

EDITORIAL

Unfortunately it has taken a very long time indeed to get this issue of Muruk completed, printed and distributed, and we thank all our readership for their patience, and we apologise to the authors for the delays.

To alleviate one of the major problems in production, the Society has purchased a computer which is dedicated to the production of Muruk. Thus the editor will no longer need to scrape time after hours on shared or borrowed computers. The purchase was made partly from Society funds and also with substantial donations from Fryde Furniture Limited and from Synergou Computer Systems Limited. We hope to further speed up the production of camera-ready material by purchasing a dedicated laser-printer in the near future.

This issue was largely prepared by Roger Hicks before he and Jenny Hicks went finish from P.N.G. after five years as stalwarts, and in many ways the driving forces behind the PNGBS. Their enthusiasm, organisation, and ornithological skills are greatly missed by the Society. While we wish Roger, Jenny, Andrew and Matthew the very best for their futures in Britain or elsewhere, we deeply feel the gap they leave in the Society's ranks.

Issue 5.3 should appear within two months of this issue, and material for issues in volume six are already largely ready for composition. That will clear the backlog of unpublished material, so please continue to support Muruk by sending in your contributions and observations.

EDITORS of the issue: Roger Hicks and Mike Hopkins.

COVER: Head study of Southern Cassowary by Jonas Hiaso

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ACQUISITION OF ADULT MALE PLUMAGE IN SOME BIRDS OF PARADISE AT BAIYER RIVER SANCTUARY

AKIA ARUAH AND ANDREW YAGA

No records have been published to date of the ages at which dimorphic birds of paradise acquire their adult plumages or the duration of the transition period. Estimates given in Cooper & Forshaw (1977) include the following for the genera *Epimachus*, *Paradisaea*, *Cicinnurus*, and *Diphyllodes*:

Epimachus meyeri "Acquisition of adult plumage by young males takes at least four years."

Paradisaea minor, *P. decora* & *P. guilielmi* "males acquire adult plumage slowly."

Paradisaea rudolphi "males acquire adult plumage slowly, over at least three and possibly five or more years."

Paradisaea apoda "males acquire adult plumage slowly, possibly over four or five years."

Paradisaea raggiana "males acquire adult plumage slowly, possibly over five or six years."

Paradisaea rubra "males acquire adult plumage slowly, possibly over six years."

Cicinnurus regius "Young males acquire adult plumage slowly.....until full adult plumage is attained in the fourth year."

Diphyllodes magnificus "acquisition of adult plumage by males is slow."

No information is given about sources on which the foregoing estimates were based. However, for *Diphyllodes republica* it is stated - "from specimens available it appears that young males acquire adult plumage gradually."

RECORDS OF ACQUISITION OF ADULT PLUMAGES AT BAIYER RIVER SANCTUARY

Brown Sicklebill

Epimachus meyeri

On 13 September 1978 the Sanctuary received a young wild-caught Brown Sicklebill (band 6-031) from Wabag, Enga Province. Its sex was recorded at the time as 'female'. Nearly four years later, on 29 July 1982 the typical male calls of this species, a low gobbling followed by a sharp machine-gun-like rattle, were first made by this bird. A year later, on 1 August 1983, the commencement of its plumage change was first seen. A close examination on 25 August that year revealed black wing covert, upper leg, under chin and nape feathers; all other plumage being brown. A further examination in November, 1983 showed - wings: iridescent dark purplish black; head & chin: black; forehead: iridescent light blue; back: spangled iridescent blue; underwing body feathers: soft lavender; side breast plumes: blue-black; flank plumes: fawn; tail: two long brown inner feathers above shorter black feathers; iris: pale blue.

A similar plumage pattern was noted when the bird was closely examined on 26 July 1984. Full adult plumage was recorded on 13 May 1985.

Measurements (in mm) recorded for this bird are:

	26 July 1984	13 May 1985	10 August 1989
Overall length	740	980	980
Wing	168	165	170
Tail including long central feathers	467	710	710
Bill from gape to tip (chord)	78	75	80
Exposed culmen (chord)	74	79	74
Tarsus	48	52	52
Weight (grams)	294	294	(not recorded)

Lesser Bird of Paradise

Paradisaea minor

A Lesser Bird of Paradise (band 8-073) was acquired as a nestling in December 1979 and successfully reared by Sanctuary staff. During 1981 this bird was seen dancing and imitating a hand reared, fully plumed male *P. raggiana* in the adjoining aviary. In March 1983 the first signs of adult plumage were evident in broken yellow colour on the head, green throat and two longer tail feathers. By 1985 it had acquired half-length yellow flank plumes. In 1987 it was noted to be in three-quarter adult plumage and in full male regalia in 1988.

In this individual transition began at age 4 years and continued for a further 4 to 5 years, the bird being between 8 and 9 years old when first fully plumed. This particular bird is also of interest in that it is a fraction albino with a single white primary in one wing.

Raggiana Bird of Paradise

Paradisaea raggiana

The only three relevant Sanctuary records for Raggiana Bird of Paradise indicate transition in this species may begin as early as 4 years 8 months. Details of these records are -

P. r. augustaevictoriae x *salvadori* (band 8-111) hatched in the aviaries on 6 November 1984. It commenced plumage transition at about 29 June 1989 when "it started getting neck colour". By 24 August the new neck feathers were noted as "intermediate between immature and adult with green sheen"; there were no signs of other plumage colour changes.

P. r. salvadori (band 8-167) was noted to be "young" when it was acquired on 10 January 1985. In March 1988 it had "Colour on head, green throat, 2 long wires in tail". The following adult male plumage was acquired during the 1989 transition - **crown:** yellow; **forehead:** black in centre, green either side; **chin:** black; **neck:** green with a narrow yellow band between it and the breast.

Measurements (in mm) on 24 August 1989 were:

Length overall	420
Wing	179
Tail (includes 60 mm elongation of the two central tail feathers)	187
Bill from gape to tip	37
Exposed culmen	32
Tarsus	40
Weight (grams)	262

Magnificent Bird of Paradise

Cicinnurus magnificus

The two available records for the Magnificent Bird of Paradise are:

C. magnificus (band 6-007) was netted in the Trauna Valley not far from the Sanctuary in August 1969 and was recorded at the time as an immature. On 20 September 1975 it was noted to have started to acquire adult male plumage. No record was kept of the progress of the transition.

C. m. chrysopterus x *hunsteini* (band 6-105) was bred in the Sanctuary aviaries on 19 June 1986. When closely examined on 21 August 1989 this bird was in heavy moult around the head but new feathers were not yet showing. However, it did have two large, apparently new, pin feathers, each about 10 mm long, in the centre of the tail and which appeared to be the beginnings of tail wires. A close watch will be kept on this bird to ascertain whether this assumption is correct, and if so, the annual extent of development of those wires.

Comparative measurements (in mm) of this bird and the presumed female from the same clutch are:

	band 6-105 (presumed male)	band 6-106 (presumed female)
Length overall	225	215
Wing	112	110
Tail	68	73
Bill from gape to tip	31	31
Exposed culmen	22	21
Tarsus	29	28
Weight (grams)	92	88

The first of these two incomplete records indicate that, in this species, visible transition begins at age 6 years; however, it would seem from the second record that plumage changes may commence in some individuals as early as age 2 years 2 months.

It should be recognised that all of the above records concern aviary birds and that their captive environments are very different to those of the 'wild'. Nevertheless, these records

presumably provide some indication of the average times taken in some bird of paradise species for female clad immature males to commence visible plumage transition, and of the duration of some transition periods.

Paradisaea raggiana, *P. minor* and *Cicinnurus magnificus* have been, and continue to be bred successfully in captivity at the Baiyer River Sanctuary. This achievement in itself indicates a well balanced and close-to-natural diet, but this diet is one that is undoubtedly less varied than that enjoyed by the same species in the wild. Any possible effects of a limited variety in diet on plumage transition rates are, of course, unknown.

In the wild other factors may come into play as LeCroy (1981) has suggested. If plumage stages reflect individual hormone levels rather than age, subordinate males in a population may not develop fully adult plumage until they are sufficiently dominant to join a display arena. Thus the age at which captive birds acquire fully adult plumage may be a minimum age as they are usually without a dominance framework.

This paper was researched and written at the suggestion of Cliff and Dawn Frith, and their advice and encouragement are gratefully acknowledged. We are also grateful to Mary LeCroy of the American Museum of Natural History, and to Bill Peckover for their helpful comments, suggestions and editorial assistance.

Cooper, W.T. & J.M. Forshaw. 1977. *Birds of Paradise and Bower Birds*. Collins.
LeCroy, M. 1981. The genus *Paradisaea*, display and evolution. *American Museum Novitates* 2714: 1-52.

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PAPUASIAN ORNITHOLOGY: THE PAPUA NEW GUINEA BIRD SOCIETY AND ITS NEWSLETTER

BILL PECKOVER

NEWSLETTER HISTORY

The newsletter was born in December 1965 and christened "New Guinea Bird Society Circular No.1", with the June 1966 issue (No.8) it was renamed "New Guinea Bird Society Newsletter" and was issued under that name until No.145, which appeared in July 1978.

On July 4 1978 the name of the Society was changed to the Papua New Guinea Bird Society. Newsletters from No.1", went under that title.

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PERIODS OF RESPONSIBILITY

No. 1, December 1965, No.3, February 1966, Nos. 6 & 7, May & June 1966.

No.2, January 1966, Nos.4 & 5, March & April 1966, Nos.8 - 45, June 1966 - August 1969, Nos.48 - 52, November 1969 - March 1970, Nos.65 - 72, April 1971 - January 1972.

Nos.46 & 47, September & October 1969, Nos.53 - 61, April - December 1970, No.64, March 1971, Nos. 73 - 75, March - May 1972, Nos.85 & 86, April & May 1973.

Nos.62 & 63, January & February 1971.

Nos.76 & 77, June & July 1972.

Nos.78 - 83, August 1972 - February 1973, No.91, September 1973.

No.84, March 1973, Nos.87 - 90, June - September 1973, Nos.92 - 96, November 1973 - April 1974, Nos.100 - 106, August 1974 - March 1975.

Nos.97 - 99, May - July 1974.

No.107, March 1975.

Nos.108 - 129, April 1975 - February 1977.

Nos.130 - 138, April - December 1977, Nos.142 - 152, April 1978 - February 1979.

Nos.139 - 141, February - March 1978.

Nos.153 - 174, March 1979 - December 1980.

assisted by Alison Pound

Nos.175 - 186, January - December 1981.

assisted by Joan Lipscombe

Nos.187 - 202, January 1982 - April 1983.

Nos.203 - 210, May 1983 - August 1984.