

opened up the remainder of the tunnel at 5.05 p.m. but disturbed the wasp. However, I held the ovipositor in my fingers to be sure it remained in position. The ovipositor had passed through the outside centre plug of chewed wood which blocked the entrance and entered the tunnel close to the wood on the bottom of the gallery. It had followed cracks, but had forced the silk lining of the inside of the plug.

I brought home both the nymph and the wasp. On February 23 the nymph passed its final stage, and the resultant beetle was identified as *Tryphocaria princeps* Blkb. (W.A.M. 54. 1577).

This longicorn beetle is common in the flooded gum, and always excavates its typical chamber under the bark before retiring to its burrow, which it then seals with a plug of chewed wood with silken material inside, prior to the metamorphosis that changes it to the adult.

This specimen was too far down the tunnel for the wasp to have reached it with its ovipositor.

—A. DOUGLAS, W.A. Museum.

Notes on the Behaviour of Bee-eaters.—Between January 1 and 3, 1954, a Bee-eater's (*Merops ornatus*) nest at Mooliabeenie (approximately 60 miles north of Perth) was under observation from a hide sited nearby. The burrow had been drilled at a shallow angle into sandy ground and the ramp of excavated spoil emphasised the position of the nest which was directly beneath a roadside telephone line. From the persistence of their calls well-grown young were in occupation. Bee-eaters were locally abundant here. A good deal of this pair's prey was sighted from their perches on the wires and branches near the nest; dragonflies and bees seemed to predominate in their catch. Insects were always held at the tip of the beak and no attempt was made to remove the wings before carrying to the young. The larger dragonflies proved difficult to handle and the birds would beat them against the wires or branches until dead. On one occasion a bird flew to the wire with food and after alighting handed the prey to its mate; whether this was an instance of male feeding female or vice versa it was impossible to tell since the sexes were not separable. The close relationship of the Bee-eaters to the kingfishers was evident in several aspects of their behaviour quite apart from obvious anatomical similarities e.g. the very short legs. Thus the motions involved when a bird flicked a dragonfly into the air to regrasp it in a more convenient position seemed precisely the same as are used by the European Kingfisher (*Alcedo atthis*) when it flicks a fish into the air to adjust it ready for shipping into the maw of one of the nestlings. Again, the Bee-eaters did not find it necessary to go far down the tunnel to dispose of their food; presumably the young came part way towards the entrance to meet them. The old birds emerged tail first just as the European Kingfisher does in the same circumstances. Likewise the chirruping chorus of the nestlings which began as soon as the calls of the adult Bee-eaters were heard from their perches

overhead was surprisingly reminiscent of the nestling chorus of *Alcedo atthis*.

The Bee-eaters' calls appeared to fall into the following groups:—

1. The young ones' food calls — a murmured "joy, joy, joy, joy, —"

2. The "pirr, pirr . . ." note given in Serventy and Whittell's *A Handbook of the Birds of Western Australia*. Uttered in rapid succession, these calls are given when one adult flies and perches beside its mate; at the same time both birds raise their bills skywards and shiver their slightly fanned tails from side to side. This call is also given when a Bee-eater drops down to the nest entrance before going inside. The note appears to be primarily associated with courtship and territory. Several variants were noted one of which was written down as "pirr, blurry, pirr, blurry, pirr . . ."

3. "Prrrip, prrip . . ." Staccato, clear, far-carrying, this is I believe, the alarm note.

4. A quiet "tip, tip" or "tip, tip, chirrah, tip" with variants, was often heard when a bird was perched and the level of excitement seemed to be low.

—JOHN WARHAM, Leederville.

Comments on Gilbert's Note-book on Marsupials.—The recent publication of the text of a note-book of John Gilbert's on Australian mammals (Whittell, W.A. Nat., vol. 4, 1954, pp. 104-114) calls to mind a couple of problems associated with Gilbert's Western Australian collections, which are still referred to in present-day works, e.g., Troughton's *Furred Animals of Australia*, 5th (revised) edition, 1954.

The first problem is concerned with Gilbert's description of the nests of the Dunnart, *Sminthopsis murina fuliginosa* (Gould) (Whittell, p. 108), which was published by Gould. Troughton (p. 39) summarises Gould's description as follows: "Said to burrow out a cavity and fill it with short pieces of fine twigs and grass, forming a structure from ten to fifteen inches in depth with holes in the top leading to galleries which run out amongst the roots of the scrub, providing means of escape. By accident or design, these nests are precisely similar to structures built by a small species of black ant." There can be little doubt that these structures inhabited by the Dunnart were the nests of ants. *S. murina* has not been recorded as a builder of such nests in any other part of its extensive range or by any other observer. The species of ant which builds the nests is *Iridomyrmex conifer* Forel and it is restricted in its distribution to South-western Australia. It is of interest that as long ago as 1866 Krefft (*Proc. Zool. Soc., London*, p. 433) recorded that he had been informed by George Masters who had recently returned from a collecting expedition to King George's Sound that this species was "generally found in deserted ants' nests."

Another problem concerns the type locality of the western race of the Pig-footed Bandicoot, *Chaeropus ecaudatus occidentalis*



Warham, John. 1954. "From Field and Study: Notes on the Behaviour of Bee-eaters." *The Western Australian Naturalist* 4(6), 146–147.

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