

MURUK

VOLUME 4 NUMBER 2 SEPTEMBER 1990

THE JOURNAL OF THE PAPUA NEW GUINEA BIRD SOCIETY

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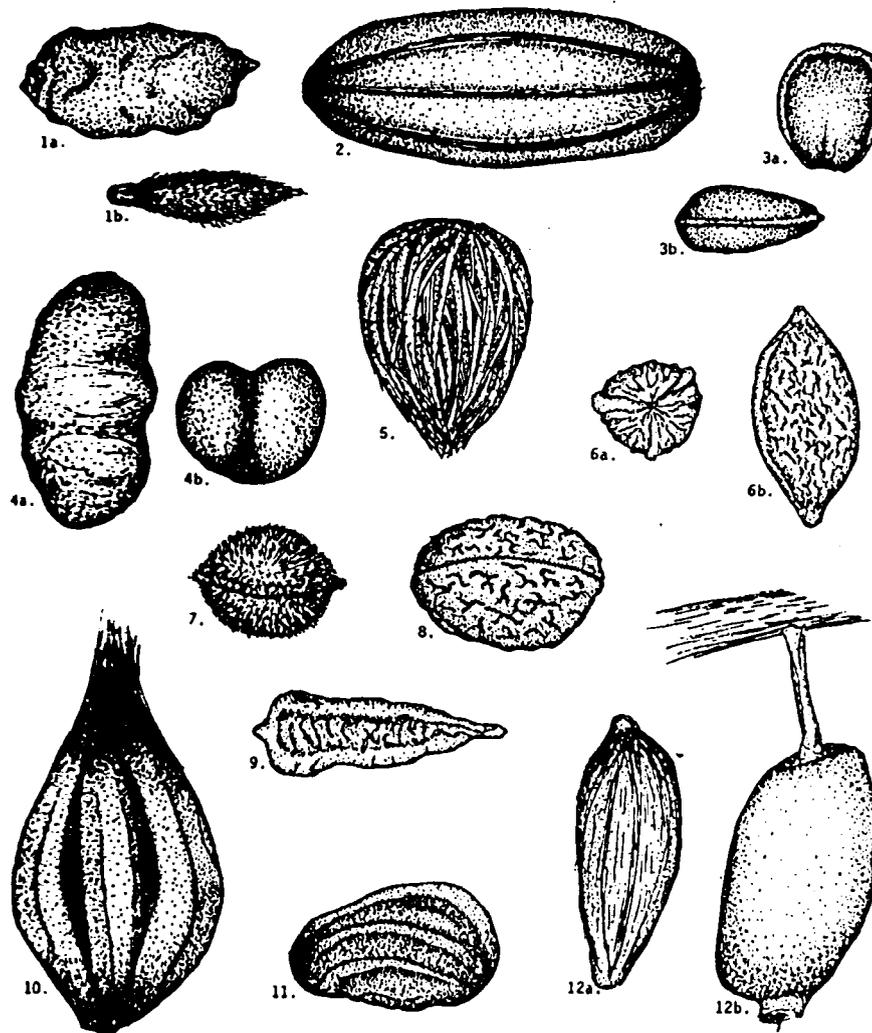
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MURUK



VOLUME 4 NUMBER 2 SEPTEMBER 1990

THE JOURNAL OF THE PAPUA NEW GUINEA BIRD SOCIETY

EDITORIAL

This issue of MURUK concentrates on bird behaviour, with papers and notes on bird song, displays, nests and feeding behaviour. Please note Andy Mack's request for information on Cassowaries. Observations can be sent direct to Andy or to the PNGBS for publication MURUK. I hope this issue will stimulate further contributions on bird behaviour for MURUK, there must be many observations lurking in note books that are worthy of publication. Please put pen to paper. We also require interesting observations for the last three quarters (Oct - Dec 1989, Jan - Mar 1990 and Apr - Jun 1990). Please submit these to the PNGBS or one of the committee members.

The front cover, drawn by Andy Mack and repeated on page 51, depicts a selection of seeds found in Cassowary droppings. For identification of the seeds see page 51.

We have used all our drawings of Cassowaries for the front cover of MURUK. We would be pleased to receive drawings of any of the three species of MURUKS (pidgin for Cassowary) or related drawings for use on the cover.

EDITORS: Roger Hicks with technical assistance from Mike Hopkins and editorial help from Ellie Brown, Jack Dumbacher, Helen Fortune Hopkins, Jenny Hicks and Jerry Hoskyns.

MURUK is published by the Papua New Guinea Bird Society and is available as part of the Society membership. Backnumbers are available at K4 each plus postage and packaging. Please send articles to :- The Editor, PNGBS, P.O. Box 1598, Boroko, Papua New Guinea.

Roger Hicks (editor)

NOTES ON THE DWARF CASSOWARY *CASUARIUS BENNETTI* IN PAPUA NEW GUINEA

ANDREW L. MACK

In the second half of 1987 I began a study of the Dwarf Cassowary *Casuarius bennetti* in PNG. During this period I worked primarily within the Crater Mountain Wildlife Management Area (CMWMA) in the Eastern Highlands and Chimbu Provinces. Other localities in PNG briefly visited during my six month stay included Mt. Missim near Wau, Baiyer River Sanctuary, and Varirata National Park. In CMWMA I worked in the vicinity of the villages of Ubaigubi (c. 75 km SSW of Goroka), Heroana (c. 95 km SSW of Goroka) and Haia (c. 30 km SE of Karimui). The approximate elevations of my camps at these three sites are 1900 m, 1600 m and 800 m, respectively. The forests at Ubaigubi and Heroana are montane, whereas the forest at the Haia camp is pre-montane.

The purpose of this field season was primarily to identify a field site, test different field techniques and collect preliminary data for a three year study of cassowaries. The season was a success, the area around Haia being chosen for the main study which began in 1989. As there is very little published data regarding cassowaries and their biology, I will report some preliminary findings here with the caveat that much more detailed information will be forthcoming later.

Distribution

Dwarf cassowaries were fairly common throughout the CMWMA during my visit, as judged by the numbers of fresh droppings found. Above 1700 m I found few droppings. Local hunters told me the birds move up into the higher forests seasonally and indicated that this movement coincided with the fruiting of a species of Guttiferae on which the birds feed heavily. This upward movement presumably occurs at the beginning of the wet season, in late November or December. I was not at the higher altitudes at this time and so was unable to confirm this assertion.

At 1600 m birds seem to be present year-round and here there was a greater variety and abundance of the large-fruited trees upon which the cassowaries feed. At the 800 m camp droppings were much more numerous as were the large-fruited trees and lianes which are amongst their food plants. I was told by hunters that Southern Cassowary *C. casuarius* was not present at this lower camp but could be found not too far below, at perhaps 300 m. However, I could not go in search of this species while I was in the area. During the main study period I will strive to learn where the two species meet and whether their ranges overlap.

Diet

Although these birds are very difficult to observe in the field, their diet can be readily learned by studying the contents of their conspicuous droppings (see fig 1). I examined several hundred droppings in the course of my preliminary study. The diet of these birds is almost exclusively fruit. Seeds of at least 97 plant species from 33 families were found in droppings (this figure includes some species listed by Pratt (1983) in his examination of cassowary diet on Mt. Missim). It appears these birds will, on occasion, eat any but the smallest fruits they find on the forest floor. By the end of the main study I anticipate identifying over 200 different sorts of fruit in the diet of the Dwarf Cassowary; this would be one of the most diverse diets known for any frugivore. Bracket fungi and mushrooms were also found in droppings fairly often. Occasionally, the remains of shells of land snails (Camaenidae) were also found.

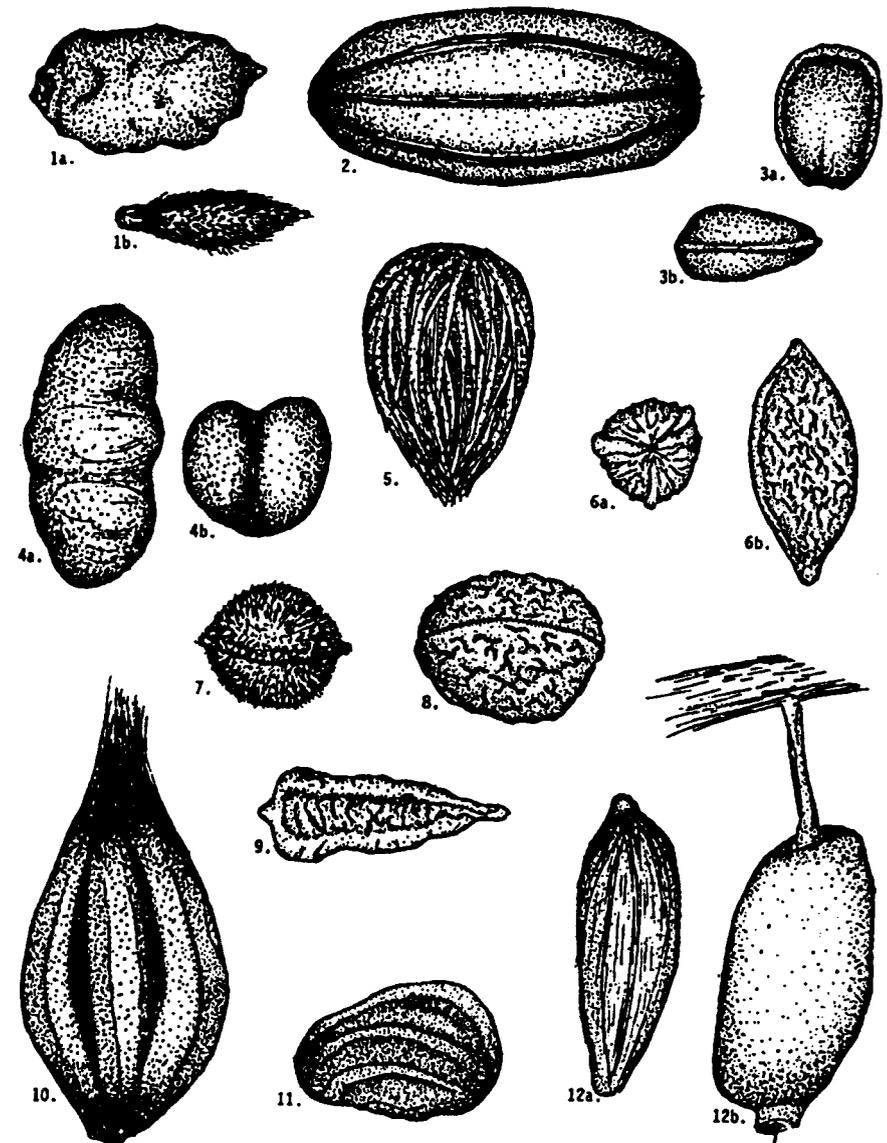
Although the diet is diverse, clearly the fruits of certain species are preferred. Generally, the birds prefer the larger fruits available in the forest. Of particular importance are species of the plant families Combretaceae, Elaeocarpaceae, Guttiferae, Lauraceae, and Menispermaceae. All of these have species producing large fruits which most other frugivorous birds in PNG would have difficulty swallowing (with the possible exception of Blyth's Hornbill, *Rhyticeros plicatus*).

Seeds of from one to seventeen species could be found in a single dropping. The number of seeds varied widely, depending on the number of seeds per fruit of the species consumed. A dropping produced after consuming figs *Ficus* spp. could have thousands of seeds, whereas a dropping after a meal of large fruits of *Pandanus* spp., might only have a few seeds.

In experimental feedings of captive Dwarf and Southern Cassowaries in the CMWMA and at Baiyer River, I observed a gut passage rate of 1-5 hours. This, in conjunction with the observations of dropping contents, suggests these birds forage fairly actively, visiting at least two - four fruiting trees per hour. They do not, apparently, visit a fruiting tree, fill up on fruits of one species, then move to another tree and fill up on fruits of another species. Droppings typically had small numbers of seeds from a variety of different fruits. In the study area many trees had large numbers of fruits on the ground. Presumably, the birds could just stay and fill up several times at one tree if they desired. Clearly, more study is required before we can understand their foraging habits.

Habits

During my visit I had few chances to observe these birds for longer than a fleeting glimpse. They are heavily hunted by highlanders and survive because of their retiring habits.



1. *Neuburgia corynocarpa* (Loganiaceae). a. Fruit lateral view, b. seed lateral view. 2. *Endiandra* sp. (Lauraceae) seed lateral view. 3. *Rhyticarium* sp. (Icacinaceae) seed dorsal view, b. seed lateral view. 4. *Dysoxylum* sp. (Meliaceae). a. seed lateral view, b. seed anterior view. 5. *Microcos* sp. (Tiliaceae) seed lateral view. 6. *Elaeocarpus* sp. (Elaeocarpaceae) a. seed anterior view, b. seed lateral view. 7. *Macrocoocus* sp. (Menispermaceae) seed lateral view. 8. *Elaeocarpus* sp. (Elaeocarpaceae) seed lateral view. 9. Unidentified, AM #130, seed dorsal view. 10. *Pandanus* sp. (Pandanaeae) seed lateral view. 11. Unidentified, AM #124, seed lateral view. 12. *Barringtonia* sp. (Barringtonaceae). a. seed lateral view, b. Fruit.

The places where cassowaries spend the night are fairly easy to find. They leave a slight depression where the sternum rested and often the impressions of the tarsi are apparent. Usually two or more droppings are present where the bird defecated during the night. The birds rarely return to the same place to sleep. However, on Mt. Missim I did find one spot where apparently a bird (or birds) slept repeatedly.

Also, on Mt. Missim a place was found where apparently cassowaries dust-bathed. A 1.4 m high excavation in dry soil in the underside of an overhanging bank was found by K. Kristensen who once flushed a cassowary from this "cave".

In mid-October at Haia, villagers showed me chicks, roughly one month old, which they had caught. This would suggest the eggs hatched sometime in September.

As the largest native terrestrial vertebrates in PNG cassowaries are heavily hunted for their meat in many regions. Additionally, the feathers and bones of these birds serve a number of utilitarian and decorative functions for many people in PNG. Among some tribes, the cassowary is a valued item in trade or for conferring prestige upon its owner.

Conservation

Beside the dietary and cultural importance of cassowaries, these birds also serve a vital role in PNG's forest ecosystems. Many of the seeds which cassowaries disperse are too large for most other frugivores to move. Preliminary data indicate that seeds that are not dispersed have a very low chance of surviving and in the prolonged absence of cassowaries some species may become extinct.

It is not clear just how vulnerable these birds are to hunters and loss of habitat. We need to learn more of their biology before we can determine how seriously they are threatened. Without information on cassowary biology it will be impossible to formulate viable plans for their conservation.

I plan to collect a great deal more data on behaviour and movements in the future through the use of radio-telemetry. However, it would be extremely useful to learn of any observations members of the PNG Bird Society have of these birds. When do you see chicks or find nests? When do you hear them calling? etc. If anyone has observations I would like to learn of them. I can receive mail at P.O. Box 1261, Goroka, Eastern Highlands Province, PNG, during 1989 - 1992.

Pratt, T.K. 1983. Diet of the Dwarf Cassowary, *Casuarius bennetti picticollis* at Wau, Papua New Guinea. *Emu* 82: 283-285.

Address: University of Miami, Dept. Biology, Coral Gables, FL. 33124, USA

SOFT SONG VOCAL MIMICRY IN THE BROWN ORIOLE *ORIOLOUS SZALAYI* OF NEW GUINEA

G.E. CLAPP

Summary

Ten instances are cited of soft song mimicry by the Brown Oriole *Oriolus szalayi* observed within an 8 km radius of Popondetta, Oro Province, PNG. Because of the nature of this mimicry a new term - soft song mimicry (SSM) - is suggested to describe it. Brown Oriole SSM consists of low, scratchy warbles and harsh notes interspersed with identifiable mimicry of several lowland bird species; it is usually followed without pause by a normal, full-volume Brown Oriole advertising song. Whether both sexes perform SSM is not known. All the recorded instances occurred in impoverished environments and some in the presence of the avian models or other loud, penetrating songsters.

It is suggested that the SSM/normal volume advertising song units are an attempt at song diversification, to deter inter- and intra-specific competitors and to maximise the Brown Oriole's fitness in impoverished environments.

Distribution

The Brown Oriole is found in the Western Papuan Islands and all New Guinea lowlands, from sea-level up to 1400 m (Beehler *et al.* 1986). However, congeneric oriole species forming a superspecies with *O. szalayi* are found through the Moluccan Islands, Tenimbar, Wetar, Timor, the Lesser Sundas, New Guinea and Australia.

Unusually for an oriole, though in common with some other Australasian oriole species, *O. szalayi* is rather drably coloured; adults being basically brown with a streaked underside and a dark red bill.

Description of SSM

The vocal mimicry of the Brown Oriole as reported here takes the form of scratchy warbles and harsh notes among which may be heard mimicry of the calls of Red-checked Parrot *Geoffroyus geoffroyi*, Spangled Drongo *Dicrurus hottentotus*, Singing Starling *Aplonis cantaroides* and Raggiana Bird of Paradise *Paradisaea raggiana*, also once, incongruously but quite definitely, the song notes of the Northern Fantail *Rhipidura rufiventris*. Particularly in comparison with normal-volume song of the Brown Oriole, these mimicked calls are all given at low absolute volume, but nevertheless they can be heard quite clearly at a distance of c. 80m. This low-volume mimicry is usually followed without pause by a loud, normal-volume, rollicking

advertising song. When followed by such a song (70% of observations) without exception it is the same song which is given. The reason why 30% of examples of low-volume mimicry are not followed by normal-volume advertising song is not known.

Sexes of the Brown Oriole are alike and it is not clear whether both employ low volume vocal mimicry, although on each of two occasions when two Brown Orioles were visible only one bird was performing mimicry.

In referring to secondary song, Van Tyne & Berger (1976) define whisper song as "the quiet inward rendering of the primary song with or without slight variation or additions and with an auditory limit of no more than about twenty yards.". They further define subsong as "the very quiet inward rendering of song which is intrinsically different from the primary song.". Brown Oriole low-volume vocal mimicry does not totally fit either of these definitions. The Brown Oriole mimicry described here, whilst quiet, was clearly audible at 80m and I could not distinguish any Brown Oriole primary song in the low-volume mimicry.

As these low-volume vocalisations were loud in comparison with accepted definitions of normal subsong and whisper song, apparently contained no primary song, and were usually immediately followed by loud, normal-volume advertising song it seems preferable to describe them differently: I propose the term "soft song mimicry" (SSM).

Observations

I first observed SSM by the Brown Oriole on 23 October 1983. All observations were made at three separate localities: i) in Popondetta town; ii) in an area of secondary forest, bushland and gardens, *etc.*, c. 3 km northwest of Popondetta; iii) in the Girua/Haijo logging area c. 8 km due east of Popondetta, in a patch consisting of selectively logged forest, tracks, an unsealed road, food gardens and secondary bush.

Popondetta lies within the tropical coastal New Guinea lowlands at 84 m. It is c. 19 km from the coast and lies on a plain consisting of a mosaic of forest, secondary growth, coarse grassland and cultivation, dissected by a river system dominated by the radial pattern imposed by the slopes of the quiescent Mount Lamington volcano. The forest is advanced secondary and seral forest of various stages and types. Much of the area has been radically altered by human activity *viz.*, plantation, agricultural blocks, logging, urbanisation, *etc.* Development of large-scale cocoa planting in the sixties and of a vast oil palm scheme covering some 10000 hectares in the seventies and eighties (Clapp 1979, 1981) has irreversibly changed large areas.

Despite an average annual rainfall of some 2405 mm (McAlpine 1973) plants in the Popondetta area often undergo some moderate moisture stress, particularly during the drier months.

Table 1. Soft Song Mimicry observed in the Popondetta area 1983/84

Date	1983				1984					
	23/10	18/12	26/12	31/12	01/01	15/01	17/01	19/01	30/06	08/07
Time	about 1600	0710	0650	0850	0710	0800- 0830	1610- 1630	1300	1115	1415
Site	G	P	P	P	P	N	P	P	P	G
SSM with normal song	*	*		*	*	*	*		*	
SSM without normal song			*				*	*		*
Model Present	SS	NO	NO	NO	NO	SD	NO	NO	NO	NO
Other Catalyst present	NO	SD	SD	NO	GST	RB	NO	NO	NO	NO
Species Mimicked										
<i>G.geoffroyi</i>					?			*	*	
<i>R.rufiventris</i>						*				
<i>A.cantoroides</i>	*									
<i>D.hottentotus</i>						*				
<i>P.raggiana</i>		*	*		?					
No of Orioles Present	1	1-2	2	1	1	1	1	1	1	1?

G = Girua/Haijo; P = Popondetta; N = 3 km north of Popondetta

SS = Singing Starling; SD = Spangled Drongo; GST = Grey Shrike Thrush; RB = Raggiana Bird of Paradise.

The full list of observations is summarised in Table 1, but as SSM by the Brown Oriole has not been previously reported in the literature it is worthwhile detailing some of the more interesting examples.

18 December 1983: At 07:10 in Popondetta, in a tall *Casuarina equisetifolia*, I saw a single Brown Oriole. Six or 7 m away in the same tree were four Spangled Drongos *Dicrurus hottentotus*. The oriole was uttering unusual noises in a low tone, but these

were clearly audible from c. 70 or 80 m. There were some harsh, unidentifiable sounds, but also several clear imitations of Raggiana Bird of Paradise *Paradisaea raggiana*. From this SSM the Brown Oriole proceeded immediately into a normal-volume Brown Oriole advertising call. This occurred several times and after several minutes a second Brown Oriole flew to a perch near the Spangled Drongos and then flew off again, whereupon the SSM ceased. Whilst present the drongos were calling, interspersing their calls between the Brown Oriole mimicry and song.

26 December 1983: At 06:50 in Popondetta I saw one Brown Oriole (A) in a casuarina and another (B) in the same tree 3 or 4 m distant and higher. A single Spangled Drongo was also in the tree, higher than oriole A and 3 or 4 m distant. Initially oriole A sang normally, then it went into a rasping, high-pitched, soft song, on this occasion not followed by a normal Brown Oriole advertising song (indeed, oriole A did not sing normally for some 10 minutes). None of the soft song could be clearly identified as mimicry except some clearer calls at the end which were mimicry of *P. raggiana*. The soft songs were much quieter than normal Brown Oriole song. The length of the soft song bouts varying between 5 and 15 seconds. Occasionally the Spangled Drongo called, as did oriole B (with a normal Brown Oriole song). Eventually the drongo flew off, but oriole A continued with SSM. Then oriole B departed and shortly afterwards oriole A gave one drawn-out normal Brown Oriole call (not the rollicking advertising song and not at the end of an SSM bout) and then flew off. The SSM was clearly audible from 40 to 50 m distance.

1 January 1984: At 07:10 in Popondetta a Brown Oriole was in a casuarina tree. It was uttering SSM which apparently started when several Grey Shrike-Thrushes *Colluricincla harmonica* came to the casuarina. The SSM consisted of jumbles of harsher notes ending in some clearer notes that could have been mimicry of *P. raggiana* or Red-cheeked Parrot *Geoffroyus geoffroyi*, these being followed immediately by a normal-volume advertising song.

15 January 1984: Between 08:00 and 08:30, 3 km NW of Popondetta, in a large spreading tree, a Brown Oriole uttered SSM and obviously mimicked a Spangled Drongo with the latter's harsh and varied calls. Sometimes the oriole ended the SSM by immediately giving a loud normal advertising song, but sometimes the mimicry ended without this. The SSM was always much quieter than the normal song. In the immediate vicinity, indeed at times in the same tree, both *D. hottentotus* and *P. raggiana* were present. At one stage the Brown Oriole was giving SSM in bursts while at least one Spangled Drongo was simultaneously calling at intervals - possibly an example of interspecific countersong through mimicry.

30 June 1984: A single Brown Oriole was seen and heard giving SSM at 11:15. The SSM appeared to be distinctly louder than on other occasions - yet still well below the volume of normal Brown Oriole song. The only calls recognisable in the SSM were

those of the Red-cheeked Parrot.

Discussion

These are the first recorded instances of vocal mimicry by the Brown Oriole outside of its relationship with the Helmeted Friarbird *Philemon buceroides* (Peckover & Filewood 1976; Diamond 1982; Clapp 1982a, 1986) although the Brown Oriole does apparently practice SSM in the Port Moresby area (B.W. Finch, pers. comm.).

The closely related Olive-backed Oriole *Oriolus sagittatus* of Australia and southern New Guinea, has a subsong which includes mimicry interspersed with scratchy warbles (Pizzey & Doyle 1980). Several members of the Oriolidae are listed by Baylis (1982) as performing interspecific vocal imitation (mimicry). Peckover & Filewood (1976), in discussing the interspecific visual mimicry of *P. buceroides* by *O. szalayi*, say: "this mimicry extends to the calls, for both species have many vocalisations in common." I consider that too sweeping a statement but agree that some apparent vocal mimicry of *P. buceroides* by *O. szalayi* does occur.

Brown Oriole SSM does not conform to the normally accepted description of mimicry in subsong (Van Tyne & Berger 1976) and has the unusual feature of being completely unitary with normal full-volume advertising song in 70% of my observations. On balance, the occurrence of Brown Oriole SSM and the presence either of a model species or of one with a loud song, seems connected. The presence of another Brown Oriole also seems to be a stimulus for SSM.

All 10 observed instances of Brown Oriole SSM occurred in secondary, suburban or severely disturbed habitats and this may be significant.

The Brown Oriole is cryptically coloured - basically brown, with grey, black and white and much streaking. In the field the overall impression is that of a brown bird. Despite its normally loud song and calls it can be difficult to locate in the thick, sun-dappled, tropical forest canopy. Those calls mimicked by the Brown Oriole in SSM are, when uttered by the models, loud, far-carrying or otherwise conspicuous calls, except for that of *Rhipidura rufiventris*. In this way Brown Oriole SSM apparently conforms with a great deal of mimicry in true subsong (Baylis 1982).

The alternation of SSM and warbles with full-volume Brown Oriole advertising song may be "information coding" as discussed by Baylis (1982).

The primary message in the mimicry may be to let competitors (both inter- and intra-specific) know that the mimicking individual is present. The normal full-volume Brown Oriole song following the SSM would serve to inform the models and other

orioles that the mimic is really a Brown Oriole and thus reduce aggression. Only the loud, rollicking advertising song is used in a unitary fashion to end SSM, and this suggests that the SSM has an advertising role.

There does appear to be some interaction with the models. On several occasions the models were present during SSM and on others, birds were present which were mimicked by the Brown Oriole at other times. Sometimes the Spangled Drongo called at the same time as the Brown Oriole was performing SSM of its calls. However I saw no overt aggression at all between mimics and models or other species.

I never observed SSM during feeding. Nor was SSM encountered during more than 42 hours observation of breeding orioles (Clapp 1982a, 1986). It is interesting to note that Brown Orioles would never encounter Raggiana Birds of Paradise in Popondetta, and Spangled Drongos only very irregularly, although both of these species are present in the forest just a few kilometres away. The inclusion of the calls of these birds in the mimicry repertoires of Brown Orioles in Popondetta suggests that orioles I observed, and which have also bred in town spend a good deal of their time in adjacent forest and secondary habitats possibly feeding on fruit, little of which would be available in the town.

I believe that the SSM I observed was not due to chance resemblances to vocalisations of the supposed models. In particular the number of instances of SSM of the Red-cheeked Parrot would preclude chance. It is also apparent that Brown Oriole SSM is not a developmental stage in song learning. No Brown Oriole primary song was discernible in the SSM and the Brown Oriole advertising song was used competently and loudly by the mimic in every instance except one, when it was absent altogether.

There appears to be more than one receiver class i.e. other Brown Orioles constitute one receiver class and the various interspecific models constitute another. This possibly reflects the same message being given to two different classes of competitors in two different ways, interspecific communications through SSM and intraspecific communication through the normal advertising song which follows.

Despite residence in PNG from 1970 to 1984, I never noticed Brown Oriole SSM before 1983. All my observations of SSM took place in impoverished environments, where it may be vital for male Brown Orioles to maximise their hold over territory and hence over females, food and nesting sites (Clapp 1982b), all three of which are liable to be in short supply in relatively poor environments. Possibly the SSM/normal advertising song unit is an attempt to protect resources in an impoverished environment. Neither insects nor fruit are so plentiful in depauperate environments such as towns and this particularly applies to fruit of the sort eaten by Brown Orioles. This may be a dynamic situation reflecting the increasing degradation of the environment in the

vicinity of Popondetta and, in the Oro Province at least, SSM may indeed not have occurred much before then.

Brown Orioles tend to perch in one place for lengthy periods and to sing the same songs repeatedly at frequent intervals for long periods (pers. obs.; Peckover & Filewood 1976). Conceivably other Brown Orioles and other species may become habituated to the oriole's monotonous singing and thus tend to ignore its message. Cryptic in colouration, Brown Orioles tend to be "invisible" or low profile in their environment for much of the time. It might well be advantageous to a Brown Oriole to be able to diversify its song to make it more conspicuous to certain competitors or potential mates.

I therefore conclude tentatively the Brown Oriole SSM/full volume advertising song unit is a means of song diversification in order to maximise oriole fitness in impoverished environments.

I wish to thank B.J. Coates and J. Oliver for their helpful criticism and comments on earlier versions of this paper. I am grateful also to B.W. Finch for information.

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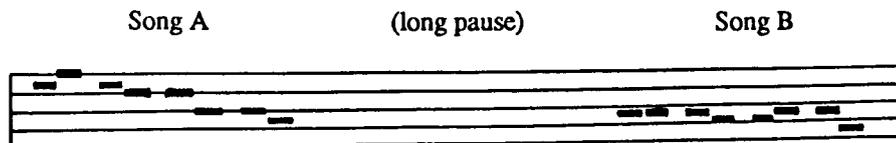
“COUNTER-SINGING” BEHAVIOUR OF THE LESSER GROUND-ROBIN *AMALOCICHLA INCERTA*.

STEPHEN F. BAILEY

The Lesser Ground-Robin *Amalocichla incerta* is typical of many terrestrial forest birds in being difficult to see. It is said that its voice is “the best means of discovery” and that “often two birds will counter-call” (Beehler *et al.* 1986). On 18 September 1989 I watched a single Lesser Ground-Robin singing in such a manner that it sounded as if two birds were counter-singing. Therefore I suggest that at least some previous records of two birds of this species counter-singing may instead have been based on a single bird singing to itself.

I was bird-watching on the ridge track above Myola, Northern Province, at c. 2450 m. The topography was a steep slope with small “steps” or flat areas, covered by variously thick forest floor vegetation. At 08:35 I heard a beautiful and distinctive whistled song I had not heard before. Eventually it became clear that the singers were on or near the ground and were moving about between songs. By waiting quietly on the track, I was eventually able to see the single bird responsible for all the songs. I observed this bird until 09:08. Not only did the bird come into view but at times it walked within 4 m of me, in clear sight.

The bird continually shifted its location in short movements of 1 - 3 m, at a fast walk or slow run. It foraged like a plover, with each short run abruptly ending in a frozen stop of a few seconds duration, except that the ground-robin also sang at its stops. It alternated two 8-note songs, giving each at consecutive stops. Thus, no two songs were given from the same location. Each note was a short, clear, and pleasant whistle of equal duration and the notes were delivered in pairs of equal length and separation. Song “A” was followed by a long pause, during which the bird moved to a new location from which song “B” was given. Both songs were of the same duration. I estimate that each was c. 2.2 seconds long and the inter-song interval (A to B) averaged c. 5 seconds. Unfortunately, I cannot remember whether the interval B to A was longer. The relative pitches and timings of the songs can be depicted as follows:



The two parts seemed to complement each other beautifully, in the form of statement and answer. The whole performance was one of the most aesthetically pleasing that I have heard from a bird.

As songs A and B were never given from the same location and because they sounded like two different birds, each singing its own stereotyped song, it sounded as if two birds were moving about, counter-singing. Only because I had an extended view of the single bird moving about and delivering the entire performance could I tell that the “counter-singing” was an illusion.

The identification of this Lesser Ground Robin was based on its distinctive long-legged and short-tailed shape, reddish-brown colouration, whitish throat and forehead, and terrestrial behaviour. It was recognised from the illustration in Beehler *et al.* (1986), although it was darker and more contrastingly patterned than portrayed. In particular, the dorsal plumage was a darker, more chestnut in colour, and the forehead appeared to be more sharply defined at the lores. The whitish throat was most noticeable when puffed out in song with the head thrown up and back. The bill also seemed slightly larger.

I thank the Christensen Research Institute, the California Academy of Sciences, the people of Myola, Roger and Jenny Hicks and the participating PNGBS members for making my trip possible and rewarding.

This is CRI publication number 48.

Beehler, B.M., T.K. Pratt & D.A. Zimmerman. 1986. *Birds of New Guinea*. Princeton University Press.

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EXTENSION OF THE KNOWN RANGE OF GOLDEN-HEADED *CISTICOLA CISTICOLA EXILIS*

LEN TOLHURST

At 11:30 on 26 March 1989 I, in the company of two others, saw two Golden-headed Cisticolas in the Tari Gap area, Southern Highlands Province. They were in tall pit-pit grass, beside the highway, c. 0.5-1 km above the Bailey Bridge. This would be at c. 2666 m, *i.e.* 1266 m above its recorded highest limit (Beehler *et al.* 1986).

Beehler, B.M., T.K. Pratt & D.A. Zimmerman. 1986. *Birds of New Guinea*. Princeton University Press.

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MIMICRY BY SINGING BUSHLARK *MIRAFRA JAVANICA*

NIKLAS WAHLBERG

On 13 February 1988 a Singing Bushlark *Mirafra javanica* was observed using mimicry in its display flight at Dogura Inlet, Bootless Bay, National Capital District. The bird flew up to a height of c. 8 m and slowly "parachuted" back to the ground singing. The calls of Willie Wagtail *Rhipidura leucophrys*, Rainbow Bee-eater *Merops ornatus* and a meliphaga honeyeater *Meliphaga* sp. could be discerned in the song. The imitations were very clear and fooled me when I first heard them. All species that were mimicked were present in the area.

The Singing Bushlark occurs from Africa through southern Asia to Australia. It is described as an accomplished mimic in Australia (Pizzey & Doyle 1980) but apparently this has not been noted elsewhere (King *et al.* 1975; Serle *et al.* 1977; Williams & Arlott 1963) including PNG (Rand & Gilliard 1967; Beehler *et al.* 1986). Other *Mirafra* larks are known to be mimics and in fact the Sabata Lark *M. sabata* imitates over 60 other species of bird (Maclean 1985).

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EXTENSION OF THE KNOWN RANGE OF HELMETED FRIARBIRD *PHILEMON BUCEROIDES*

LEN TOLHURST

From 27 March - 2 April 1989 while staying at Rakamanda, Enga Province, I saw, but more often heard Helmeted Friarbirds. I only saw one, on 27 March. The altitude range for this species has been given as "... sea level - 1000 m (rarely to 1500 m)" (Beehler *et al.* 1986). Rakamanda, at 2166 m, is c. 666 m above the reported upper altitude limit of this species.

- Beehler, B.M., T.K. Pratt & D.A. Zimmerman. 1986. *Birds of New Guinea*. Princeton University Press.

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EXTRA-BOWER DISPLAY OF MACGREGOR'S BOWERBIRD *AMBYLORNIS MACGREGORIAE*

ROY D. MACKAY¹ AND GAIL CHEESEMAN²

In August 1987 we made a three day visit to Ubaigubi with an American bird-watching tour group. Ubaigubi is a remote, but popular bird-watching area at 1880 m near Crater Mountain in Eastern Highlands Province (sheet 7985, Goroka, 1:100000 series map, map ref. BN9982). Near the guest house are several hides overlooking the display grounds of birds of paradise and bowers of Macgregor's Bowerbird.

We independently observed an unusual, and apparently unrecorded, display of the male Macgregor's Bowerbird and only when comparing notes subsequently, realised we had seen the same behaviour.

On the afternoon of 20 August 1987, Gail Cheeseman observed a bower for over an hour during which she heard the bird give some mimicking calls and saw the unusual display for about 10 minutes. On the afternoon of 21 August 1987 Roy Mackay observed a different bower for nearly three hours and in that time saw the unusual display for almost an hour, broken into two periods.

This display was unusual because it took place a short distance from, but within sight of the bowers. During the display the bird leapt from sapling to sapling, flapping its wings once or twice to cover the distance. During each leap the bird's golden-orange crest was flashed fully open and then closed as the bird landed in the next sapling. The saplings were only 3 - 10 cm in diameter. The leaps were c. 2 - 6 m long and were made between 2 and 4 m above the ground, and up to 15 m away from the bower. Each leaping display lasted from 2 - 10 minutes, interspersed with a rest period, sometimes spent giving typical bowerbird grating or churring calls or mimicry. Some of the vocalisations seemed to be mimicking an axe hitting a tree, a dog barking, the rustling of *Pandanus* leaves and people talking at a distance.

As we were to return to Goroka the next morning we could not observe these displays again. The impression we gained was that the birds were widening their area of influence to attract females by displaying away from the bower, but close enough to it to be able to lead the female down. The flashing of the crest, calls and mimicry away from the bower may provide greater potential for attracting females than the more usual behaviour of sitting in a tree close to the bower and calling as described by Cooper & Forshaw (1977), Diamond (1984), Marshall (1954), and Pruett-Jones & Pruett-Jones (1986).

I am grateful to Clifford D. Frith for examining this paper and suggesting improvements to its presentation.

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(Ubaigubi Lodge is not currently open to the public. Ed.)

DISPLAY OF THE GLOSSY-MANTLED MANUCODE *MANUCODIA ATRA*

NIKLAS WAHLBERG

At 08:00 on 3 January 1989 I briefly observed a displaying Glossy-mantled Manucode *Manucodia atra* near Tufi, Northern Province. The bird was in the crown of a tall tree, in a clump of forest amidst wet savanna. The characteristic call of the Glossy-mantled Manucode had been heard earlier and was used to locate the bird. The view of the bird in display was partly obscured by foliage but the following was noted. The presumed male threw its wings forward, so that the wings were level with its head, and then produced its long monotonous whistle. A higher pitched whistle was then heard and I realised another bird (presumed to be female) had answered the displaying male. This all happened in about 15 seconds. The performance was repeated and then the birds flew off, with a third previously unnoticed bird.

This display has apparently not been described before (Cooper & Forshaw 1977; Gilliard 1969). Descriptions of the Glossy-mantled Manucode display say the wings are only partially spread and shaken along with the tail. Perhaps this is only part of the display, continuing with what I observed.

Cooper, W.T. & J.M. Forshaw 1977. *The Birds of Paradise and Bowerbirds*. Collins.
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VARIATION IN THE DISPLAY OF THE MAGNIFICENT RIFLEBIRD *PTILORIS MAGNIFICUS*

ROY D. MACKAY

The basic courting display and some variations of the display of Magnificent Riflebird have been described several times (Selous 1927; Crandall & Leister 1937; Crandall 1938; Gilliard 1969; Diamond 1972; Coates 1973; Cooper & Forshaw 1977). The known displays of the Magnificent Riflebird are summarised in Cooper & Forshaw (1977), Gilliard (1969) and Coates (1973). The displays described by Selous, Crandall & Leister and Crandall were given by solitary caged males. This is important as the following descriptions show that contact with the female may be a necessary part of the displays.

Over a period of four years, 1978 - 1982, I observed a male Magnificent Riflebird perform the basic display many times in the aviaries of the Baiyer River Sanctuary, Western Highlands Province, PNG. However, on a few occasions I noted additional features of the display apparently not described before.

In the basic display (as I term it) the male perches on a horizontal or sloping branch, spreads his wings to the fullest extent, with the underside of the wing facing forward and with the neck extended upward to show off the brilliantly coloured throat-shield. Then, while the bird raises and lowers himself on his legs and opens and closes his wings a little, to give a rustling sound, he leans his head and neck alternately along the top edge of each wing. This display usually goes on for at least 10 seconds, but sometimes nearly double that time. Sometimes, with the wings spread he will sway his whole body at right angles to the perch, to right and left.

The two variations I noted appear to me to be a pre-basic display and a post-basic display.

In the pre-basic display the male, on his display perch, preened his feathers, fluffed them out and uttered short chirrups and chuckles. Occasionally the wings were flicked half open and closed which usually denoted an imminent full basic display.

On two occasions a female advanced onto the display perch and as the male and female approached each other, without sound, both went into a "trance-like" condition. The female crouched low to the perch, very slowly stretched her head up until her throat and breast were displayed to the male. She stayed in this position for about eight seconds, while the male, in similar "trance-like" movements, stretched his head out to the female and tapped her gently on the breast; four times on the first occasion and three

on the second. After this action the female came out of her trance and flew to a nearby perch. She watched the male who, after some preening and a few more chirrups and chuckles, went into the full basic display.

The post-basic display was noted on two occasions, but not at the same time as the pre-basic displays described above, and also involved the female. First the female sat on the display perch, a little apart from the male, and went into the "trance-like" condition described above. The male immediately went into the full basic display, rising and falling about 10 times. Then, still with wings spread, he turned to the female and clapped her between his spread wings several times. Immediately after this the birds separated and no further activity took place.

Subsequently I have seen them make half-hearted attempts at the pre-basic display, but never as fully as on the occasions described above.

I wish to acknowledge the scrutiny and helpful suggestions given by Clifford D. Frith.

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AN UNUSUAL NESTING HABIT FOR SWIFTLETS

MICHAEL K. TARBURTON

Throughout their Oriental-Pacific distribution swiftlets have been described as nesting on the rock walls or roofs of cavities and caves. Many such sites are under overhanging rock surfaces, a situation that presumably provides protection from predation by mammals and reptiles. Some species make their nesting sites even safer by only using locations that occur in total darkness (Tarburton 1986). This practice makes brooding swiftlets less vulnerable to attack from visually directed predators such as mammals and birds. Consequently, the major predators, e.g. snakes and feral cats, on nesting swiftlets take birds at low or narrow passages between their nests and the cave entrance. Predation at the nest is very limited.

Swiftlets nesting at high altitudes in PNG provide exceptions to these generalities in that they sometimes nest on cave floors. This has been noted in two species, the Mountain Swiftlet *Collacalia hirundinacea*, which is found in the mountains of Irian Jaya (Greenway 1978), mainland PNG (Mayr & Rand 1937; Rand 1942), Japen, Dampier and Goodenough Islands (Mayr 1937), and the White-rumped Swiftlet *Collacalia spodiopygius*, which throughout its wide distribution beyond PNG nests on the overhanging walls or roofs of caves (Tarburton 1986).

Until recently most ornithological expeditions into PNG have concentrated on taking specimens for identification and few swiftlet breeding colonies were located and described. In one exception Rand (1942) noted that the Mountain Swiftlet nested on ledges in subdued light near the bottom of a sink hole. This report did not indicate whether or not the ledges were on overhanging rock.

More recently Australian cavers on speleological expeditions into PNG have noted some swiftlet breeding sites on the floor of the caves. One cave containing White-rumped Swiftlets was at c. 1090 m on the Lelet Plateau, central New Ireland (P. Wilson, pers. comm.). The nests were among rocks and flowstone on a rock pile (Figure 1) at the bottom of a ladder pitch, not far from the cave entrance.

The second location involved Mountain Swiftlets and was in the Mamo Kananda Cave (formerly known as Atea Kananda Cave, M.R. 300) which is at 2000 m in the Muller Range, Southern Highlands Province (J.M. James, pers. comm.; Smith 1978). Most nest sites were on the roof in entrances or entrance chambers. Some solitary nests were found on the ground up to half a kilometre from the nearest known entrance.

As the widespread habit of nesting below overhanging rock would seem to prevent or significantly reduce predation for most swiftlet species, why is it that these swiftlets survive while nesting on the floor or on ledges close to the floor? It is difficult to conceive of any reason other than that the predators of swiftlets are uncommon at these high altitudes. Pythons and tree snakes are major predators of swiftlets in caves (Tarburton 1988) and it may be that it is too cold for such reptiles at these high altitudes. Max Mulligan and Clive Butcher, (pers. comm.) who have lived in many parts of the highlands for six years have never seen any pythons or tree snakes above 1000 m. Earthwatch personnel collecting lizards on Mt Kaindi found very few snakes at all between 660 and 3300 m (Gressitt & Nadkarni 1978).

Feral cats are the other known major ground-based predator of nesting swiftlets, but are uncommon and the only other mammalian predators able to prey on ground nesting swiftlets are rats. These are unlikely to have much impact as the introduced species (*Rattus exulans*, *R. norvegicus* & *R. rattus*) are the only ones known to eat birds and they are confined to coastal towns and lowlands (Menzies & Dennis 1979). The largest

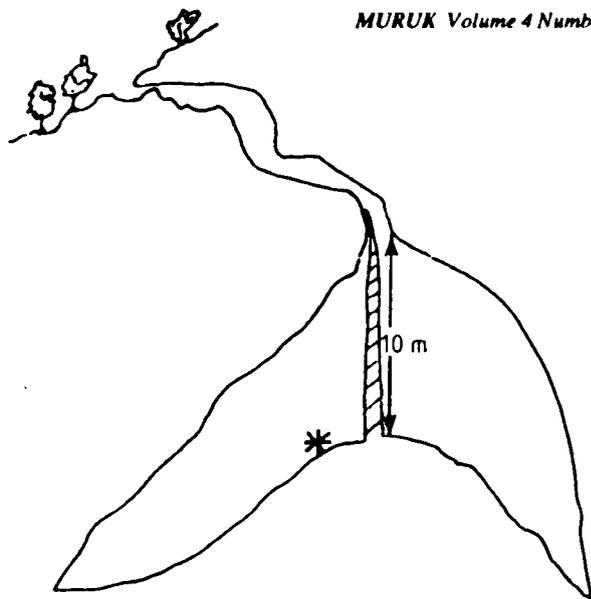


Figure 1. Cross section of the cave on the Lelet Plateau, New Ireland, showing the unusual nest site for White-rumped Swiftlets. An asterisk denotes the position of the nest, near the bottom of a 10 m ladder pitch.

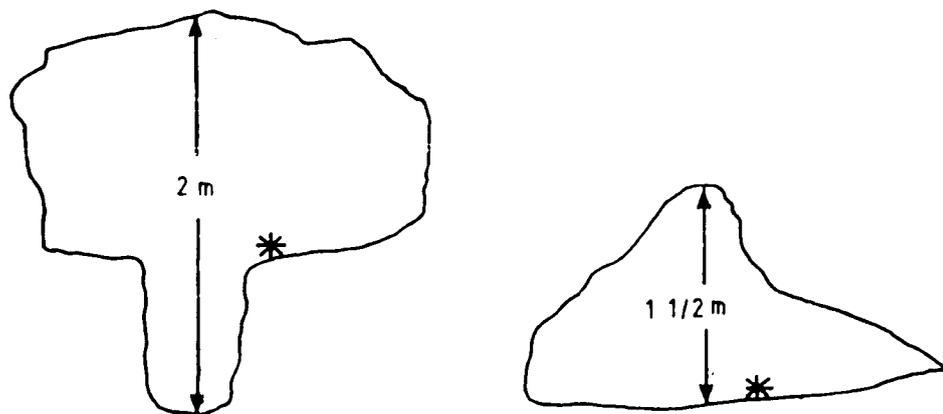


Figure 2. Cross section of two sites in the Mamo Kananda Cave where Mountain Swiftlets were nesting on the cave floor. Asterisks designate the location of the nests.

native rat is the Black-eared Giant Rat (*Mallomys rothschildi*) and it is known to be entirely vegetarian (Menzies & Dennis 1979). It could well be this lack of reptilian and mammalian predators that allows the swiftlets to indulge in this very different and seemingly unsafe nesting behaviour.

I wish to thank Julia M. James of Sydney University and Paul Wilson of Brisbane for sharing their information on swiftlets nesting in Papua New Guinea. I thank Charlie Collins of California State University for criticising this paper.

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NEST OF THE BLUE-CAPPED IFRITA *IFRITA KOWALDI*

BARRY C. HOPKINS

On 18 June 1989 the nest of a Blue-capped Ifrita was discovered, near the village of Myola, Northern Province, at c. 2100 m. This note is presented here as only a brief description of a Blue-capped Ifrita's nest appears in Rand & Gilliard (1967) and no further descriptions could be found.

The nest was in a tree with a trunk diameter of 15 - 22 cm. It was situated on a branch about 30 - 45 cm from the trunk and about 150 - 180 cm (*i.e.* eye-level) above the ground. The external dimensions of the nest were 15 - 18 cm across and 8 - 11 cm deep, but it was not quite uniform in shape because of the way it was attached to the branch. It was not tidily constructed and was covered on the outside, at least, with the same mosses as were to be found on most trees in the vicinity. This combination provided good camouflage and it was only because a bird was seen on the nest that it was

recognised as such. The ifrita was seen sitting in the nest and tending to it for not much more than 30 seconds, although it could have been there longer as it was not seen arriving. It did not reappear during this first period of observation nor during a subsequent visit.

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EASTERN ALPINE MANNIKINS *LONGHURA MONTICOLA* NESTING

RICHARD GREGORY-SMITH AND JUDYTH GREGORY-SMITH

While at Myola (Northern Province), 16 - 19 September 1988, we observed two Eastern Alpine Mannikins *Lonchura monticola* nest building near the village (2100 m). The birds were carrying material from a patch of rushes on the village side of the stream and building c. 3 m above the ground in a small tree on the far bank.

The domed nest appeared to be entirely constructed of rushes and grasses. It had an entrance hole in one side which was neatly woven, unlike the nests of some other species of mannikin. Another nest was in a similar tree and situated further down the creek.

Myola is lower than the normal altitude range for this species (Beehler *et al.* 1986) but Eastern Alpine Mannikins have regularly been recorded there over the past two years (Hicks 1987).

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OBSERVATIONS OF THE FEEDING HABITS OF SOME NEW GUINEA BIRDS IN MADANG PROVINCE

LUIS F. BAPTISTA

Incidental to my studies of vocalizations of various New Guinea birds conducted between 17 December 1988 and 26 January 1989 I made observations on their feeding habits at various localities near Madang (Baitabag, Nitul, Alexishaven, Jais Aben, Rivo) and on Bagabag Island, Madang Province. Here, I report on data for eight species belonging to three families as a contribution to the growing literature on food habits of birds from this fascinating biogeographical region.

Buff-faced Pygmy Parrot *Micropsitta pusio*.

Little is known about the food habits of this or any other species of pygmy parrot. Stomach contents of *M. pusio* taken on Bagabag Island, Madang Province, consisted of (unidentified) insects and a white paste (Diamond & LeCroy 1979). Forshaw (1977) observed two individuals eating lichen, and indicated that they also fed on fruits, seeds, insects and larvae. One most often sees these diminutive birds moving up or down the trunks and branches of trees and picking up small objects from the bark surface or flaking off pieces of bark and consuming the items thus exposed.

Beehler *et al.* (1986) state that they feed on "lichens, bark fungus (and termites?)" suggesting that termites have not been determined with certainty as a part of this parrot's diet. The following observations indicate that these insects may indeed be an important food item for *Micropsitta*.

On 24 January 1989, I heard pygmy parrots calling from high in coconut trees at the road junction between Jais Aben and Rivo village. I soon located two individuals perched against the trunk just below the crown. A termitarium of *Microceratermes biroi* (Termitidae) protruded from the tree trunk close to the birds.

Arboreal termitaria are usually melon-shaped structures consisting of woody material pasted against a tree trunk or branches. Tunnels made of the same woody material emanate in various directions from the main termitarium. If the tunnel material is scraped away, the passageways are exposed and legions of termites pour forth.

When first located, one of the parrots was busy tearing apart one of the termite passageways. The two then flew to a second coconut tree about 5 m away, which supported a small termite nest c. 0.5 m in length. One parrot immediately started removing pieces from the upper part of the termitarium facing the tree crown. The other was flaking off pieces of bark from the coconut tree and tearing off pieces from

the tunnelways leading to the termitarium. After a few minutes the two parrots exchanged roles, so that the first bird ripped apart the passageways while the second bird continued to dismantle the termitarium itself.

Thirteen minutes later a third pygmy parrot landed on the tree. The first bird rushed at the other two who flew away and then it returned to flaking off tree bark and tearing at the termite passageways. The parrot was still engaged in these activities when I left the area.

Termites are negatively phototropic, and when exposed to light would immediately seek dark places in which to hide. This may explain why the parrots tore off bark after damaging the tunnels. They were perhaps retrieving termites that had sought shelter beneath the bark flakes.

I could not actually see the parrots ingest termites. However, the fact that they spent at least half an hour dismantling a termitarium and its network of tunnels suggests strongly that these insects do indeed compose part of their diet.

Dusky Lory *Pseudeos fuscata*.

On 17 December 1989, raucous calls of a flock of Dusky Lories attracted me to a tall *Elaeocarpus sphaericus* tree on the grounds of Jais Aben resort. The tree abounded in round purple fruit and clusters of creamy-white campanulate flowers. The lories were actively feeding on the flowers. Because the bell-shaped corollas were pendant, the lories had to bow low with the body held below the horizontal to position their heads below a flower cluster, then turn the head so that the beak faced upwards, in order to ingest the nectar (and pollen?) in the flowers. Each parrot worked on several flowers in a cluster before proceeding to a different cluster. At no time did I see them eat the fruit.

Orange-bellied Fruit-Dove *Ptilinopus iozonus*

On 30 December 1988 I watched two Orange-bellied Fruit-Doves foraging on a *Ficus microcarpa* tree growing by the water's edge at Jais Aben resort. Both birds were fluttering about within the crown of the tree, a behaviour typical of feeding fruit-doves. I observed one individual plucking and swallowing figs.

Feeding activity was observed between 17:50 and 18:09. In between feeding bouts, both birds would call and sit quietly c. 30 cm apart or side by side touching each other.

Frith *et al.* (1976) list some 10 species of *Ficus* as food of *Ptilinopus iozonus* in the Port Moresby area. *Ficus microcarpa* does not appear to be previously recorded as a food item of this fruit-dove.

Superb Fruit-Dove *Ptilinopus superbus*

On Bagabag Island, on 25 December 1988, I observed a Superb Fruit-Dove pluck and swallow a fruit from a *Pipturus argenteus* tree. This tree is a member of the nettle family (Urticaceae). Unfortunately, the dove would not tolerate my presence and flew away, precluding further observations.

Mannikins (*Lonchura* spp.)

On 7 January 1989, I visited a grassy field, about half a hectare in area, in front of the Baitabag community school. I heard the call of mannikins and located a flock consisting mostly of Grand Mannikins *L. grandis*, smaller numbers of Chestnut-breasted Mannikins *L. castaneothorax*, and a few Streak-headed Mannikins *L. tristissima*. On 17 January and again on 26 January I observed a single individual of a fourth species, the Hooded Mannikin *L. spectabilis*. On the evening of 14 January I tried to estimate the number of mannikins in the field by counting them as they broke up into small flocks and flew to their night roosts, and I estimated 328.

All four species were observed plucking seeds from the introduced grass *Rottboellia exaltata*. This grass may grow as high as 2 m, and produces seeds as large as rice grains. Although the leaves and stems were brown in most of the plants, the seeds were green and "milky". The bills of some of the mannikins were stained green, apparently from eating the half-ripe seedheads.

Henty (1969) reported *Rottboellia* as rare in New Guinea. However, I found this grass growing abundantly at Baitabag and Nitul where it is evidently an important food source for these mannikins. I visited Baitabag 12 times, and on all these occasions observed the mannikins feeding on this grass.

The Grand and Chestnut-breasted Mannikins were also observed plucking seeds from wild sugar cane *Saccharum robustum*. Grand Mannikins were observed feeding on *Saccharum* at Baitabag, Nitul and near Alexishaven.

Immelmann *et al.* (1977) report on Streak-headed Mannikins feeding on bamboo seeds. Stomachs of this mannikin taken on Karkar Island, Madang Province, contained mostly insects (Diamond & LeCroy 1979). On the mainland of New Guinea mannikins often coexist with *Cisticola* warblers. The authors suggest that mainland mannikins are granivorous as a result of competitive pressure from the insectivorous *Cisticola*. On Karkar, where *Cisticola* warblers are fewer, Streak-headed Mannikins might have been released from competition and have turned to an insect diet.

I thank CRI for funds which made my studies in New Guinea possible. Alistair Hay Matthew Jebb, Max Kuduk and Simon Saulei identified the plants. Phille Daur an

Emmet Easton kindly collected and identified the termites. Jared Diamond and Matthew Jebb read an earlier draft of the manuscript and offered helpful comments. This is CRI publication number 33.

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NOCTURNAL FEEDING BEHAVIOUR OF THREE DIURNAL RAPTOR SPECIES

JERRY WARNE

On 17 July 1988, whilst staying at Kiunga, Western Province, I noticed unusual nocturnal feeding behaviour of an adult Brahminy Kite *Haliastur indus* and two Australian Kestrels *Falco cenchroides*, although it is probably normal at this site.

Between 21:00 and 22:00 the birds preyed on a plentiful supply of moths that were attracted to powerful security lights illuminating the dock area, adjacent to the Fly River. Brief sorties from nearby perches were almost invariably successful. This active feeding behaviour was still taking place when I left the area. Mr D. Simpson (pers. comm.) has also seen Peregrines *Falco peregrinus* feeding in the same manner at this locality.

OBSERVATIONS ON THE FEEDING HABITS OF THE HUON ASTRAPIA *ASTRAPIA ROTHSCILDI*

PETER LAMBLEY

While staying in the village of Ogeranang, Morobe Province, 28 June - 2 July 1988, I was able to watch a Huon *Astrapia* come down into the village every morning at sunrise to feed on the berries of the introduced shrub Canadian Elder *Sambucus canadensis*. The berries are apparently very attractive to the birds and according to the villagers they will sometimes come down to feed even in the middle of the day if it is quiet. The shrub is common in the vicinity of villages in the area.

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ROOSTING HABITS OF WHITE-BREASTED WOOD-SWALLOW *ARTAMUS LEUCORHYNCHUS*

LEN TOLHURST

While observing birds for the PNGBS Town Bird Survey, I have noticed that a number of White-breasted Wood-Swallows have been gathering at dusk on the campus of the Pacific Adventist College. Over several nights during the later months of 1989, these birds have been seen to gather on a large power pole, which supports a break-down transformer. The numbers that gather vary, but on 6 December 1989 I counted c. 80 birds gathered together and getting into position for the night. They were perched mostly side by side, actually shoulder to shoulder, touching each other and all facing the same way. More than one location was needed to accommodate this number of birds. Mostly they sat on the timber cross-beams, out in the open with no cover over their heads at all. Some birds as they arrived forced their way between others. During the day only small numbers of these birds are seen around the PAC but in the evening they can be seen flying in and circling before taking up their roosting positions.

Address: Pacific Adventist College, Private Mail Bag, Boroko, NCD.

RECENT OBSERVATIONS JANUARY - MARCH 1989

COMPILED BY ROGER K. HICKS

All observations refer to the Port Moresby area unless the site name is followed by an abbreviated province name.

Contributors: Ian Burrows (IB); Bill Cooper (BC); Richard Gregory-Smith (RGS); Roger Hicks (RH); Geoff Smith (GS); Len Tolhurst (LT); Niklas Wahlberg (NW).

Abbreviations: ad = adult; Cen = Central Province; dk = dark; EHP = Eastern Highlands Province; Eng = Enga Province; I = Island; imm = immature; juv = juvenile; L = Lagoon; Mor = Morobe Province; NP = National Park; NSP = North Solomons Province; Oro = Northern Province; R = River; Rd = Road; SHP = Southern Highlands Province; SP = settling ponds; UPNG = University of PNG campus; Wes = Western Province.

Great Frigatebird 5 Jan, Arovo I, NSP (BC).	<i>Fregata minor</i>
Great Cormorant 23 & 30 Mar, 1, Moitaka SP (RH & RGS).	<i>Phalacrocorax carbo</i>
Darter 9 Feb, 1, Moitaka SP (RGS).	<i>Anhinga melanogaster</i>
Cattle Egret 9 Feb, 35, Moitaka SP (RGS); 25 Feb, c. 70, Kanosia L (IB); 3 Mar, c. 20, Kanosia L (IB).	<i>Egretta ibis</i>
Eastern Reef-Egret 26 Mar, 1, Yule I (RGS).	<i>Egretta sacra</i>
Striated Heron 23 Jan, 1, Roku (RGS).	<i>Ardeola striata</i>
Little Bittern 5 Jan, 2, Moitaka SP (RH & RGS).	<i>Ixobrychus minutus</i>
Yellow Bittern 5 Jan, Arovo I, NSP (BC).	<i>Ixobrychus sinensis</i>
Black Bittern 21 Jan, 1, Oxbow (RGS); 26 Jan, 1, Moitaka SP (RGS); 1, Feb, 2, in open at 11:00, Oxbow (NW); 2 Feb, 1, Moitaka SP (RGS); 23 Feb, 1, Moitaka SP (RGS).	<i>Ixobrychus flavicollis</i>
Straw-necked Ibis 11 & 18 Feb, 1, Kanosia L (NW <i>et al.</i>). The first sighting in the Port Moresby area for more than 25 years.	<i>Threskiornis spinicollis</i>
Osprey 5 Jan, Arovo I, NSP (BC); 2 Feb, 1, Moitaka SP (RGS); 25 Feb, 1, Hisiu (RGS); 11 & 12 Mar, 1, Arovo I, NSP (RH).	<i>Pandion haliaetus</i>
Crested Hawk 8 Jan, 1, Varirata NP (RGS).	<i>Aviceda subcristata</i>
Black-winged Kite 27 Mar, 1, Rakamanda, Eng (LT).	<i>Elanus caeruleus</i>

White-bellied Sea-Eagle 3 Mar, 1 ad, Touaguba Hill, Port Moresby (NW).	<i>Haliaeetus leucogaster</i>
Spotted Marsh Harrier 11 Feb (RGS) & 25 Feb (IB), 1, Kanosia L.	<i>Circus spilonotus</i>
Swamp Harrier 2 Jan, 1, Woitape, Cen (RGS); 7 Jan, 1, Kankas (RGS).	<i>Circus approximans</i>
Brown Goshawk 3 Jan, 1, Moitaka SP (RGS); 26 Mar, 1, Yule I (RGS); 26 & 28 Mar, 1 subad female, UPNG (IB).	<i>Accipiter fasciatus</i>
Grey Goshawk 2 Feb, 1, Varirata NP (RGS); 9 Feb, 1, Moitaka SP (RGS); 23 Mar, 1, Moitaka SP (RGS); 23 & 26 Mar, 1 female, UPNG (IB); 30 Mar, 1, Moitaka SP (RGS).	<i>Accipiter novaehollandiae</i>
Meyer's Goshawk 26 Mar, 1, Tari Gap, SHP (LT).	<i>Accipiter meyerianus</i>
Pied Goshawk 4 Jan, Kieta, NSP (BC); 3 Mar, 1, Aropa airfield NSP (RH); 12 Mar, 1, nr Toniva, NSP (RH).	<i>Accipiter albogularis</i>
New Guinea Harpy-Eagle 12 Feb, Mamba Plantation, nr Kokoda, Oro (BC).	<i>Harpyopsis novaeguineae</i>
Little Eagle 9 Mar, 1 dk phase, nr Gare's Lookout, Varirata NP (IB); 23 Mar, Ambua Lodge, Tari, SHP (LT); 26 Mar, 1, Yule I (RGS).	<i>Hieraetus morphnoides</i>
Brown Falcon 3-4 Mar, roosting at Pacific View Apartments, Korobosea (NW).	<i>Falco berigora</i>
Peregrine Falcon 18 Feb, 1, Oxbow (RGS <i>et al.</i>).	<i>Falco peregrinus</i>
Green Pygmy-Goose 25 Feb & 5 Mar, 2, Kanosia L (IB).	<i>Nettion pulchellus</i>
Pacific Black Duck 7 Jan, in coastal forest, on the road to Buin, NSP (BC).	<i>Anas superciliosa</i>
Garganey 11 Feb, 4, Kanosia L (NW); 25 Feb, 7, Kanosia L (IB); 5 Mar, 1, Kanosia L (IB); 19 Mar, 10, Moitaka SP (IB).	<i>Anas querquedula</i>
Australian White-eyed Duck 11 Feb, 2, (NW) & 18 Feb, 1, (RH), Kanosia L.	<i>Aythya australis</i>
Common Scrubfowl 25 Feb, 1, Hisiu Mangroves (IB).	<i>Megapodius freycinet</i>
Brown Quail 21 Jan, 2, Local I (RGS).	<i>Coturnix australis</i>
Buff-banded Rail 11 Feb, 1, Hisiu rd (NW).	<i>Rallus philippensis</i>
Red-necked Rail 12 Mar, 1, King Bird Tree (IB).	<i>Rallinatricolor</i>
Spotless Crane 1 Jan, 1, Woitape, Cen (RGS).	<i>Porzana tabuensis</i>
Bush-Hen 25 Feb, 2, on road nr Mariboi (IB); 12 Mar, 2, on road at King Bird Tree (IB).	<i>Amaurornis olivaceus</i>
Beach Stone-Curlew 28 Jan, 1, Roku (RGS); 2, Feb, 1, Obu Point (RH <i>et al.</i>).	<i>Esacus magnirostris</i>
Oriental Pratincole 25 Feb 5 Mar, 1, Kanosia L (IB <i>et al.</i>).	<i>Glareola maldivarum</i>
Eastern Curlew 25 Feb, 1, Hisiu Beach (IB).	<i>Numenius madagascariensis</i>

Whimbrel 25 Feb, 15, Hisiu Beach (IB).	<i>Numenius phaeopus</i>
Wood Sandpiper 25 Feb, 7, & 5 Mar, 1, Kanosia L (IB).	<i>Tringa glareola</i>
Grey-tailed Tattler 25 Feb, 30+, Hisiu Beach, (IB).	<i>Tringa brevipes</i>
Common Sandpiper 25 Feb, 5, Hisiu Beach (IB); 19 Mar, 2, Moitaka SP (IB).	<i>Tringa hypoleucos</i>
Terek Sandpiper 25 Feb, 2, Hisiu Beach (IB).	<i>Tringaterek</i>
Latham's Snipe 19 Mar, 1, Moitaka SP (IB).	<i>Gallinago hardwickii</i>
Swinhoe's Snipe 19 Mar, 6, Moitaka SP (IB).	<i>Gallinago megala</i>
Black-tailed Godwit 19 Mar, 5, Moitaka SP (IB).	<i>Limosa limosa</i>
Bar-tailed Godwit 25 Feb, 5, Hisiu Beach (IB).	<i>Limoslapponica</i>
Sharp-tailed Sandpiper 25 Mar, 2, Hisiu Beach, & 6, Kanosia L (IB).	<i>Calidris acuminata</i>
Pectoral Sandpiper 5 Mar, 1 in bp, Kanosia L (IB). Only the second northern spring record for PNG.	<i>Calidris melanotos</i>
Red-necked Stint 25 Feb, c. 100, Hisiu Beach (IB <i>et al.</i>).	<i>Calidris ruficollis</i>
White-winged Black Tern 16 & 23 Feb, 1, Moitaka SP (RGS).	<i>Chlidonias leucopterus</i>
Little Tern 18 Feb, 1, Obu Point (RGS); 25 Feb, 69, Obu Point (IB).	<i>Sterna albifrons</i>
Lesser Crested Tern 25 Feb, 1, Obu Point (IB).	<i>Sterna bengalensis</i>
White-throated Pigeon 2 Mar, 2, E Awini, Wes (RGS).	<i>Columba vitiensis</i>
Spot-breasted Cuckoo-Dove 6 Jan, Port-Mine Access rd, NSP(BC).	<i>Macropygia mackinlayi</i>
Great Cuckoo-Dove 22 Jan, 1, King Bird Tree (NW).	<i>Reinwardtoena reinwardtii</i>
Stephan's Ground-Dove 14 Jan, King Bird Tree (BC).	<i>Chalcophaps stephani</i>
Pink-spotted Fruit-Dove 22 Jan, 1, King Bird Tree (RGS).	<i>Ptilinopus perlatus</i>
Orange-fronted Fruit-Dove 25 Mar, 2, Hisiu Mangroves (RGS); 26 Mar, 4, Yule I (RGS).	<i>Ptilinopus aurantiifrons</i>
Orange-bellied Fruit-Dove 22 Jan, 8, King Bird Tree (RGS); 25 Feb, several, Hisiu Mangroves (NW).	<i>Ptilinopus iozonus</i>
Purple-tailed Imperial Pigeon 2 Feb, 1, Varirata NP (RGS).	<i>Ducula rufigaster</i>
Grey Imperial Pigeon 5 Jan, Arovo I, NSP (BC); 3 Mar, 10, flying over Arova airfield, NSP (RH); 10 Mar, 1, Arovo I, NSP (RH).	<i>Ducula pistrinaria</i>
Dusky Lory 3 Mar, N Fly R, Wes (RGS).	<i>Pseudeos fuscata</i>

Rainbow Lorikeet 23 Mar, common in Tari, SHP (LT); 27 Mar, common in Rakamanda, Eng (LT).	<i>Trichoglossus haematodus</i>
Meek's Lorikeet 7 Jan, Port-Mine Access rd, NSP (BC).	<i>Charmosyna meeki</i>
Yellow-billed Lorikeet 23 Mar, Ambua Lodge, Tari, SHP (LT).	<i>Neopsittacus musschenbroekii</i>
Palm Cockatoo 26 Feb, Gawam Rd, Mor, 1, sitting quietly in full view, with crest erected, near the top of a walnut tree (<i>Dracontomelon</i> sp). It was eating fruit and snapping off small twigs. A look at the fruit at the bottom of the tree showed it to be broken open, but only the fleshy part surrounding the seed had been eaten. No calls were heard. The bird was still in the same tree two hours later. (GS).	<i>Probosciger aterrimus</i>
Sulphur-crested Cockatoo 11 Feb, 1, Veimauri (RGS).	<i>Cacatua galerita</i>
Red-breasted Pygmy-Parrot 18 Mar, 3, Varirata NP (RGS). This would be the first record for Varirata NP. Visitors to the park should be aware this species could occur there and if seen please supply the PNGBS with full details (i.e. date, weather, description, association with other species).	<i>Micropsitta bruijnii</i>
Double-eyed Fig-Parrot 26 Feb, Gawam Rd, Mor, good view of a pair. The male spent most of the time hanging upside down, with the female perched nearby (GS).	<i>Cyclopsitta diophthalma</i>
Eclectus Parrot 3 Mar, 2, Dome, Wes (RGS); 24 Mar, 1, Paukama (RGS).	<i>Eclectus roratus</i>
Vulturine Parrot 12 Feb, 1, on the Markham - Labu Rd, Mor, was the first record for this area (GS); 3 Mar, 3, E Awini, Wes (RGS).	<i>Psittrichas fulgidus</i>
Papuan King-Parrot 26 Mar, below Bailey bridge, Tari Gap, SHP (LT).	<i>Alisterus chloropterus</i>
Malay Bronze-Cuckoo 25 Feb, 1 juv being fed by Mangrove Gerygone <i>Gerygone levigaster</i> , Hisiu Mangroves, also 1 ad (IB & NW).	<i>Chrysococcyx minutillus</i>
White-crowned Koel 27 Mar, Gawam Rd, Mor. This species is often heard, although not during this season, but seldom seen. However, one was observed flying over the road and perched in clear view on the lower branches of a tree in secondary growth. The bird was initially silent, but eventually started to respond to an imitation of its three-note call (GS).	<i>Caliechthrus leucolophus</i>
Channel-billed Cuckoo 16 & 23 Mar, 1, Moitaka SP (RGS); 26 Mar, 1, Yule I (RGS).	<i>Scythrops novaehollandiae</i>
Rufous Owl 16 Mar, 1, Moitaka SP (RH & RGS).	<i>Ninox rufa</i>
Large-tailed Nightjar 11 Feb, 1, Hisiu Mangroves (NW <i>et al.</i>).	<i>Caprimulgus macrurus</i>
Moustached Tree-Swift 2 Mar, 7, E Awini, Wes (RGS).	<i>Hemiprocne mystacea</i>
Uniform Swiftlet 28 Mar, 3, UPNG (IB).	<i>Collocalia vanikorensis</i>
Mountain Swiftlet 23 Mar, Ambua Lodge, Tari, SHP (LT); 27 Mar, Rakamanda, Eng (LT).	<i>Collocalia hirundinacea</i>
Glossy Swiftlet 24 Mar, Ambua Lodge, Tari, SHP (LT).	<i>Collocalia esculenta</i>
Papuan Spine-tailed Swift 3 Mar, 20, Alice R, Wes (RGS).	<i>Mearnsia novaeguineae</i>

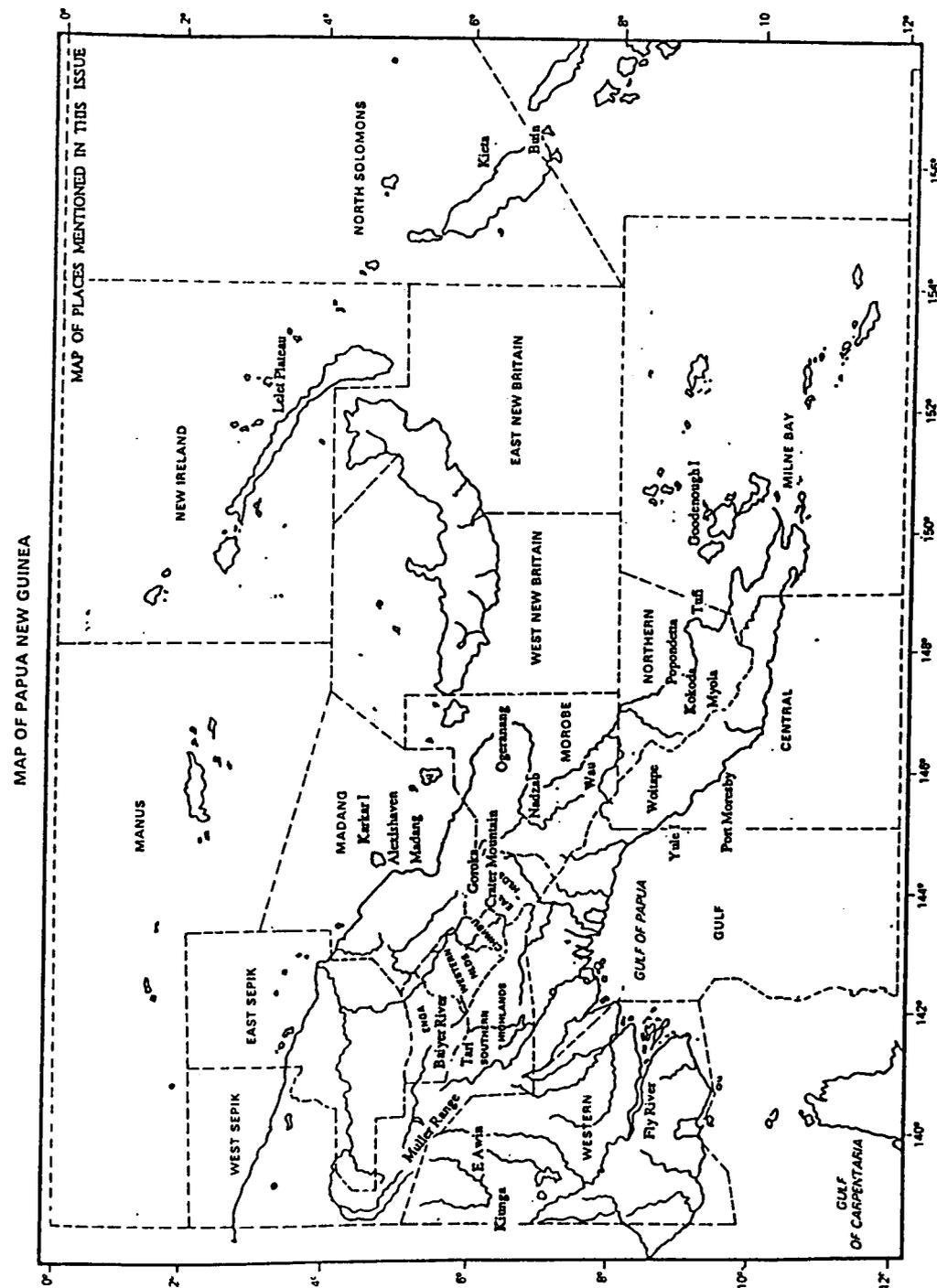
White-throated Needletail	<i>Hirundapus caudacutus</i>
14 Jan, 3, Brown R (BC); 20 Jan, 4, Matorogo Point (RH); 9 Feb, 5, Moitaka SP (RGS); 23 Feb, 8, Moitaka SP (RGS); 25 Feb, 1, Hisiu Mangroves (RGS); 3 Mar, c. 15, Loloata I (NW).	
Fork-tailed Swift	<i>Apus pacificus</i>
5 Feb, c. 10, Korobosea (NW); 3 Feb, 1, UPNG (IB); 13 Feb, 2, Korobosea (RGS).	
Common Paradise-Kingfisher	<i>Tanysiptera galatea</i>
21 Jan, 2, King Bird Tree (RGS); 22 Jan, 1, retrapped, King Bird Tree (RH).	
Brown-headed Paradise-Kingfisher	<i>Tanysiptera danae</i>
6 Jan, 1 juv trapped, Boundary Trail, Varirata NP (RH).	
Rufous-bellied Kookaburra	<i>Dacelo gaudichaud</i>
21 Jan, 2, King Bird Tree (RGS); 2 Feb, 1, Varirata NP (RGS).	
Forest Kingfisher	<i>Halcyon macleayii</i>
19 Mar, 8 in one tree, King Bird Tree (IB).	
Collared Kingfisher	<i>Halcyon chloris</i>
11 Feb, 2, & 25 Feb, 4, Hisiu Mangroves (RGS).	
Sacred Kingfisher	<i>Halcyon sancta</i>
19 Feb, 1, UPNG was the first record this year (IB); 10 Mar, 1, UPNG (IB).	
Yellow-billed Kingfisher	<i>Halcyon torotoro</i>
12 Feb, 1, Varirata NP (RGS).	
Little Kingfisher	<i>Alcedopusilla</i>
18 Feb, 1, Oxbow (RGS); 12 Mar, 1 trapped, King Bird Tree (IB).	
Rainbow Bee-eater	<i>Merops ornatus</i>
18 Mar, 80+, over UPNG (IB).	
Dollarbird	<i>Eurystomus orientalis</i>
5 Feb, 1, Surinumu (RGS); 3 Mar, 1, E Awin, Wes (RGS); 27 Mar, 1, Aroa (RGS).	
Hooded Pitta	<i>Pitta sordida</i>
22 Jan, 1, King Bird Tree (RGS).	
Barn Swallow	<i>Hirundo rustica</i>
11 Feb, 13 & 18 Feb, 20, Kanosia L (RGS <i>et al.</i>); 11 Feb, c. 7, Aroa L (NW); 5 Mar, 2, Kanosia L (IB).	
Pacific Swallow	<i>Hirundo tahitica</i>
27 Mar, Rakamanda, Eng (LT).	
Red-rumped Swallow	<i>Hirundo daurica</i>
3 Mar, 1, Nadzab Airport, Mor & 4, Aroa Airfield, NSP, probably the furthest east this species has been recorded (RH).	
Tree Martin	<i>Hirundo nigricans</i>
25 Feb, 1, Kanosia L, the first record of the year (IB); 5 Mar, 1, Kanosia L (IB); 16 Mar, 1, Moitaka SP (RGS).	
Yellow Wagtail	<i>Motacilla flava</i>
25 Feb, 1 female, Kanosia L (IB).	
Grey Wagtail	<i>Motacilla cinerea</i>
26 Mar, below Bailey bridge, Tari Gap, SHP (LT).	
Yellow-eyed Cuckoo-Shrike	<i>Coracina lineata</i>
8 Jan, 1, & 12 Feb, 5, Varirata NP (RGS).	
Boyer's Cuckoo-Shrike	<i>Coracina boyeri</i>
22 Jan, 6, King Bird Tree (RGS).	
White-winged Triller	<i>Lalage sueurii</i>
11 Feb, 1, Kanosia L & 1, Hisiu L; 18 Feb, 1, Kanosia L (all RGS).	
Black-browed Triller	<i>Lalage atrovirens</i>
25 Jan, Ramu Sugar, Mor (BC).	
Varied Triller	<i>Lalage leucomela</i>
21 Jan, 1, King Bird Tree (RGS).	

Long-tailed Shrike	<i>Lanius schach</i>
1 Jan, 1, Woitape, Cen (RGS); 28 Feb, Kundiawa, EHP (BC); 23 Mar, Ambua Lodge, Tari, SHP (LT).	
Pied Chat	<i>Saxicola caprata</i>
2 Jan, 1, Jackson's Airport, Port Moresby (RGS); 23 Mar, common in Tari basin, SHP (LT); 27 Mar, Rakamanda, Eng (LT).	
Island Thrush	<i>Turdus poliocephalus</i>
26 Mar, Tari Gap, SHP (LT).	
Blue Jewel-Babbler	<i>Ptilorhoa caerulescens</i>
21 Jan, 1, King Bird Tree (RGS); 22 Jan, 1 male trapped and another male retrapped, King Bird Tree (RH).	
Blue-capped Ifrita	<i>Ifrita kowaldi</i>
25 Mar, Tari Gap, SHP (LT).	
Tawny Grassbird	<i>Megalurus timoriensis</i>
1 Jan, 4, Woitape, Cen (RGS).	
Golden-headed Cisticola	<i>Cisticola exilis</i>
26 Mar, Tari Gap, SHP (LT).	
Island Leaf-Warbler	<i>Phylloscopus trivirgatus</i>
26 Mar, Dauli Teacher Training College, nr Tari, SHP (LT); 29 Mar, Sopas, W of Wabag, Eng (LT).	
Rusty Mouse-Warbler	<i>Crateroscelis murina</i>
8 Jan, 3, & 27 Jan, 5, Varirata NP (RGS).	
Pale-billed Scrub-Wren	<i>Sericornis spilodera</i>
8 Jan, 1, Varirata NP (RGS).	
Buff-faced Scrub-Wren	<i>Sericornis perspicillatus</i>
24 Mar, Ambua Lodge, Tari, SHP (LT).	
Papuan Scrub-Wren	<i>Sericornis papuensis</i>
24 Mar, Ambua Lodge, Tari, SHP (LT).	
Green-backed Gerygone	<i>Gerygone chloronotus</i>
27 Jan, 1; 2 Feb, 3; 12 Feb, 1, & 18 Feb, 1, Varirata NP (RGS).	
Fairy Gerygone	<i>Gerygone palpebrosa</i>
18 Mar, 2, Varirata NP (RGS).	
Mangrove Gerygone	<i>Gerygone levigaster</i>
11 & 18 Feb, 2, Hisiu Mangroves (RGS).	
White-throated Gerygone	<i>Gerygone olivacea</i>
9 Feb, 1, Moitaka SP (RGS).	
Sooty Thicket-Fantail	<i>Rhipidura threnothorax</i>
12 Feb, 1, Varirata NP (RGS); 12 Mar, 1 trapped, King Bird Tree (IB).	
Black Thicket-Fantail	<i>Rhipidura maculipectus</i>
21 Jan, 1, King Bird Tree (RGS).	
Rufous Fantail	<i>Rhipidura rufifrons</i>
11 Feb, 3 (a pair + 1 imm), Hisiu Mangroves (RGS & NW); 25 Feb, 4, Hisiu Mangroves (RGS).	
Mangrove Fantail	<i>Rhipidura phasiana</i>
25 Feb, 1, Hisiu Mangroves (RGS).	
Chestnut-bellied Fantail	<i>Rhipidura hyperthra</i>
2 Feb, 1, King Bird Tree (NW); 5 Feb, 1; 12 Feb, 1; 18 Mar, 5, all Varirata NP (RGS).	
Friendly Fantail	<i>Rhipidura albolimbata</i>
1 Jan, 1, Woitape, Cen (RGS); 23 Mar, Ambua Lodge, Tari, SHP (LT).	
Northern Fantail	<i>Rhipidura rufiventris</i>
11 Feb, 3 & 25 Feb, 4, Hisiu Mangroves (RGS).	

Willie Wagtail	<i>Rhipidura leucophrys</i>
26 Mar, Dauli Teacher training College, nr Tari, SHP (LT); 27 Mar, Rakamanda, Eng (LT); 29 Mar, Sopas, W of Wabag, Eng (LT).	
Black Monarch	<i>Monarcha axillaris</i>
25 Mar, Ambua Lodge, Tari, SHP (LT).	
Black-faced Monarch	<i>Monarcha melanopsis</i>
1 Feb, 1 imm, without black face, King Bird Tree (NW); 5 & 12 Mar, 1, King Bird Tree (IB).	
Spot-winged Monarch	<i>Monarcha guttula</i>
5 & 13 Feb, 4, Varirata NP (RGS).	
Solomons Pied Monarch	<i>Monarcha barbata</i>
7 Jan, Port-Mine Access road, NSP (BC).	
Solomons Satin Monarch	<i>Monarcha ferrocyanea</i>
7 Jan, Port-Mine Access road, NSP (BC).	
Friilled Monarch	<i>Arses telescopthalmus</i>
18 Mar, 3, Varirata NP (RGS).	
Leaden Flycatcher	<i>Myiagra rubecula</i>
25 Feb, 3, Hisiu Mangroves (RGS); 26 Mar, 2, Yule I (RGS).	
Broad-billed Flycatcher	<i>Myiagra ruficollis</i>
11 Feb, 1, Hisiu Mangroves (RGS).	
Shining Flycatcher	<i>Myiagra alecto</i>
11 & 25 Feb, 4, Hisiu Mangroves (RGS).	
Yellow-breasted Boatbill	<i>Machaerirhynchus flaviventer</i>
1 Feb, 1 male, King Bird Tree (NW).	
Black-breasted Boatbill	<i>Machaerirhynchus nigripectus</i>
26 Mar, Ambua Lodge, Tari, SHP (LT).	
Torrent Flycatcher	<i>Monachella muelleriana</i>
12 Feb, Mamba Plantation, nr Kokoda, Oro (BC).	
Lemon-bellied Flycatcher	<i>Microeca flavigaster</i>
25 Feb, 1, Hisiu mangroves (RGS).	
Olive Flycatcher	<i>Microeca flavirescens</i>
27 Jan, 1, Varirata NP (RGS); 3 Mar, 1, E. Awin, Wes (RGS).	
Black-throated Robin	<i>Poecilodryas albonotata</i>
23 Mar, Ambua Lodge, Tari, SHP (LT).	
White-winged Robin	<i>Peneothello sigillatus</i>
26 Mar, Tari Gap, SHP, (LT).	
Blue-grey Robin	<i>Peneothello cyanus</i>
23 Mar, Ambua Lodge, Tari, SHP (LT).	
Dwarf Whistler	<i>Pachycaea flavogrisea</i>
8 Jan & 12 Feb, 1, Varirata NP (RGS).	
Mangrove Golden Whistler	<i>Pachycephala melanura</i>
11 Feb, 1, Hisiu Mangroves (F).	
Regent Whistler	<i>Pachycephala schlegelii</i>
25 Mar, Ambua Lodge, Tari, SHP (LT).	
Brown-backed Whistler	<i>Pachycephala modesta</i>
27 Mar, Rakamanda, Eng (LT).	
Black-headed Whistler	<i>Pachycephala monacha</i>
28 Feb, Kundiawa, EHP (BC).	
Rufous Whistler	<i>Pachycephala rufiventris</i>
25 Jan, 1, Hisiu Mangroves (RGS).	
Rufous-naped Whistler	<i>Pachycephala rufinucha</i>
25 Mar, Tari Gap, SHP (LT).	

Fan-tailed Berrypecker	<i>Melanocharis versteri</i>
26 Mar, Tari Gap, SHP (LT).	
Yellow-throated White-Eye	<i>Zosterops metcalfi</i>
7 Jan, Port-Mine Access rd, NSP (BC); 10 Mar, Port-Mine Access rd, NSP (RH).	
Grey-throated White-Eye	<i>Zosterops ugiensis</i>
7 Jan, Port-Mine Access rd, NSP (BC).	
New Guinea White-Eye	<i>Zosterops novaeguineae</i>
1 Jan, 20, Woitape, Cen (RGS).	
Long-billed Honeyeater	<i>Melilestes megarhynchus</i>
8 Jan, 1 trapped, Boundary Trail, Varirata NP (RH).	
Dwarf Honeyeater	<i>Oedistoma iliolophus</i>
21 Jan, 1, King Bird Tree (RGS).	
Green-backed Honeyeater	<i>Glycichaera fallax</i>
12 Mar, 1 trapped, King Bird Tree (IB).	
Silver-eared Honeyeater	<i>Lichmera alboauricularis</i>
11 Feb, 6, Aroa; 25 Feb, 6, Hisiu Mangroves; 27 Feb, 15, Aroa (all RGS).	
Dusky Myzomela	<i>Myzomela obscura</i>
11 & 25 Feb, 2, Hisiu Mangroves (RGS).	
Red-collared Myzomela	<i>Myzomela rosenbergii</i>
1 Jan, Woitape, Cen (RGS); 26 Mar, old rd, Tari Gap, SHP (LT).	
Red-naped Myzomela	<i>Myzomela lafargei</i>
7 Jan, Port-Mine Access rd, NSP (BC); 11 Mar Buin rd, NSP (RH).	
Scrub White-eared Meliphaga	<i>Meliphaga albonotata</i>
12 Feb, 1, Varirata NP (RGS).	
Mimic Meliphaga	<i>Meliphaga analoga</i>
21 Jan, 1, King Bird Tree (RGS).	
Graceful Meliphaga	<i>Meliphaga gracilis</i>
11 Feb, 1, Hisiu Mangroves (RGS); 18 Feb, 1, Varirata NP (RGS).	
Black-throated Honeyeater	<i>Lichenostomus subfrenatus</i>
1 Jan, 1, Woitape, Cen (RGS); 26 Mar, old rd, Tari Gap, SHP (LT).	
Spotted Honeyeater	<i>Xanthotis polygramma</i>
18 Mar, 1, Varirata NP (RGS).	
Tawny-breasted Honeyeater	<i>Xanthotis flaviventer</i>
23 Jan, 1, King Bird Tree (RGS).	
Plain Honeyeater	<i>Pycnopygius ixioides</i>
22 Jan, 1, King Bird Tree (RGS).	
Helmeted Friarbird	<i>Philemon buceroides</i>
27 Mar, Rakamanda, Eng (LT).	
Rufous-backed Honeyeater	<i>Ptiloprora guisei</i>
23 Mar, Ambua Lodge, Tari, SHP (LT).	
Belford's Melidectes	<i>Melidectes belfordi</i>
1 Jan, 6, Woitape, Cen (RGS); 23 Mar, Ambua Lodge, Tari, SHP (LT).	
Common Smoky Honeyeater	<i>Melipotus fumigatus</i>
1 Jan, 1, Woitape, Cen (RGS); 23 Mar, Ambua Lodge, Tari, SHP (LT).	
Hooded Mannikin	<i>Lonchura spectabilis</i>
29 Mar, Sopas, W of Wabag, Eng (LT).	
Chestnut-breasted Mannikin	<i>Lonchura castaneothorax</i>
30 Mar, 6, Moitaka SP (RGS).	
Mountain Firetail	<i>Oreostruthus fuliginosus</i>
25 Mar, Tari Gap, SHP (LT).	
House Sparrow	<i>Passer domesticus</i>
26 Mar, 12, Yule I (RGS).	

Golden Mya 3 Mar, 2, N Fly R, Wes (RGS).	<i>Mino anais</i>
Figbird 29 Jan, NCD Botanic Gardens, Port Moresby (RGS); 28 Mar, 150, UPNG (IB).	<i>Sphecotheres viridis</i>
Mountain Drongo 18 Jan, 1, Varirata NP (RGS).	<i>Chaetorhynchus papuensis</i>
Torrent-Lark 24 Mar, Ambua Lodge, Tari, SHP (LT).	<i>Grallinabruijni</i>
White-breasted Wood-Swallow 28 Mar, flock of 100+, UPNG (IB).	<i>Artamus leucorhynchus</i>
Great Wood-Swallow 1 Jan, 2, Woitape, Cen (RGS); 26 Mar, below Bailey bridge, Tari Gap, SHP (LT).	<i>Artamus maximus</i>
Lowland Peltops 12 Mar, 2, King Bird Tree (IB).	<i>Peltops blainvillii</i>
Mountain Peltops 23 Mar, Ambua Lodge, Tari, SHP (LT).	<i>Peltops montanus</i>
Macgregor's Bowerbird 24 Mar, Ambua Lodge, Tari, SHP (LT).	<i>Amblyornis macgregoriae</i>
Glossy-mantled Manucode 11 Feb, 2, Hisiu Mangroves (RGS); 26 Mar, 10, Yule I (RGS).	<i>Manucodia atra</i>
Trumpet Manucode 22 Jan, 1, King Bird Tree (RGS).	<i>Manucodia keraudrenii</i>
Brown Sicklebill 25 Mar, Tari Gap, SHP (LT).	<i>Epimachus meyeri</i>
Splendid Astrapia 25 Mar, Tari Gap, SHP (LT). Fuller details of this sighting can be found in Muruk 4(1):20.	<i>Astrapia splendissima</i>
Ribbon-tailed Astrapia 25 Mar, Tari Gap, SHP (LT).	<i>Astrapia mayeri</i>
Superb Bird of Paradise 28 Feb, Kundiawa, EHP (BC); 26 Mar, Dauli Teacher Training College, nr Tari, SHP (LT).	<i>Lophorina superba</i>
Lawes' Parotia 26 Mar, Dauli Teacher Training College, nr Tari, SHP (LT).	<i>Parotia lawesii</i>
King of Saxony Bird of Paradise 26 Mar, Tari Gap, SHP (LT).	<i>Pteridophora alberti</i>
King Bird of Paradise 29 Jan, 1 male without tail wires, King Bird Tree (NW); 2 Feb, 1 female, King Bird Tree (NW).	<i>Cicinnurus regius</i>
Magnificent Bird of Paradise 3 Mar, 1, Ok Mark, Wes (RGS).	<i>Cicinnurus magnificus</i>
Raggiana Bird of Paradise 26 Mar, Dauli Teacher Training College, nr Tari, SHP (LT).	<i>Paradisaea raggiana</i>
Blue Bird of Paradise 26 Mar, Dauli Teacher Training College, nr Tari, SHP (LT).	<i>Paradisaea rudolphi</i>
Grey Crow 22 Jan, 1, King Bird Tree (RGS).	<i>Corvus tristis</i>



REVIEW OF THE QUARTERLY JOURNAL 'BIRDS INTERNATIONAL'

JENNY H. HICKS

This journal first appeared in January 1989. It is published and distributed from Sydney, Australia. They offer a local subscription rate for Australia and New Zealand of AUD 23 and two overseas rates AUD 34 and AUD 56 for surface and airmail respectively. I consider this is good value for money.

Considering the journal is a commercial rather than a "scientific" venture it was a very pleasant surprise to find so little intrusion from the inevitable advertisements. They are neither prominent nor do they interrupt the flow of the articles.

The articles are eminently readable and do not suffer from the dryness sometimes associated with supposedly more scientific publications. Yet there is enough detail and data in them to satisfy all but the most serious of ornithologists. This can only encourage a wider readership, ranging from the professional ornithologist to the enthusiastic amateur. This familiar approach also makes the journal easy to browse through.

The first edition has certainly lived up to the editorial aim of being a truly international journal, both in terms of authors and subject matter covered. With a representative article from each continent there is something for everyone, from the widely travelled to the "armchair birder". It is a hard act to follow.

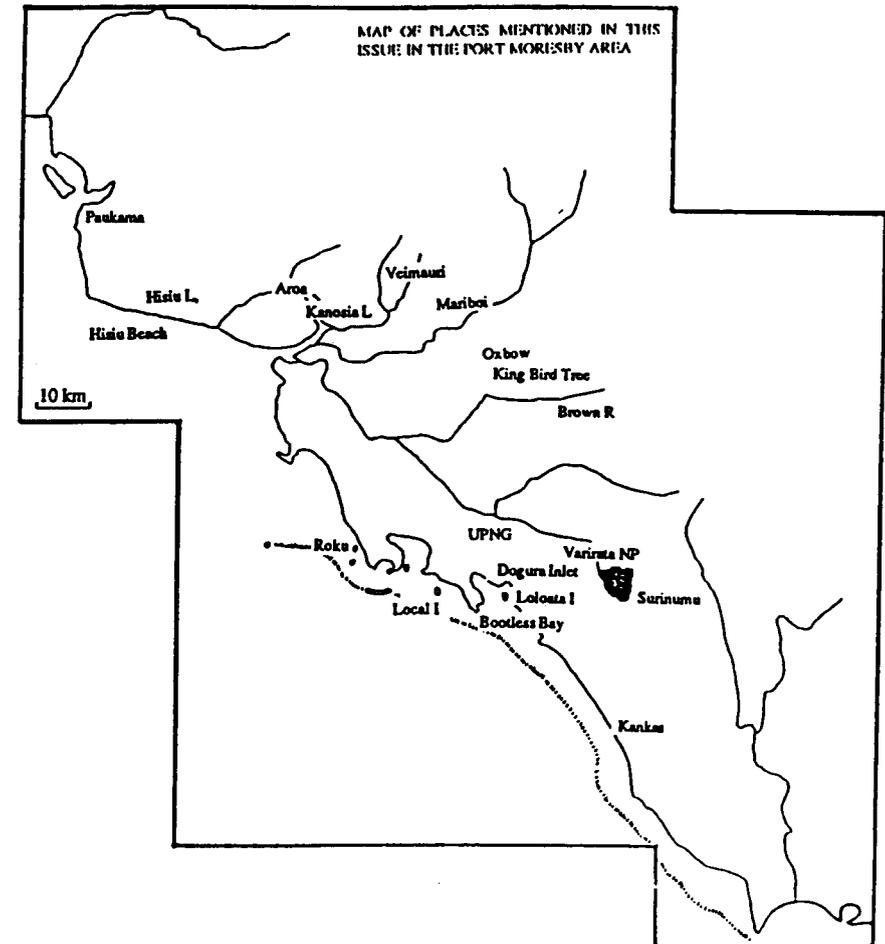
The glossy nature of the journal is one of the immediate attractions on first picking it up. The layout and photographic reproduction are excellent. It is good to see that the binding is good enough to stand up to repeated handling.

In this age of heightened conservation awareness it is no great surprise that this topic be covered in any new bird journal. However, it is good to see that a permanent association with ICBP has been established from the start. The more media access such conservation organisations have the better.

"Introducing the Authors" is a nice touch and gives the reader a feel for the kind of person who chases half way round the world in search of an elusive bird, or spends hours cramped in a hide waiting to take photographs. It is an interesting insight in to the different reasons people find birds fascinating and working with them so rewarding.

Though the articles are not truly scientific it would be interesting for some readers to be able to follow up on them by having a reading list, though not necessarily in the very stylized manner of scientific papers.

I look forward to future editions which if produced with as much care and thought will prove very interesting.



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