

All the prey recovered are likely to have been caught by the adults, except possibly the live termites, which could have been caught by the chick itself, as it was nearly fledged and weighed well over 300 g.

I am grateful to Manoj Muni of the Bombay Natural History Society for having identified the shrew. Prof R. M. Naik kindly made constructive comments on the manuscript.

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Field identification and ecology of the Greater Goldenback *Chrysocolaptes lucidus* in Malaysia

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The Greater Goldenback (or Flame-back) *Chrysocolaptes lucidus* and Common Goldenback *Dimopium javanense* are broadly sympatric in southern Asia, from India to Borneo (Short 1973, King *et al.* 1975). In Thailand, the Greater Goldenback outnumbers the Common Goldenback, and occurs in a wider variety of habitats (Short 1973, Round 1988). However, in Peninsular Malaysia, the converse is true, and the Greater Goldenback is restricted to mangroves (Medway and Wells 1976, Wells 1985). During the course of a study of the birds in mangrove forests, I made observations of both species on the west coast of Selangor, Peninsular Malaysia. The purpose of this note is to clarify the field characteristics of the Greater Goldenback and to review its habitat preferences in this region.

Field identification

King *et al.* (1975) state that the Greater Goldenback can be separated from the Common Goldenback 'with difficulty' by its larger size, larger bill, four toes and two black malar stripes which fuse on the cheeks. In addition the black crown of the female Greater Goldenback is spotted rather than streaked as in the female Common Goldenback. However none of these characteristics is easily discernible in the field. Size is difficult to judge, and the number of toes is rarely distinguishable from a distance.

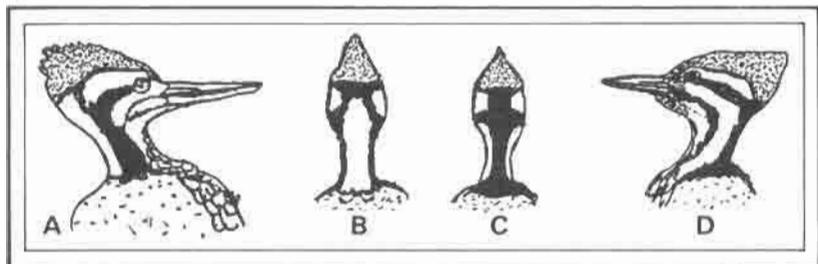
My observations of the two species in Peninsular Malaysia suggest that they are fairly easily separated on the colour of the eye and hind-neck. As stated by Short (1973) the eyes are yellow or white in the Greater Goldenback (except in juveniles), whereas in the Common Goldenback they are dark. Although the colour of the hindneck of the Greater Goldenback varies with subspecies it is never black as is that of the Common Goldenback. Moreover the black of the latter extends down onto the upper mantle. At Kuala Selangor, Greater Goldenback (race *chersonesus*) displayed a pure white hindneck ending abruptly with some black-edged feathers on the upper edge of the mantle (Figure).

Bill size differs significantly between the two species, that of the Greater Goldenback appearing as long as the head while that of the Common Goldenback is little more than half the length of the head (from base of bill to nape). The colour of the bill of both species in Malaysia was much lighter than depicted in King *et al.* (1975), being a pale leaden-grey. Moreover most if not all of the Common Goldenbacks seen in Selangor had a rufous or buff tinge to the face and throat, a feature noted by Short (1982), and apparently lacking in the Greater Goldenback.

Habitat preferences

I recorded Common Goldenback at three of my four main study sites, while the Greater Goldenback was found only at Tanjung Keramat, near Kuala Selangor. In eight visits to this site, the former species was encountered on six visits, and the latter on only two. A male Greater Goldenback was observed briefly 45 m from the river edge of the mangroves on 9 May 1989, and three days later, only 50 m from the tree of the first observation, a pair was watched for 45 minutes. During this period the birds stayed within 60 m of the river edge, and foraged in at least nine trees. Eight of these trees were live *Avicennia alba*, mostly about 10 m tall; the remaining one was a dead stump. Much of their time was spent inspecting and drilling into the relatively smooth-textured trunks and limbs of the live trees at or above 6 m. On the dead stump, however, a bird spent several minutes between one and three metres from the ground.

Figure. A-B, Greater Goldenback; A, lateral view; B, rear view. C-D, Common Goldenback; C, rear view, D, lateral view.



Given that *A. alba* formed a monospecific stand in a narrow (20–40 m) belt along the edge of the river at this site, the almost exclusive use of this species by the Greater Goldenback may not seem surprising. However, as most of the trees visited during the observation period were about 10–20 m behind this zone, where *Bruguiera parviflora* dominated, the selection of *A. alba* seems to represent a preference for this species. In contrast the Common Goldenback ranged over the full width of the mangrove belt (5 to 300 m from the river edge), and foraged on each of the species available at this site. At another site, 500 m from Tanjung Keramat, the Common Goldenback was repeatedly seen on the seaward edge of the mangroves, where tall (12 m) *Sonneratia alba* predominated, and *A. alba* formed an understorey (<4 m).

These observations suggest that within Malaysian mangroves the Greater Goldenback is both rarer and perhaps more specialized than the Common Goldenback, and may be confined to the innermost zone (river or seaward edge) of the mangroves, where *A. alba* is dominant.

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Moult and biometrics in five birds endemic to Palawan, Philippines

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Until recently most ornithological research in the Philippines was concerned with describing new species and subspecies, with little regard for the biology of