and Federated Malayan States Science Series.
Dt. Ent. Z. = Deutsche Entomologische Zeitschrift, Berlin.
Ent. Arb. Mus. Gg. Frey = Entomologische Arbieten aus dem Museum Georg Frey, Munchen.
Ent. Exp. & Appl. = Entomologia Experimentalis et Applicata, Amsterdam.
Ent. Medd. = Entomologiske Meddelelser, Copenhagen.
Ent. Mo. Mag. = Entomologists Monthly Magazine, London.
Ent. Nachr. Berlin = Entomologisches Nachrichten, Berlin.
Ent. Rdsch. = Entomologische Rundschau. Stuttgart.
Ent. Soc. Karachi = Entomological Society of Karachi, Pakistan.
Ent. Tidskr. = Entomologisk Tidskrift, Stockholm.
Ent. World = Entomological World, Tokyo.
Entomologist. = Entomologist, London.
Entomotaxonomia = Entomotaxonomia.
Evolution = International Journal of Organic Evolution. Lancaster, Pa.
Extra Rep. Agric. Exp. Sta. Formosa = Extra Report of the Agricultural Experiment Station, Formosa.
Folia Biologica = Folia Biologica. Krakow.
Fragm. Ent. = Fragmenta Entomologica, Rome.
Ghana J. Agric. Sci. = Ghana Journal of Agricultural Science. Accra.
Iheringia (Zool.) = Iheringia, Museu Rio-Grandense de Ciências Naturais, Pôrto Alegre. Serie Zoologica.
Ill. Nat. Hist. Surv. Bull. = Bulletin of the Illinois State Laboratory of Natural History, Bloomfield.
Indian For. Rec. = Indian Forest Record. Delhi.
Indian Ins. Life = Indian Insect Life
Indian J. Med. Res. = Indian Journal of Medical Research. Calcutta.
Init. Afr. = Initiations Africaines, Dakar.
Insecutor Inscit. Menstr. = Insecutor Inscitae Menstruus. Washington.
Insects Micronesia = Insects of Micronesia. Honolulu.
Insect Sci. Application = Insect Science and Its Application, London.
Islamabad J. Sci. = Islamabad Journal of Science.
J. Agric. Trop. Bot. Appl. = Journal d'Agriculture Tropicale et de Botanique Appliquée. Paris.
J. Appl. Ent. = Journal of Applied Entomology, Hamburg and Berlin.
J. Australian Ent. Soc. = Journal of the Australian Entomological Society. Sydney.
J. Asiat. Soc. Beng. = Journal of the Asiatic Society of Bengal, Calcutta.
J. Bombay Nat. Hist. Soc. = Journal of the Bombay Natural History Society.
J.F.M.S. Mus. = Journal of the Federated Malay States Museums, Kuala Lumpur.
J. Ghuizhou Agric. Coll. = Journal of Ghuizhou Agricultural College.
J. Karnatak Univ. Sci. = Journal of the Karnatak University. Science.
J. Linn. Soc. London = Journal of the Linnean Society of London.
J. Pan-Pac. Res. Inst. = Journal of the Pan-Pacific Research Institute, Honolulu.
J. Sci. Lisboa = Jornel de Sciencias Mathematicas, Fysicas e Naturaes. Lisboa.
Jb. Hamb. Wiss. Anst. = Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten, Hamburg.
Kontyû = Kontyû. Entomological Society of Japan. Tokyo.
Lingnan Sci. J. = Lingnan Science Journal, Canton.
Lingnan Univ. Sci. Bull. = Lingnan University Science Bulletin, Canton.
Mag. Ent. = Magazine der Entomologie. Germar.
Malayan Agric. J. = Malayan Agricultural Journal, Kuala Lumpur.
Mar. Biol. Assoc. China = Marine Biology Association of China
Mem. Am. Ent. Inst. = Memoirs American Entomological Institute. Ann Arbor, Michigan.
Mem. I.F.A.N. = Mémoires de l'Institut Français d'Afrique Noire, Dakar.
Mem. Inst. Egypte = Mémoires de l'Institute d'Egypt. Le Caire.
Mem. Inst. Sci. Madagascar = Mémoires de l'Institut Scientifique de Madagascar, Tananarive.

Mem. Mus. Hist. Nat. Belg. = Mémoires du Musée Royal d'Histoire Naturelle de Belgique, Bruxelles.
Mem. Mus. Zool. Univ. Coimbra = Memorias e Estudos do Museu Zoologico da Universidade de Coimbra.
Mém. Soc. Ent. Belg. = Mémories de la Société Entomologique de Belgique, Bruxelles.
Mem. Soc. Españ. Hist. Nat. = Memorias de la Real Sociedad Españ ol de Historia Natural, Madrid.
Mem. Soc. Ital. Modena = Memorie di Matematica e di Fisica della Societa italiana delle Scienze residente in Modena.
Mem. Soc. Sci. Nat. Maroc. = Mémoires de la Société de Sciences Naturelles du Maroc, Paris.
Mitt. Nat. Mus. Hamb. = Mitteilungen aus dem Naturhistorischen Museum in Hamburg (Published in Jahrbuch der Hamburgischen Wissenschaftlichen Anstalten).
Mushi = Mushi. Fukuoka Entomological Society.
Monit. Zool. Ital. Suppl. = Monitore Zoologico Italiano, supplement (Atti della SocietA Italiana di Anatomia), Firenze.
Nat. Tijd. Ned. Ind. = Natuurkundig Tijdschrift voor Nederlandsch-Indie. Batavia
Nom. Zool. Hem. = Nomenclator Zoologicus etc. Fascicle: Nomina Systematica Generum Hemipterorum
Notes Leyden Mus. = Notes from the Leyden Museum, Leyden.
Öfv. Finska Vet. Soc. Förh. = Öfversigt af Finska Vetenskaps-Societetens Förhandlingar, Helsinki.
Öfv. Vet.-Akad. Förh. = Öfversigt af Kongliga Svenska Vetenskaps-Akademiens Förhandlingar, Stockholm.
Oriental Ins. = Oriental Insects. Delhi.
Pakistan J. Zool. = Pakistan Journal of Zoology. Karachi.
Peking Nat. Hist. Bull. = Peking Natural History Bulletin.
Philipp. J. Sci. = Philippine Journal of Science, Manila.
Phytophaga = Phytopahga. Oxford.
Proc. 10th Intern. Congr. Ent. = Proceedings of the 10th International Congress of Entomology, Montreal.
Proc. Acad. Nat. Sci. Philad. = Proceedings of the Academy of Natural Sciences of Philadelphia.
Proc. Ann. Tall. Timb. Fire Ecol. Conf. = Proceedings of the Annual Tall Timber Fire Ecology Conference. Abidjan.
Proc. Ent. Soc. Lond. = Proceedings of the Entomological Society of London (continued after 1933 as Proceedings of the Royal Entomological Society of London).
Proc. Pakistan Congr. Zool. = Proceedings of the Pakistan Congress of Zoology.
Proc. U.S. Natn. Mus. = Proceedings of the United States National Museum. Washington.
Proc. Zool. Soc. Calcutta = Proceedings of the Zoological Society, Calcutta.
Proc. Zool. Soc. Lond. = Proceedings of the Zoological Society of London.
Publ. Cult. Comp. Diam. Angola = Publicações Culturais da Companhia de Diamantes de Angola, Lisbon.
Rec. Indian Mus. = Record of the Indian Museum, Calcutta.
Rec. Zool. Surv. India Occ. Pap. = Record of the Zoological Survey of India, Occasional Papers, Delhi.
Rep. Ceylon Dept. Agric. = Report of the Ceylon Department of Agriculture. Colombo.
Rev. Bras. Biol. = Revista Brasileira de Biologia. Rio de Janeiro.
Rev. Ent. = Revue d'Entomologie. Caen.
Rev. Mag. Zool. = Revue et Magasin de Zoologie Pure et Appliqueé. Paris.
Rev. Zool. = Revue Zoologique. Paris.
Rev. Zool. Afr. = Revue de Zoologie Africaine, Bruxelles.
Rev. Zool. Bot. Afr. = Revue de Zoologie et Botanique Africaines, Bruxelles.
Sber. Ges. Naturf. Freunde Berl. = Sitzungberichte der Geselischaft Naturforschender Freunde, Berlin.
Sci. Bull. Coll. Agric. Univ. Ryukyus = Science Bulletin of the College of Agriculture, University of the Ryukyus. Okinawa.
Sieboldia = Sieboldia, Kyushi University. Fukuoka.
Silb. Rev. Ent. = Revue Entomologique (Silbermann).
Spec. Bull. Lep. Soc. Jap. = Special Bulletin of the Lepidopterological Society of Japan, Osaka.
Stett. Ent. Ztg. = Stettiner Entomologische Zeitung, Stettin.
Sv. Vet.-Akad. Handl. = Kongliga Svenska Vetenskaps-Akademiens Handlingar, Stockholm.
Term. Füzet. = Termeszetrajzi Fuzetek, Budapest.
Trans. Ent. Soc. Lond. = Transactions of the Entomological Society of London (continued after 1933 as Transactions of the Royal Entomological Society of London).
Trans. Linn. Soc. Lond. = Transactions of the Linnean Society of London.
Trans. Shikoku Ent. Soc. = Transactions of the Shikoku Entomological Society. Matsuyama.

Trans. Zool. Soc. Lond. = Transactions of the Zoological Society of London.
Trop. Agric. Peradeniya = Tropical Agriculturalist and Magazine of the Ceylon Agricultural Society. Peradeniya.
USDA Agric. Handb. = U.S.D.A. Agricultural Handbook.
USDA Ins. Pest Surv. Bull. = U.S.D.A. Bureau of Entomology, Insect Pest Survey Bulletin.
Verh. Zool. Bot. Ges. = Verhandlungen der K.K. Zoologisch-Botanischen Gesellschaft in Wien.
Wellc. Lab. Rep. = Wellcome Research Laboratories Report. Gordon Memorial College, Kahrtoum.
Wien. Ent. Ztg. = Wiener Entomologische Zeitung, Vienna.
Zool. Anz. = Zoologischer Anzeiger. Leipzig.
Zool. J. Lond. = Zoological Journal. London.
Zool. Meded. = Zoologische Mededeelingen, Leiden.
Zool. Pol. = Zoologica Poloniae. Wroclaw.

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PAPUA NEW GUINEA - AN ARCHIPELAGIC NATION UNDER ENVIRONMENTAL STRESS

M. B. K. Darkoh[1]

ABSTRACT

Papua New Guinea (PNG), an archipelagic nation with abundant natural resources and comparatively pristine environment is under threat. A major force behind this threat appears to be the socio-economic transformation produced by development. The economic and human activities of mining, logging and slash and burn agriculture are increasingly having a deleterious effect on the natural environment. The challenge facing the country is how to achieve the required social and economic development while ensuring at the same time that the natural resources are utilised and managed sustainably and the environment is protected. The paper highlights the threats to sustainable development and how to bring about desirable changes for sound management of resources and the environment.

Keywords: environmental sustainability, resource utilization, land degradation, national sustainable development strategy (NSDS).

Introduction

Lying barely south of the Equator, to the north of Australia, Papua New Guinea (PNG) is an archipelagic nation of some 600 islands scattered over 2 million km² of the South Pacific Ocean. Its mainland (New Guinea) in the west is a sub-continental island shared with Irian Jaya, which is a part of Indonesia. This mainland comprises 85 per cent of the country. Together with the provincial islands, the total land area is 463,000 km².The country's 1990 total population was 3.8, million growing at the rate of 2.3 per cent per annum. In 1995, the population was estimated at 4.3 million.

Geologically, the country is complex and lies upon at least three of the earth's main tectonic plates (Australian, Pacific and Solomon). Physiographically, the mainland is similar to Madagascar, with a massive rugged cordillera in the central core of the island, interspersed with wide intermontane valleys at altitudes of 1500 -1800 metres, flanked by low-lying coastal plains drained by numerous rivers. The chains of islands making up Manus, New Britain, New Ireland and North Solomons are characterised by steep rocky coastlines on tectonically active blocks, volcanic areas, rising coral reefs and minor depositional areas. In addition there are numerous reef-based low islands, and raised reef and atoll islands. Because of its latitudinal position, the country experiences a tropical climate with moderately high temperatures everywhere and little seasonal variability, except in the mountainous interior where due to the relief, temperatures are lower, giving rise to more equable climatic regimes. PNG is generally wet and humid except for pockets of semi-arid lands in the south west of Western Province, the Markham Valley, the lower Eastern Highlands and the area around the National Capital (Port Moresby).

PNG is also located at the crossroads of several major biogeographic provinces. Tropical rainforest covers most of the country. The remainder is covered mainly by savanna, grasslands and swamps. These factors have contributed to the country's rich terrestial and marine biodiversity. This biological and physical diversity is equally matched by the country's cultural diversity and this is reflected in the fact that there are well over 700 distinct language groups in the country, some spoken by as few as 20 people.

PNG's rich cultural heritage extends over at least 50,000 years with a history of agriculture dating to at least 9,000 years ago. The ancestral agricultural and hunter-gatherer societies especially in the high-

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land valleys have had a significant impact on the environment, progressively transforming large areas of forest into fire climax grasslands over the last few thousand years. Allen (1988) has pointed out the severe degradation caused by prehistoric agricultural land use in Enga and the Southern Highland Provinces. However, it is known that local people in several parts of PNG also practised traditional resource conservation.

PNG has a highly rich and divesified natural resource base. The country has been described as "a mountain of gold floating in a sea of oil" (UNISEARCH 1992). Besides gold and petroleum, the country has vast reserves of copper, silver, nickel, gas and timber. Until recently, the economy depended on copper, coffee, cocoa and copra. Since the mid-1980s, copper has been overtaken by gold, petroleum and timber as the leading export items. However, agriculture is still the mainstay of the economy with about 80 per cent of the population at least partially dependent on subsistence farming. Cash crops like coffee, cocoa, coconuts, rubber, oil palm and tea are grown in small holdings and plantations. About three-quarters of the country's land is forested, with some 10,000 species of flora, including as many as 1,500 tree species of which some 240 species are currently harvested for export.

The constraints to development and broad-based growth stem partly from the rugged mountain terrain and the spread of lands which divide the country into generally small separate regions among which population and production centres are widely dispersed (UNISEARCH 1992). The economy is fragmented and concentrated geographically around cores of activity, with few domestic linkages and with limitations of infrastructure and services.

Although much of PNG's natural environment is still comparatively pristine, the sustainability of the environment is under threat (Darkoh 1995). One of the forces behind this emerging "environmental crisis" appears to be the socio-economic transformation produced by development. The imperatives of modernisation, economic growth, resource utilisation, international trade, increasing consumption and population growth are putting more and more pressure on land and other natural resources in PNG. The challenge facing the country is how to achieve the required social and economic development while ensuring at the same time that the natural resources are managed sustainably and the environment is protected.

The Reality of Resource Development

It would seem from what has been outlined above that the greater part of the problem of achieving sustainable development in PNG relates to the overriding issue of achieving economic growth which arises out of the exploitation of natural resources and the associated and controlling structures which frequently operate as constraints to the achievement of long-term sustainable practices. This section highlights some of the major impacts of economic development on the environment in PNG. The aim is to outline the major threats to sustainable development and the underlying need for sound management to provide a firm foundation for sustainable development.

Minerals and petroleum are at present the largest export income earners in PNG and their importance is likely to grow in the future. In 1993, oil, gold and copper accounted for 72.4 percent of total exports and this contribution is projected to rise with the opening of the new gold mine at Lihir.

Mining and associated infrastructure development are having increasingly deleterious impact on environment in PNG. The greatest impact of mines stems from their current waste disposal practices. The mining activities of Ok Tedi, Misima, Hidden Valley, Porgera, Mt Kare, Wau, Mt Victor and Lakekamu (Table 1 & Fig. 1) use river and ocean dumping as the main means of disposing of mine wastes in PNG (Hughes and Sullivan 1989; Hayes and Mowbray 1994).

During the last one and a half decades, some 400 million tons of tailings have been dumped into the Empress Augusta Bay from the Bougainville copper mine (Asia Development Bank 1992). The tailings are estimated to have formed 7sq km delta and have affected 100 sq km of sea floor. The Jaba River which carries the tailings is biologically dead and fish populations are reduced in its tributaries.

The potential chemical and biological impact of the gigantic OK Tedi gold and copper mine on the Fly River ecosystem has been extensively studied (Jackson 1982; Jackson *et al.* 1995; Rosenbaun and Krockenberger 1993; Eagle 1994). Dissolved manganese copper, particulate copper, and suspended sediment levels remain significantly higher than the background levels 190km below the junction of the OK Tedi and Fly Rivers. Some 600km further, the Strickland River adds waste to the Fly River system from a new gold mine at Porgera. The waste flows

Figure 1. **Major mine sites of Papua New Guinea.**

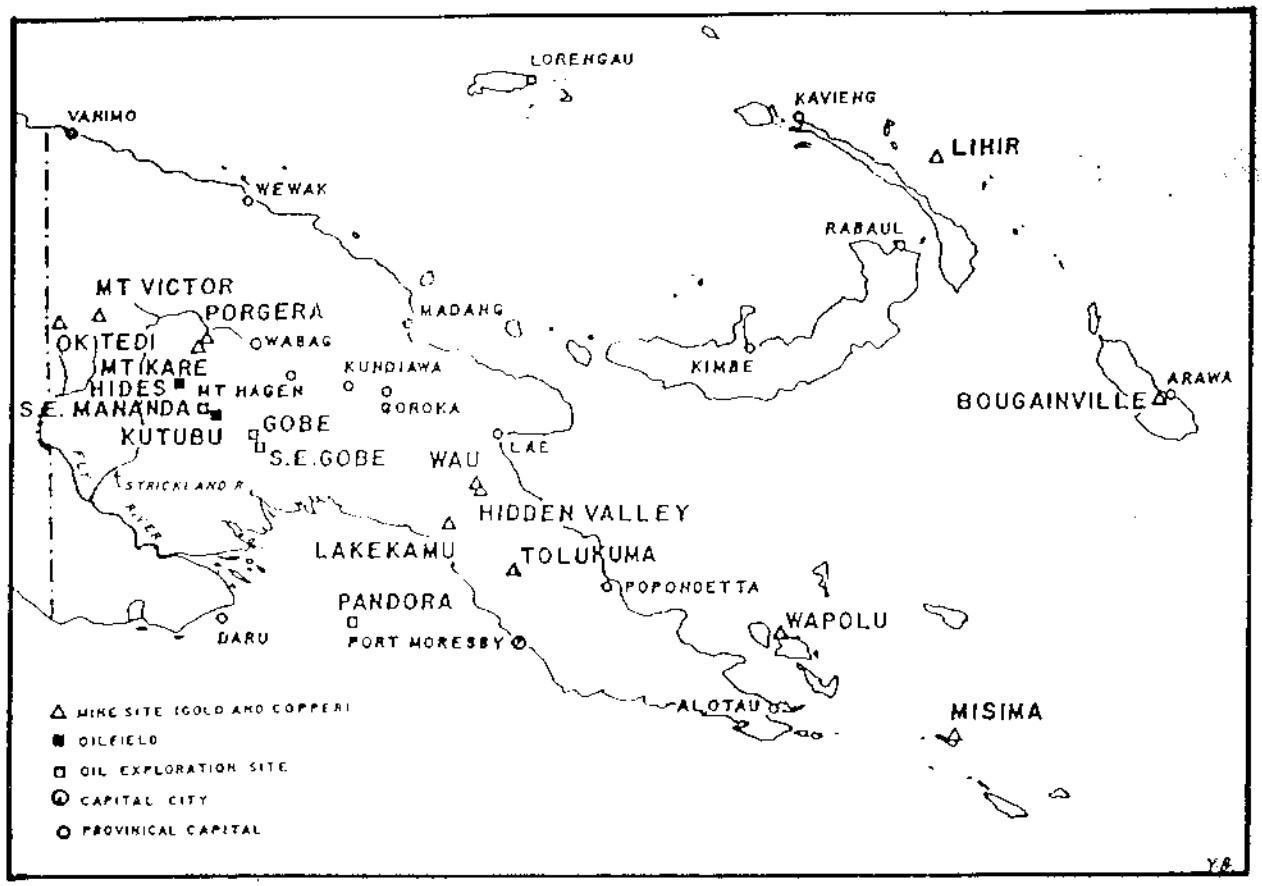


Figure 2. **Timber right purchase areas and local forest areas.** Source: **Department of Forestry, 1988.**

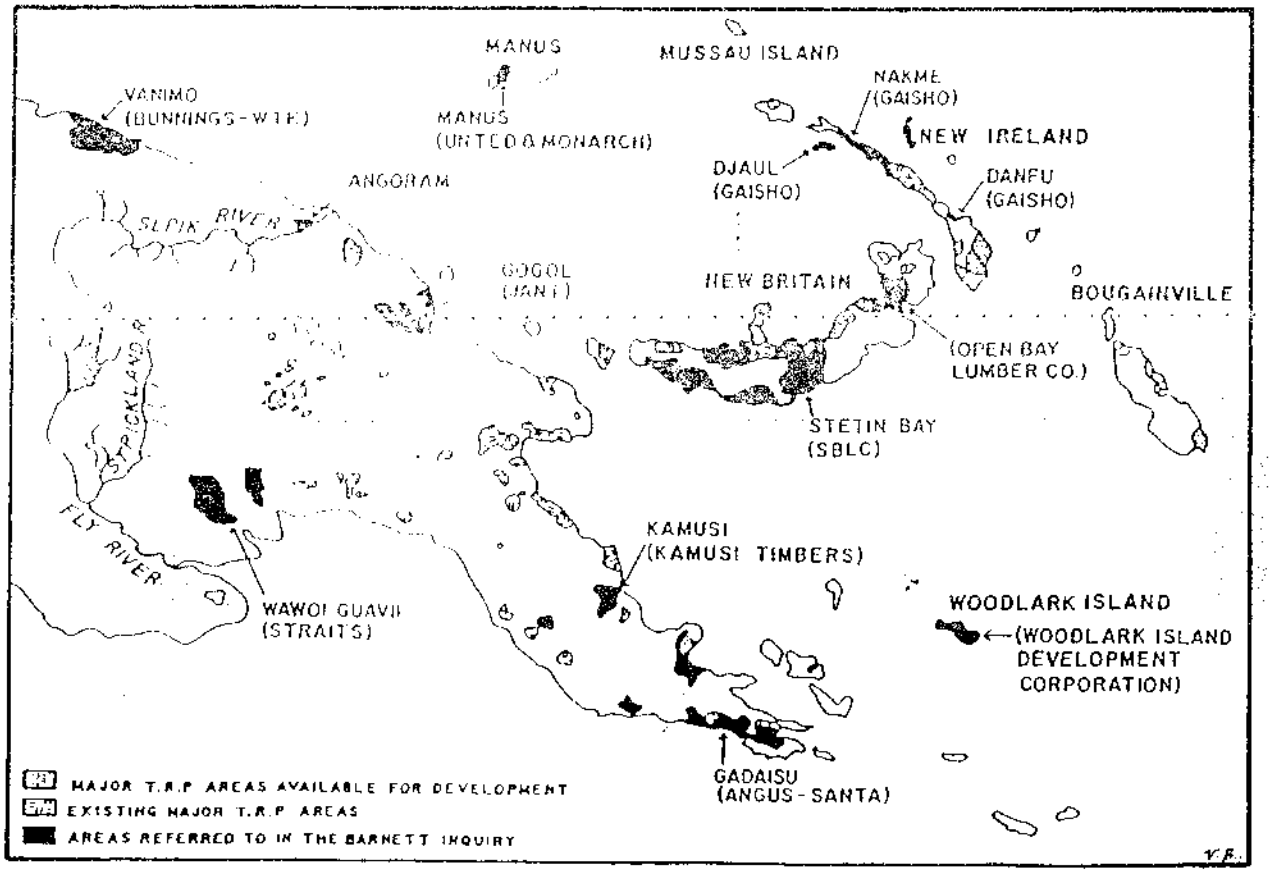


Table 1. **Disposal of tailings from mines in Papua New Guinea**

Mine	Tailings produced (tonnes per day)	Mine life (in years)	Disposal method
Bougainville*	35,000	30	Into river
Ok Tedi	80,000	30	Into river. (More than10,000 t/ day of fine waste rock also enters river
Misima	15,000	10	Deep ocean via submarine pipeline. (10,000 t/day also dumped directly into ocean)
Hidden Valley	10,000	10	Storage in tailing dam
Porgera	9,000	18	Into river
Mt Kare	300	3	Into river
Wau	1,400	9	Into river
Mt Victor	400	2	Storage in sealed limestone sink hole
Lakekamu	0	15	Virtually all rock wastes contained within dredging area

*Ceased operations in 1989 due to civil war, partly over environmental damage

Source: Hughes and Sullivan (1989)

another 385 km to the Gulf of Papua.

All gold and copper mining operations in PNG are on an open cast basis. It is less the total area of forest cleared that warrants concern than the absolute devastation caused at these sites. Most gold operations involve high pressure water blasting of the mountain side and then dredging the rivers below.

The resultant visible scars produce strong responses from the people. The miners have stripped the whole mountain side down to bare earth and deliberately eroded them inorder to wash the gold they hope is there into the river bed where they can sluice for it. What is surprising is that despite the conflict arising from the Boungainville Copper Mine and the A$4 billion compensation claim from landowners at the OK Tedi gold mine, the Government of Papua New Guinea has given its approval to ocean dumping for the new Lihir gold mine.

The environmental impacts of oil extraction are so far minimal but it may perhaps be too early to speculate on the long-term effects. In PNG in general, there appears to be a great impetus to exploit natural resources without regard to longer-term damage.

Environmental and social impacts of logging (Fig. 2) operation in Papua New Guinea have been well-documented in the 1989 Barnett Inquiry Report (Barnett 1989), in which no company was found to have complied with the environmental standards required of them by the Department of Environment

Table 2. **Estimated annual rates of forest disturbance or destruction ca 1990**

Activity	Type	Rate (ha per year)
Logging		
Clear felling	Deforestation	6,000
Selective	Mainly disturbance	70,000
Agriculture		
Subsistence	Mainly disturbance	200,000
Commercial	Deforestation	10,000
Other activities		
Mining	Mainly deforestation	1,000
Firewood	Mainly disturbance	2,000
Infrastructure	Deforestation	2,000
Resettlement	Mainly deforestation	5,000
Total		296,000

*Some of this clearance may be of secondary forest or grasslands.

Source: Papua New Guinea National Report, Unisearch 1992, p.44

and Conservation (and the relevant Environmental Planning Act 1978). The Report found that the forests were being mined for short-term gains rather than being managed on a sustained yield basis.

PNG is one of the seventeen most important countries in the world listed by the FAO that still have vast areas of their landmasses forested (FAO. 1992). PNG's forest estate covers over 36 million hectares (approximately 78 per cent of the country's total land area of 46.5 million hectares.) The World Bank (1990) estimates that the operable (commercial) forest area is 15 million hectares and the inoperable area 20 million hectares. It further estimates that the net annual deforestation rate averaged 22000 hectares per annum during 1981 - 85 while logging operations covered 70,000 hectares per annum over the same period. Table 2 gives the annual rates of forest disturbance or destruction in PNG.

The logging industry in PNG is controlled by foreign multinationals, with Malaysian, Japanese, Korean, Australian, Singaporean and Philippino interests represented among others. However, Japanese and Malaysian multinationals are dominant. In 1990, companies which were known to be Japanese - owned or Japanese - controlled held logging permits over 1 million ha - about half of the area then being logged.One Malaysian family-owned logging company, Rimbunan Hijau (Green Forest), based in Sarawak, now controls 80 percent of all PNG log exports.

Logging in Papua New Guinea (Fig 2) has been described as an operation that involves removal of all currently saleable timber, leaving a relic stand consisting of unsaleable timber species, defectives and small trees (Nadarajah 1993). Such stands do not tend to regenerate adequately for further cutting within an acceptable period of time and are usually converted to agricultural land by customary landowners (Sargent and Burgess 1988).

The logging practices in PNG are not sensitive to the forest ecology, thus the chances of natural regeneration are generally reduced or impeded (Nadarajah 1994). The majority of loggers do not maintain the required 50 metre buffers along rivers; often log slopes that are greater than 30 degrees, damage river and creek banks, and block and pollute rivers and creeks with debris. Felling direction of

trees is not taken into consideration in the preharvesting activities of loggers; thus felling causes extensive damage to the residual stocks. Extensive damage is also caused by the wide snig tracks and roads along which logs are dragged out.

Environmental clauses in the logging permits are usually the bare minimum believed to ensure a second harvest of the forest and are quite inadequate for maintaining the biological integrity of the forests (Marshall 1990). The Barnett Report found that any area of the forest that is rich in commercial species is effectively clearfelled with little heed paid to the importance of maintaining even those values that are so important to the landowners - in particular stocks of animals and birds for hunting and trees used by the local people for canoe building.The Report emphasised that environmental clauses were breached extensively, which goes to show that logging activities in PNG are inadequately monitored in terms of their logging practices.
The Barnett Report shows graphically the role played by graft in the logging business. It found that the problem was particularly severe in New Ireland, where "bribery, corruption and the buying of support have become so widespread that they have become a major social sickness" (Barnett Interim Report No.4, Vol 1: 67). Most of the logging companies used transfer pricing as a mechanism for secretly transfering profits off-shore. Between 1986 and 1987, transfer pricing on log sales averaged US$5 -10 per cubic metre, causing the loss of up to US$27.5 million in foreign currency earnings. In the same period, the government lost up to US$4.27 million in company tax on the hidden profits (Marshall 1990).

It is apparent that government and landowners in PNG are forsaking economic rents to which they are entitled to logging contractors (World Bank 1995). The Barnett report found that logging companies are not interested in conservation: their aim is to make as much money as quickly as possible and they will go to any lengths to achieve this. "The industry is corrupt and corrupting" (Marshall 1990).

Forestry operations, particularly excessive logging, are a threat to the subsistence of rural residents through deforestation, causing soil erosion and contaminated water supplies as well as loss of biodiversity and non-timber forest resources. Other environmental impacts include loss of nutrients, disturbance of nutrient recycling process, changes in soil physical properties, drainage disturbance, reduction in the rate of regeneration process and significant changes in soil temperature light intensity. Saulei's (1990, 1991) research in the Gogol TRP clearly demonstrates some of these effects.

The current forest revenue and concession regime does not seem to protect either the ecosystem or the short-term financial interests of the landowners. What happens to the land after the loggers finish with it, appears to be nobody's concern (Nadarajah 1995). The current trend of establishing oil palm plantations on the deforested land is entirely unplanned and ad hoc. The use of agricultural chemicals in oil palm plantations is common. However, no studies yet have estimated the impacts of such agricultural activities on the environment.

At present, little information exists on the impact of firewood collection on deforestation in PNG. Most villagers and fuelwood collectors supplying towns or villages generally do not travel long distances to collect their woodfuel. Charcoal making is less known and consequently not common in PNG. It is therefore possible that fuelwood collection in general has had negligible impact on forest sustainability in PNG. The exceptions, of course, could be the high density areas such as the Highlands where anthropogenic disturbances have led to conversion of forests into grasslands. Firewood is a significant fuel in urban centres but surveys in Port Moresby have found that there is a decline in use intensity (Hedger and Levett (1991).

It would appear at present that environmental degradation is not caused on any large scale by pressure of population in PNG since total population (4.3 million), its growth rate (2.3 per cent) and density (8 persons per km 2), are comparatively low by African and Asian standards and also since the level of urbanisation (15 per cent) is relatively low. Neverthless, there is distinct evidence that where population densities are relatively high, as in the highlands (which comprise only 20% of the total land but 65% of the population), the practice of subsistence agriculture causes environmental degradation.

Traditional agriculture in PNG is based on the rotational bush fallow variant of the shifting cultivation system which is highly productive and sustainable, provided that population pressure does not lead to the shortening of fallow cycles. However, the intensification of commercialisation of agriculture, coupled with increasing population pressure in some parts of PNG (e.g. the Highlands, the Gazelle Peninsula in East New Britain and Losuia Island in Milne Bay Province), are threats to the environment and long-term sustainability of the PNG agricultural production systems.

Evidence seems to point that localised population pressure appears to be one of the factors leading to the gradual extension of slash and burn agriculture into forested areas, creating most risk of environmental degradation with the destruction of trees and seed sources. There is little doubt that shifting cultivation has been and still is one of the chief causes of deforestation in PNG. The Department of Forest (1991) has estimated that some 6 million hectares are used at any one time and altogether in the gardening fallow cycle in PNG. Most of the 200,000 hectares or so of forested land brought into subsistence cultivation each year is through conversion of secondary forest on a rotation system, but it is reasonable to assume that as much as 10 per cent of this, i.e. 20,000 hectares, is primary forest (UNISEARCH, 1992).

The land which is most at risk of land degradation is that which is cleared and subsequently utilised continually or where the period of fallow is inadequate for the recovery of its previous condition. Shortening of fallow cycles and frequent burn-offs have led to the conversion of primeval forests to secondary forests and ultimately to bush and grasslands in the upland areas. According to the Department of Forests (1991), shifting agriculture is principially responsible for the present day occurrence of anthropogenic grasslands over an area of 3.5 to 4.0 million ha in PNG.

More frequently, soil erosion is the result of land clearance by shifting cultivation. As illustrated by the example of Chimbu Province, traditional slash and burn practices in the upland areas of PNG can leave steep slopes open to heavy rains, spurring landslides, slumps, rapid loss of soil, decrease in fertility and land productivity (Humphries, 1984).

In the coastal areas, destruction of mangrove areas is a matter of concern while further inland in the area around the capital city, Port Moresby, shifting agriculture in the past has no doubt extended the eucalyptus savannas; it has replaced the mixed semi-deciduous **Bombax, Aleurites** and **Gyrocarpus** seasonal forest, although remnants of these trees still cling to the water courses. In the last two decades slash and burn agriculture and tree cutting have also left visible scars on the landscape of the Port Moresby hills. Eden (1993) has described the ecological aspects of traditional swidden cultivation in the coastal plain of southwest PNG, and Levett (1992) has made a comparative study of gardening systems in two mountainous areas in the Gulf Province.

Other factors affecting sustainability of resources in the coastal areas include "pesticide (DDT) and dynamite fishing" and commercial fishing for high value sedentary species. There is however, little reliable data on which one can make an assessment of the extent of damage caused to coastal resources. Tourism is underdeveloped in PNG and consequently has not had much impact on coastal beaches and corals.

Informal, unplanned peri-urban development and squatter settlements are some of the most visible and pressing urban and environmental issues in the coastal areas of PNG. In Lae, peri-urban development has occured on steep, unstable slopes, and erosion, landslides and flooding have become a serious problem. Around Port Moresby, peri-urban development and garbage disposal are acute problems.

As yet, there is no comprehensive data-base on PNG's environment. However, in terms of land use, some remarkable progress has been made recently with the establishment of the Papua New Guinea Information System (PNGRIS). To date, with financial and technical assistance from AusAid and CSIRO, PNGRIS has compiled a fairly comprehensive set of land use data including an update of the 1990 Population Census in various software programmes. This information from PNGRIS does not cover the whole country and there is presently no nationwide monitoring and data collection on key environmental variables. However, a land management project led by Bryant Allen of Australian National University is currently involved in mapping, describing and assessing the extent of environmental stress in all the varied agricultural systems of PNG.

To obtain an overall picture of the impacts of the various human activities on the natural environment, Hayes and Mowbray (1994) have provided a qualitative assessment (Table 3). This Table shows that forestry and mining have the greatest impact and that the effects of population and agriculture rank lower. The greatest impact would appear to be on cultural values followed by forest habitat and water quality.

PNG's National Sustainable Development Strategy (NSDS)

In recent years increasing attention in the country appears to be focusing on the impacts of economic development and the issue of creating an environmentally sustainable economy and society.

Table 3. **Impact of human activities on environmental quality in Papua New Guinea: a synopsis.**

	Human activities associated with production and consumption							
Effects on	**Agriculture**	**Forestry**	**Fishery**	**Mining**	**Energy**	**Transport**	**Industrial pollution**	**Population density**
Water	1	1	1	1	1	1	1	1
-Fresh	2	3	1	4	2	2	2	2
-Marine	2	3	2	4	1	2	2	2
Land/soil	2	3	1	3	2	2	1	2
Air	1	1	1	1	1	2	2	1
Biota/habitats	1	1	1	1	1	1	1	1
-Marine	2	3	2	2	2	1	2	2
-Forest	2	4	1	3	2	3	1	2
Cultural Values	2	5	2	5	2	2	4	3

Source: After Hayes and Mowbray 1994.

No significant impact	1
Some local impact	2
Some widespread impact	3
Considerable local impact	4
Considerable widespread impact	5

The PNG Government in cooperation with non-governmental organisations has embarked on a programme of concurrent and interconnected activities for planning for sustainable development. Nadarajah (1995) has traced the history and reviewed some of the Government initiatives towards planning for sustainable development in PNG. She has discussed especially the voids in the National Sustainable Development Strategy (NSDS) or Yumi Wankain prepared by the United Nations Joint Inter-Agency Mission to Papua New Guinea (UNDP 1994). Because Yumi Wankain is currently the blueprint for PNG's sustainable development, this section focuses on it as a starting point for the major discussion on how PNG can bring about a change especially through the planning process to achieve sustainability in its management of natural resources.

Yumi Wankain

Unlike a developing country like Madagascar where the initiative towards sustainable development has largely come from within in response to a felt need to arrest an endemic problem (deforestation) and prevent the calamitous situation of soil erosion and irreversible decline in the country's exceptional biological diversity (World Bank 1989), in PNG planning for a national sustainable development strategy originated from a response to a global strategy - the UNCED '92 principles (Nadarajah 1995). While, arguably, the principles of sustainable development have been part of Melanesian culture and recognised by the National Constitution as one of the Five Stated Goals- integral human development; equality and participation; national sovereignty and self-reliance; conservation of natural resources for the collective benefit of all and for future generations; and Papua New Guinea ways of

social, political and economic organisation - meant to guide the development of the country, there has been a failure on the part of the PNG academic and political leadership since Independence to conscientise and/or develop the concept as a meaningful social theory which could have provided an ideological basis for development planning and resource management. Consequently, in PNG, it would seem that the issue of environmental consciousness and the need to develop a management machinery to protect the PNG environment have showed first among international organisations and not by internal pressures at local and national levels. This probably explains why, as yet, in PNG, with the possible exception of ICRAF (Individual and Community Rights Advocay Forum) the Churches and the media, there are no strong (endogenous) environmental lobbying groups.

According to Nadarajah (op. cit) it was a post - UNCED Seminar in November 1992 that gave birth to the formulation of a sustainable development strategy. It ought to be noted however that earlier on, in 1991, through the auspices of the United Nations Environment Programme and guidelines provided by SPREP in preparation for UNCED, the University of Papua New Guinea's UNISEARCH had produced the National Report on Papua New Guinea (UNISEARCH 1992).

This latter document would seem to be the first comprehensive study on the issue of environment and development and planning for sustainable development in PNG.It should be noted though that the World Bank in 1988 had also produced a study on Papua New Guinea : policies and prospects for sustainable growth and broad-based growth. Volume 1 the Main Report, & Volume II, the Annexes, World Bank, Washington D.C.

The post-UNCED Seminar in November 1992 alluded to above, was followed by two other major seminars, the Waigani Seminar on Environment and Development in 1993 and the Huon Seminar on management of resources in 1994. Both provided public fora for discussion of key sustainable development issues and recommendations for the development of a national sustainable development strategy (NSDS) for PNG. They were followed by a Biodiversity Country Workshop which also defined a workable conservation strategy for PNG.

Following the Government's endorsement in April 1994 of a proposal for the development of a NSDS for PNG, a National Steering Committee was appointed to coordinate the formulation of the NSDS through a nationwide participatory process. Subsequently, the Government requested UNDP to assist the NSDS Steering Committee formulate and implement a national sustainable development strategy. As a first step in providing this assistance, UNDP funded the Joint Inter-Agency Mission to provide an integrated package of policy advice to the PNG Government on sustainable development.

The joint inter-agency group comprised seven international consultants and three national consultants. Their mission lasted six weeks during which the group organised several working groups in various parts of PNG dealing with issues such as policy planning, enabling government, managing Papua New Guinea's assets and people's participation. The mission worked in close collaboration with national and provincial government agencies, the private sector, and NGOs to help ensure that "the package of policy advice was grounded in the knowledge and experience of PNG nationals and residents" (UNDP 1994).

Using the vision of sustainable human development contained in the "Five Goals of PNG's National Constitution" as the framework for its work, the Mission analysed the major environment and development issues facing PNG under three broad headings of enabling government, managing PNG's resources, and improvement of people for effective participation and integral human development. The agenda for action mapped out for the NSDS followed a similar framework.

Strategies recommended to provide a supportive legal and institutional policy framework for good governance include:

A workable and properly enforced legal system

Establishment of effective administrative procedures and supportive institutional (government) structures

Accountability and transparency in government; and

A national framework for a "bottom-up" approach to planning.

A set of three strategies and mechanisms were recommended for the sustainable management of PNG's renewable and non-renewable natural resources.

These strategies advocate investment of the benefits from mining, job creation, and a shift in priorities from urban to rural development. Proposed action programmes emphasise:

Accountability and the need to clearly ensure that revenue obtained from non-renewable resources are well-managed for the benefit of present and future generations.

An employment-led growth strategy rather than GDP - led growth strategy to provide meaningful employment for job seekers.

Development of the fisheries sector on a commercial basis and along sound sustainable management principles.
A sustainable agricultural development strategy to maintain agriculture sector's productive base, improving the competitiveness of the commerical sector and broadening the productive base through diversification.

A massive shift in government priority from urban to rural development to build the necessary infrastructure.

These initiatives would go together with activities aimed at empowerment of people in villages and communities through better education, training and awareness raising activities. Effective participation is dependent on people having the knowledge and skills to take part in decision making, on access to the relevant information, and on mechanisms that allow their involvement.

The Inter-Agency Report was published by UNDP in October 1994. Since the publication of the Report, there has been a change of Government in PNG and the implementation of the NSDS has been stalemated because of the bureaucratic problems of finding a suitable location for its secretariat within the governmental administrative structure. As a result, nothing much has been done about the NSDS, and planning for sustainable development in Papua New Guinea, unlike in Madagascar, for example, has gone no further than drawing up paper plans.

From theory to action : How to bring about change

While sustainable development is not unknown in Papua New Guinea and has received support and recognition since UNCED, planning for sustainable development is a new concept to most sectors of the economy and society. For most, the concept remains abstract and theoretical.

If sustainable development is to achieve its potential under the NSDS, it must be integrated into the planning and the measurement systems of individual and corporate activities in agriculture, forestry, fishing, mining, industry, commerce and other sectors of the economy as well as modes of livelihood in society. For that to happen, the NSDS Commission or Secretariat and the National Planning Office should translate Yumi Wankain into an operational action plan in terms familiar to business, government leaders, landowners, local communities and individual members of the general public, at national, provincial and local (district and village) levels.

To assist business leaders in applying the concept of sustainable development in their enterprises, the Canadian International Institute for Sustainable Development (IISD 1992:7) has recently proposed the following practical definition of the concept:

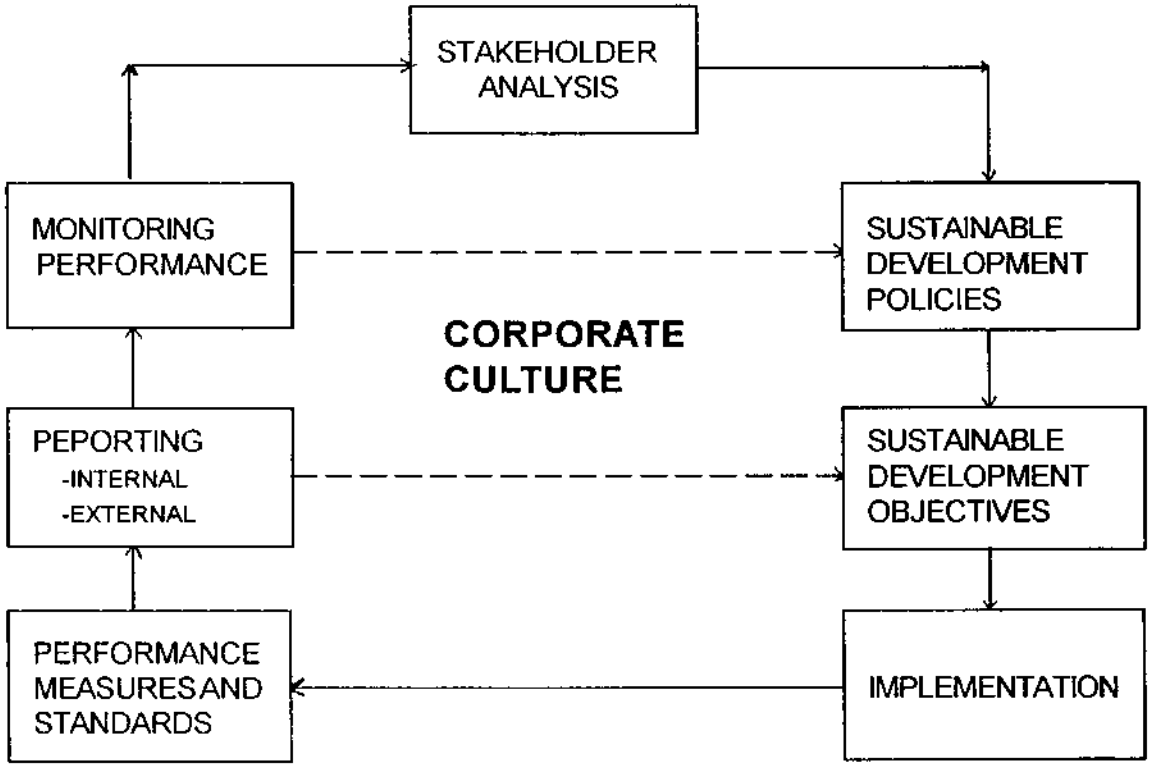
"For the business enterprise, sustainable development means adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today while protecting, sustaining and enhancing the human and natural resources that will be needed in the future".

This definition captures the spirit of the concept proposed in the report of the World Commission on Environment and Development and focuses attention on areas of specific interest and concern to business enterprises. It recognises that economic development must meet the needs of the business enterprise and its stakeholders. The latter include shareholders, lenders, customers, employees, suppliers and communities who are affected (either positively or negatively) by the enterprises's business activities.

The definition also highlights the dependence of the enterprise's economic activities on human and natural resources, in addition to physical and financial capital. It emphasises that economic activity must not irreparably degrade or destroy these natural and human resources. Human resources refers to all people affected directly or indirectly by the enterprise's economic activities including employees and the public at large.

The power of any sustainable development strategy lies in both opening up new opportunities and avoiding the trap of trading off environmental goals against growth. In order to continue to prosper, business

Figure 3. **A model of a management system for sustainable development.**



Source: IISD (1992)

must play a vital role. Society should not allow it to be passive. A company that does not embrace these principles should in time be regulated into taking the actions it would not take voluntarily and efficiently.

Decisive actions are needed to stem and forestall the serious threats to the environment by such business activities as logging and mining which appear to be the main culprits of environmental unsustainability in PNG. The country's unique biological diversity is of long-term national and global concern and the NSDS Commission or Secretariat should follow the example of Madagascar by spelling out and implementing an action plan that aims at limiting deforestation, controlling logging activities, protecting PNG's unique biological patrimony, monitoring environmental trends, educating the population on environmental issues and curbing pollution through indiscriminate dumping of mining waste and tailings.

The price of effective sustainable development is eternal vigilance and surveillance. Sustainable development principles enunciated in the NSDS and those of Agenda 21 should become part and parcel of the new laws and regulation policies of the country and should be rigorously enforced. Too often, in PNG, there has been laxity in the enforcement of regulations and legislation relating to the Environmental Planning Act and the Environmental Contaminants Act since their passage in 1978. In the forestry sector in particular, lack of effective enforcement of regulations and legislation has led to flagrant abuses of laws and regulations by loggers. Such logging malpractices need to be kept in constant surveillance and severe penalties imposed to ensure compliance. Measures should be introduced to boost capacity for monitoring to ensure existing and new legislation are enforced by the relevant agencies and institutions. The development of the country's resources will continue in a haphazard and destructive manner unless the problems facing legislation and enforcement are addressed.

The concept of sustainable development must be integrated into business planning and management information and control systems and business executives should ensure that their business enterprises regularly provided appropriate reports that

compare actual performance to these strategies. Management should incorporate stakeholder expectations into a broad policy statement that set forth the organisation's mission with respect to sustainable development. This policy statement should guide the enterprise's planning and set forth values that management, employees and other groups such as suppliers are expected to strive to achieve.

Figure 3 provides a recommended management model for sustainable development. The model requires management to perform a stakeholder analysis; set sustainable development policies and objectives; design and execute an implementation plan; develop a supportive corporate culture; institute measures and standards of performance; prepare reports; and enhance internal monitoring processes. The diagram illustrates these seven steps which are required for managing an enterprise according to sustainable development principles and their interlinkages.

Government should develop policies that would harmonize corporate activities with the "common good" to motivate business to meet performance standards or to encourage them to report publicly on their performance. Policy makers should study industry or other private sector performance standards to assess their effectiveness and consistency with proposed government policies and to determine whether they can be incorporated (with or without amendment) into regulatory performance standards. All sectors of human and corporate activities should be closely and reguarly monitored.

The potential effects of development projects on local communities should also be considered. In addition to determining whether proposed policies will address their major concerns (such as reforestation, proper disposal of effluents and wildlife preservation) regulators should ascertain whether local communities will be significantly affected in other ways. Companies cannot perform consistently with society's sustainable goals unless there is open communication between them and the communities where they operate. People need to be part of the decisions and programmes that affect their lives.

It is also important for government to harmonize tax policies with environmental policies. Policy makers can encourage sound environmental behaviour and discourage activities and processes that are harmful to the environment through tax measures. Fiscal policies can also be applied to mining and logging companies so that they pay the real economic and social cost of the damage they cause to the environment and the minerals and timber they export. Measures such as environmental levies, if imposed, should have clear environmental objectives and take into account the full fiscal impact on development.

Landowners' Participation in the Planning Process

In PNG, unlike in most developing countries, most land is clan-owned under customary systems of tenure. Approximately 97 per cent of PNG's land is customary land held under traditional ownership arrangements. Land owners, therefore, have a significant stake in most business enterprises in both rural and urban areas in PNG even if they do not share in the profits. Business enterprises have a moral, if not legal accountability to landowners and the local communities in which their enterprises operate. These groups of stakeholders are beginning to recognise their right to communicate their concerns to management and government and to use the legal process to influence corporate behaviour.

The sustainability of production and, indeed, the security of the future of any development project or business enterprise depends on the level of landowners' participation in the whole process of planning and management. The Barnett Report (1989) on forestry in PNG states that the landowners are passive "bystanders of the whole forest resource development". This is the shortcoming of the Forest Policy itself, which is vague on this issue. Participatory management is the active involvement and hands-on interaction of the parties or stakeholders in the planning and implementation process.

Hitherto, in the context of forestry planning in PNG, participation has been understood as "soley equity participation", and not in terms of a dialectical process involving dialogue and interaction on organisational and management issues. An overall mechanism facilitating meaningful landholder participation in both private and public sector activities needs to be worked out. A major effort is also needed to provide a special form of community education required to give landowners and traditional community decision makers the technical and other knowledge they would need for effective interaction and management of environment and resources in a modern development context.

Concern with people participation, given the system of land tenure in Papua New Guinea, also raises

three broader issues:

1) -the need to determine the extent of government powers over Papua New Guinea's environment and natural resources;

2) - the need for a national policy for rural develop ment and human settlements; and

3) -the need for a landuse planning system with zoning on the basis of agro-ecological criteria.

Many of the environmental problems facing the country arise from the lack of a clear perspective on the extent of government powers over land resources and the lack of coordinated land use and human settlement policies. They also result from non-enforcement of environmental legislation as highlighted already, inadequacy of financial and human resources, lack of public awareness and cross-sectoral cooperation, absence of political will and general neglect of of economic assessment and planning procedures. There is clearly a need to explore more fully the costs of land degradation and the economic benefit of reclamation, rehabilitation and prevention.

The land tenure system in PNG also necessitates a major rethinking in the decision making process. Development is most unlikely unless a price is put on land. The lack of certainty over ownership or access to land and the lack of mechanisms to use land commercially will continue to impede development. Land reform is necessary to ensure security of tenure among landholders.

Eco-tourism and the informal sector : two untapped potentials in PNG

Finally, as has been pointed out, the power of sustainable development lies in opening up new opportunities without trading off environmental goals against growth. Tourism and the informal sector are two of the new areas in which opportunities exist for planning a sustainable employment-led growth strategy to provide meaningful work for job seekers in PNG. Currently in PNG, according to the Prime Minister Sir Julius Chan (1992), each year produces another 52,000 young school leavers all wanting to enter the labour market. Of this, estimates show that only 10,000 may be successful in being absorbed into the formal sector, with the remaining 42,000 relegated to finding productive work elsewhere in the informal sector. Crime and law and order problems are endemic and escalating as the unemployment situation in the country continues to worsen.

Experience in Fiji, Kenya, Reunion, Mauritius and elsewhere in the developing world shows that tourism can offer considerable opportunities for income creation (foreign exchange) and gainful employment of young school leavers as well as sustainable development through enhanced linkages with the environment. As Schoell (1994) has pointed out, much impetus could come from a well-defined eco-tourism as an industry. PNG could take a cue from Fiji where landowner tourism ventures based on "nonstandard" tourism resources appears to be highly successful. PNG has a diversified natural landscape, including scenic mountains and valleys, coastal islands, reefs and beaches, unique flora and fauna, which can make the country a real "paradise" for visitors with very special interest. Tourism based on natural resources, should be planned in such a way that local people resident in the area will benefit. Integration of the local people will help ensure environmental sustainability.

Apart from tourism, the informal sector itself, hitherto neglected, warrants development attention, because experience in most developing countries shows that this sector is and can be a relatively efficient part of the domestic economy. Experience of ASEAN countries such as Indonesia and the Philippines shows that the non-agricultural informal sector - cottage industries, handicrafts, appropriate technology, etc - can play a dynamic role in providing income-earning opportunities and serving the demand of the low income population for inexpensive manufactures. Appropriate training and institutional support should create an enabling environment for this sector as well as the formal small and medium scale enterprises to absorb the unemployed school leavers as well as those affected by retrenchment under the structural adjustment programme which has been imposed by the World Bank and the IMF.

Disscussion and Conclusions

The planning process of the NSDS in PNG has been facilitated by the international agencies. It is time for a real initiative and commitment from Papua New Guinea itself to address the issues of sustainable development by translating the NSDS into an action plan and embarking on the implementation process. While implementation initiatives at the national level are halting, the country's natural resources are dwindling and the social and environmental impacts of resource development show signs of despair.

There are sufficient laws which can serve as a workable basis for initiating action for sustainable development. These should be 'field tested' now and new legislation be designed to complement or revamp the old and the moribund. Whatever the governmental agency for planning and implementation (the National Planning Office, or NSDS Commission), it is important that all stakeholders have a clear perception of sustainable development, which has as much to do with the environment as it has with all sectors of society. Effective environmental management requires an integrated land-use planning, which demands that policies, programmes and land management practices governing the development of one resource are formulated with due consideration of the requirements for effective management of other resources.

The ultimate success of environmental management in PNG depends to a large extent on people participation and initiatives. PNG has experienced many rural development programmes with varying degrees of success. Some of the reasons for the failure of rural development projects appear to be the "top-down manner" in which such projects are implemented and the lack of the necessary involvement of people in the planning process (Hayes and Mowbray 1994). Efforts to improve the environment in PNG requires awareness, acceptance and responsibilities by citizens and local communities and by enterprise and institutions at every level, all sharing in the common effort in ensuring environmental sustainability.

Important lessons can be learnt from Manus regarding community-based "bottom up" approach, emphasising village initiatives in resource and environmental management. The policy approach adopted in this province encourages communities to identify their own basic minimum needs and to take responsibility for managing, developing and conserving their own resources. Empowerment of local communities is one way of approaching the issue of environmental management. The time has come to begin to think seriously and find more innovative ways of managing the environment and solving the "environmental crisis".

In finding new and more effective ways of resolving and/ or mitigating the land degradation problem caused by prevailing agricultural practices, the initiative should first focus on the need for better economic assessment of land degradation, rehabilitation and prevention and their role in decision making. It should pursue the problem within the context of overall development planning.

Due attention should be paid to research and the role indigenous (local) knowledge can play in sustainable resource management. Indigenous knowledge, as it relates to land degradation, comprises a wide range of accumulated local experience about natural resource use and management techniques, institutional and organisational arrangements as well as beliefs and values. This traditional knowledge can certainly enhance and be enhanced by modern scientific knowledge to the benefit of sustainable development. The challenge is to evolve and infuse the right mix between the two. Hence given the importance of successfully combining traditional and modern knowledge systems in the Papua New Guinea context, research should be carried out on how best to achieve this aim.

Of all factor inputs pertinent to combating environmental degradation, human resources appear to be the most important, followed by technology. So far, in PNG too great an emphasis has been placed on the mobilization of financial aid and not enough on the real factor inputs and the special conditions in PNG. In planning the NSDS for example, it appears as if PNG has been the subject of experiments of a somewhat benevolent academic research character, with local participation as an extra dimension thrown in rather belatedly. The problems of PNG cannot be realistically and successfully treated other than through understanding and initiatives of PNG people themselves. There is an urgent need to develop national capabilities (training) for land-use planning in a wide range of scientific and managenal disciplines to meet the specialized manpower needs.

Population growth is a key factor in the population-resources-development-environment equation and must be taken into account in the long-term planning for development, land degradation control and other aspects of environmental conservation. PNG has recently adopted a population policy with a general goal of maintaining a growth rate that will not pose a threat to the country's economic objectives. Halting land degradation requires restoring the balance between man and land - between population size and available resources and environment. Development and improved technology through making better use of resources can help in relieving pressures and restoring this equilibrium. But in the long-term, population growth must be brought into line with the realities of the resources, development and the environment. There is, therefore, a need to integrate population planning into macroeconomic planning at

national, provincial, and local levels.

In an era in which Structural Adjustment Programme (SAP) has been imposed on PNG by the World Bank and the IMF, the prospects of higher levels of damage to the environment could be high. Sustainable development in this context, requires greater use of economic instruments such as the "polluter pays" and "user pays" principles to complement regulation and control measures. These could both increase revenue and improve environmental protection. Because poverty contributes to environmental damage as the poor are often forced to act unsustainably in order to live, SAP policies should include an employment-led growth strategy to provide meaningful employment for job seekers. They should also include access to credit and lower interest rates for small farmers, and businesses. This will enable such small scale enterprises to expand, diversify, and increase their employment and productive capacities. Other measures such as secure property rights are also required. Poverty tends to increase during the early stages of SAP, and this could have an adverse effect on sustainable development. However, it must be admitted that the policies being advocated are not easy to adopt during SAP.

In addition to SAP, increasing unemployment, law and order problems are currently significant impediments to sustainable development and political stability in PNG. These would seem to emphasise all the more the need for the adoption of an employment-led growth strategy which opens up new opportunities without trading off environmental goals against growth. Such opportunities would seem to exist in the area of tourism and also in the informal sector of PNG economy. Eco-and landowner-tourism ventures would seem to provide a leeway, while in the informal sector, attention is needed in offering appropriate training and support to make the sector an efficient part of the domestic economy.

Education and public awareness programmes are the vehicles for conveying correct environmental messages on pollution control and resource misuse and for changing false environmental perceptions and ensuring that the community or society behaves responsibly and in an environmentally sensitive manner. There is an urgent need to reform the education sector by making it more responsive to employment and sustainability of resources in the country. Information and administration also need to be effectively coordinated.

In conclusion, the harsh truth is that PNG, today, is confronted with an emerging environmental crisis. The combined effects of modernisation, economic development, population growth, international trade and consumption are pushing both the State and individuals within PNG to meet their needs by causing environmental damage with much wider social impact. Degradation from ineffective control of deforestation, mining and agricultural activities and land use pressures are leading to the loss of essential reserves of seeds and nutrients, the genetic storehouse that has been the heritage of PNG for ages. It is time a real commitment is made by Papua New Guineans themselves to arrest this ominous catastrophe that looms like damocle's sword that can turn the otherwise pristine PNG environment into a desert for posterity.

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Papers must usually contribute to the advancement of knowledge in the discipline(s) concerned but short papers discussing techniques or published results, notes, bibliographies, book reviews and invited reviews of current knowledge in selected areas of interest to the journal would also be considered for publication. Proceedings of seminars/meetings/workshops/symposia and conferences of adequate standard and of interest to the Journal may also be considered for publication. Articles offered for publication elsewhere or published previously will not be considered. All material submitted for publication will be refereed, reviewed and edited to meet the standards of the journal.

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neric or common name when it is first quoted.

8. **Tables** - Numerical results should be displayed as means with relevant standard errors rather than as detailed data. Standard errors should be given to one place of decimals more than the means to which they refer and the number of degrees of freedom should also be quoted.Tables should be complete in themselves so that they can be understood without reference to accompanying text. Each table should have a brief and self explanatory title. The presentation of the same data in tabular and graphic form is not permitted.

9. **Figures and photographs** - Line drawings should be drawn in black water-proof ink on smooth tough paper. Labelling should be clear and always produced with stencils using black water-proof ink and should be legible when reduced. No alterations or additions to artwork can be made by the editors. Figures should be no larger than an A3 page, and no smaller than final published size. Photographs should be glossy prints of good quality and must make a definite contribution to the value of the paper. Indicate the top of the figures and photographs on the back: the plate number of each figure and photographs, the author's name, and the title of the paper. Do not write on the back of photographs: use an adhesive label with the data previously written on it. Artwork should be of appropriate proportions for the final dimensions.

10. **Acknowledgements** - The names, initials and place of work of those the author wishes to mention may be included. It is unnecesarry to mention everyone who has been marginally involved in the work.

11. **References** - These should be cited in the text by the author's name and data as follows:

"Moran and Brown (1965) showed or "Various works" (Miller and Smith 1956; Adams *et al.* 1960; Wilson 1978, 1979 a) found ..." The term *et al.* should be used when there are more than two authors. The letters a,b,c, should be used to distinguish several papers by the same author in one year.

All references in the bibliography should be given in full and in alphabetical order. For a journal the reference should include surname and initials of all author(s), (year), title of paper, full title of the journal, volume, (part) and full page numbers. For a book the reference should include authors' surnames and initials, (year), title of chapter and page numbers if appropriate, full title of book, publisher and city and total page numbers. Conference proceedings should include the year and place of the conference. The title of the journal or book is underlined to be printed in italics. Examples:

BOWET, C.M. and SMITH, L.N. (1950). Measurement of phosphorus. *Methods of Soil Analysis*. Ed. C.A. Lack. Department of Primary Industry, Port Moresby.

SANDERS, A.J. (1940). Plant responses to Molybdenum. *Papua New Guinea Agricultural Journal* 48(4): 981-995.

TROBEN, M.M. (1973). Genetic fine structure in Drosophila. *Department of Primary Industry Research Bulletin* No. 102: 196-197.

VANCE, P.N. (1976).Maize in the Markham Valley. pp. 215-220. *In: 1975 Papua New Guinea Food Crops Conference Proceedings.* K. Wilson and R.M. Bourke (Ed.). Department of Primary Industry, Port Moresby.

Internal reports, communications and memoranda are not valid references. The criteria for valid publications (in the scientific world) are that publications are distributed widely among those interested in the subject and are available to the international public in major libraries and from the publisher. This therefore excludes reports circulated only within a department and to a few outsiders and conference documents available only to those who attended the conference and the like.

Work that has not been accepted for publication (unpublished data) and personal communications are not included in the list of references but may be referred to in the text. References cited in an appendix should be included in the list of references at the end of the paper.

Special care should be taken to see that every reference in the text is included in the list of references and vice versa, and that there is consistency in the spelling of author's names and the citation of the dates throughout the paper.

12. **Review of papers** - All papers will be submitted to suitable professional referees. Major changes will be referred to the author for consideration. Minor editorial changes will be made without consultation but will be presented to the author(s) at proof stage. The final decision to accept or reject a paper, rests with the Editor-in-Chief.

13. **Offprints** - Twenty five free off-prints are given to the author. Where there are several authors, the first author will be sent the off-print. Extra off-prints may be ordered at the time the galley proofs are returned to the editor. Costs will be determined at the time of printing.

14. Recognised abbreviations in this journal are:

g - gram
kg - kilogram
t - tonnes
l - litre
ml - millilitre
ha - hectare
mm - millimetre
cm - centimetre
m - metre
a.s.l. - above sea level
yr - year
wk - week
h - hour
min - minute
s - second
K - kina
n.a. - not applicable or not available
n.r. - not recorded
var - variance
s.d. - standard deviation
s.e.m. - standard error of difference
d.f. - degrees of freedom

Levels of significance

n.s. - not significant
* - $0.01 \leq p < 0.05$
** - $0.001 \leq p < 0.01$
*** - $p < 0.001$

Either kg/ha or $kg.ha^{-1}$ is acceptable, but large combinations of units should be in the form kg.ha to avoid possible mathematical ambiguity.

15. Submission of manuscripts - All correspondence should be addressed to: Editor-in-Chief, PNG Journal of Agriculture, Forestry and Fisheries, Information and Publications Section, Agriculture Education and Training Division, Department of Agriculture and Livestock, P.O. Box 417, Konedobu. Papua New Guinea.

ERRATA

The following are corrections to errors that inaderdently crept in the Journal Volume 38, Number 2 (November 1995):

A.) Sesamia paper by G.R. Young and L.S. Kuniata (pp 94 -101).

INTRODUCTION, 1. Second paragraph should read, " Sugarcane, *Saccharum officinarum*, is the main host plant, although the wild pit pits *Saccharum robustarum* and *S. spontaneum* are also attacked (Young and Kuniata 1992). Both wild saccharums are endemic in the Ramu valley".

2. The first sentence of the third paragraph should read, " During 1986 90% 0f the crop was attacked and destroyed by Ramu stunt disease (Eastwood 1990)".

RESULTS, page 96, column 1, first paragraph, last sentence, 2nd last line, ...not significant. " delete the 8 words of the sentence.

FIGURE 2. The vertical axis should read, " Mean pupae per 100 stalks per month".

B.) SOILS PAPER By B.M. Kanua (pp 102 - 123)

1. Figure 1 (page 104), the source is not Norman et al. 1984. It should be Leamy *et al.* 1981.

2. Page 106, figure 2, Title ... (Radcliffe 1985) is spelt wrong as Radecliffe. The correct spelling is Radcliffe. 1985.

3. Page 119. Table 3, line 19, the word C. *aligod* should be spelt C. *oligodon*.

4. Delete figures 3 & 4 on p. 108.

C.) ONION PAPER BY JOHN SOWEI

1.) Under introduction, line 10 should read " 500, 000 kina instead of 5000,000 kina is spent on imported onions".