

Woodpecker picking underneath the bark of the tree. It flies somewhat heavily when proceeding in a horizontal line, but it more often happens that it will dart with lightning speed from a high perch to a lower one in a slanting direction. This bird will never fly upwards. When it wishes to shift its position it will hop from branch to branch until it is sufficiently high, and then goes off to another tree in a downward direction. The native name is '*Bong Bong*.' I have never, during my residence of twelve years in the Richmond River district, heard it called by the name of '*Yass*.' The eggs have, to the best of my knowledge and belief, never been obtained. One of my friends, a farmer, when clearing his land, told me he had felled a tree which had a nest with eggs in. The eggs were white, with spots, but were broken by the fall of the tree, and, having no further interest in the matter, he had not saved the pieces. Some years since, when in the scrub with some cedar-cutters in October, we discovered a nest in a small tree, the top of which was very densely covered with creepers. A native climbed the tree, but found the nest just completed, with no eggs. We left the nest undisturbed for three weeks, when we found that it had been abandoned. We took it down and I found that it was built of sticks and leaves, similar to that of a Thrush. The inside was lined with snake-skins, and its diameter was about 9 inches. This bird has on one occasion been taken to London alive by myself. It lived in the Zoological Gardens for several years."

*Adult male.* General colour above velvety black, changing to deep fiery purple when viewed away from the light; wings black, the coverts deep purple like the back and scapulars, the quills bluish purple at the tip, the inner secondaries shaded with violet and bluish purple; tail-feathers velvety black, the two centre feathers burnished steel-green, the next ones on each side glossed with steel-blue near the base; crown of head burnished coppery green, fringed on the hind neck with metallic steel-blue; behind the eye, above the ear-coverts, a longitudinal patch of velvety purple; sides of face, sides of neck, and throat black, shaded with purple like the back when held away from the light; from the lower throat a large triangular patch of burnished steel-green, extending to the fore neck; breast velvety purple, each feather with a mesial shade of purplish blue, the plumes of the lower breast edged with olive-green; the rest of the under surface entirely of the latter colour with coppery purple bases; under wing- and tail-coverts black. Total length 11.5 inches, culmen 2, wing 6.2, tail 4.4, tarsus 1.45.

*Adult female.* General colour above ashy brown; the head also of this colour, all the feathers narrowly streaked with buffy white; over the eye a long streak of dull white, forming a distinct eyebrow; lores and sides of face brown, minutely streaked with buffy white, these streaks being also visible on the sides of the neck; cheeks and throat pale ochraceous buff, with whitish shaft-streaks; rest of under surface ochraceous buff, mottled with narrow black cross markings of irregular pattern, in the form of bars of different shapes; the lower abdomen, flanks, and under tail-coverts transversely barred with blackish; under wing-coverts orange-chestnut, with which colour also the quills are lined on the inner web; upper wing-coverts ashy brown like the back and scapulars, the greater series and the primaries externally washed with orange-rufous; quills brown, externally olivaceous brown, shading into orange-rufous on the edge of the quills; tail warm brown, slightly shaded with olive and edged with orange-rufous along the inner web. Total length 11.2 inches, culmen 2, wing 5.9, tail 4, tarsus 1.45.

The young male at first resembles the old female, and the process of change by which it gains the adult plumage is extremely interesting to follow; but so little has been recorded of the seasonal changes of Rifle-birds that it is difficult to find out how long the male takes in emerging from the barred plumage into the full livery of the adult, or whether he takes more than one year before he changes into the complete plumage.

One thing seems to be certain, viz. that the velvety plumage takes some time to acquire, and it is donned by means of a double process, both by moult and by a change of feather. Those plumes on the breast which are about to vary the pattern are generally plainly perceptible, and the kind of horseshoe marking which characterizes the young male begins to vary in form, breaking up into irregular lines, while the edges of the feathers commence to darken, at the same time that the centres become perceptibly lighter. The velvety green edges are acquired last. The quills are changed by a similar process, viz. partially by a clean moult, and partially by the darkening of the feather.

The Plate represents a male, a female, and an immature male, of about the natural size. The figures are drawn from specimens in the British Museum, from which also the descriptions have been taken.