

SYMPATRY IN *PAROTIA LAWESII* AND *P. CAROLAE*

Schodde and McKean (1973) identify the apparent boundary between the distributions of *Parotia lawesii* and *P. carolae* in the Lai and Jimi River region on the northern versant of the central cordillera of New Guinea. Their statement is based on my own sight records of *P. carolae* towards the headwaters of the Jimi River and specimens of *P. lawesii* collected by Bulmer in the Schrader Range to the west. This constitutes an overlap of about sixty kilometres along the western arm of the Bismarck Range and the Schrader Range. Gyldenstolpe (1954) acquired two specimens of *P. carolae* from the Jimi while he was at Nondugl in the Wahgi Valley. His specimens probably came from or near the valley of the Walne River, a tributary of the Jimi flowing north from the Sepik-Wahgi Divide. This record would be ten or more kilometres to the south but only slightly east of my own sight records reported by Schodde and McKean.

Since the publication of Schodde and McKean's paper, I have spent twelve more months (1973-74) in the Jimi Valley. I lived in the village of Tsuwenkai, inhabited by the Maring people, (approx. 5° 25'S, 144° 38'E) on the southern fall of the Bismarck Range about midway in the presumed region of overlap of *P. lawesii* and *P. carolae*. My research was an anthropological study of the exploitation of birds-of-paradise (Paradisaeidae) by local hunters and traders. Data were also gathered on the distribution and numbers of birds-of-paradise. Though I made no special efforts to obtain data on *Parotia* I observed birds of this genus several times while searching for other species of Paradisaeidae.

My earlier (1972) observations of *P. carolae*, cited by Schodde and McKean, were made in secondary forest at 1,700 metres. Bulmer's specimens of *P. lawesii* from the Schrader Range were collected in primary forest at about 1,900 metres.

In the Tsuwenkai area I observed female *P. carolae* in secondary growth and garden areas at about 1,600 metres. I also observed an adult male *P. carolae* display at a bower at about 1,750 metres in secondary forest. The species was also observed in primary forest. At 1,770 metres my wife saw a pair near the edge of disturbed primary forest and at 2,000 metres on a ridge I observed one pair. Several times I also heard *P. carolae* calling from primary forest, near the transition zone with secondary forest above 1,700 metres.

Though my sightings of *P. carolae* are few, it is probably a common species, as local residents affirmed.

My only record of *P. lawesii* for Tsuwenkai was a bird

in female plumage that visited the bower in secondary forest mentioned above. My observations were made from a hide about three metres from the perimeter of the bower. A male *P. carolae* had been heard calling near the bower for about fifteen minutes before the female *P. lawesii* quietly and suddenly arrived at the bower. It hopped on to the cleared rectangular area of the bower, then on to a vine that curved low over the bower area. It remained at the bower for about one minute. After another seventeen minutes, a female *P. lawesii*, perhaps the same bird, quietly returned to the bower. This second visit lasted about one and a half to two minutes, during which time the bird quietly hopped about in an inquisitive manner on the floor of the bower and higher up in saplings overhanging the bower. The male *P. carolae* arrived at the bower ten minutes after *P. lawesii* had left and subsequently displayed. *P. lawesii* was not seen again.

Local informants recognize only one category of *Parotia*, which they name *kiawoi*. However, their descriptions suggest that *P. carolae* and *P. lawesii* are lumped in this single taxon. The Maring people are on the whole knowledgeable naturalists and one explanation for their not recognizing two taxa of *Parotia* is that *P. lawesii* is uncommon. They therefore infrequently encounter this species and consequently have had little opportunity to compare it with the more familiar *P. carolae*.

Schodde and McKean question whether *P. lawesii* and *P. carolae*, potentially competing species, are segregated by habitat or altitude or both where they abut. Though my data are insufficient to answer this question they do suggest that the two are not segregated by altitude alone. In the Jimi Valley, however, *P. carolae* occurs usually in secondary forest. My observations suggests that behavioural strategies may not be enough to prevent some interest by female *P. lawesii* in the display of *P. carolae* and possibly even hybridization.

I would like to thank my wife and Lucien Yekwai of Tsuwenkai for help in the field. Research was partly funded by the New York Zoological Society and the Myer Foundation.

REFERENCES

- GYLDENSTOLPE, N. 1954. Notes on a collection of birds made in the Western Highlands, Central New Guinea, 1951. *Ark. Zool.* 8: 1-181.
SCHODDE, R., AND J. L. MCKEAN. 1973. The species of the genus *Parotia* (Paradisaeidae) and their relationships. *Emu* 73: 145-156.

CHRISTOPHER J. HEALEY, Flat 4, 61 Wattle Valley Road, Canterbury, Vic. 3126.
16 June 1975.