



## Native Bee – Presumed Extinct

*Hesperocolletes douglasi* Michener



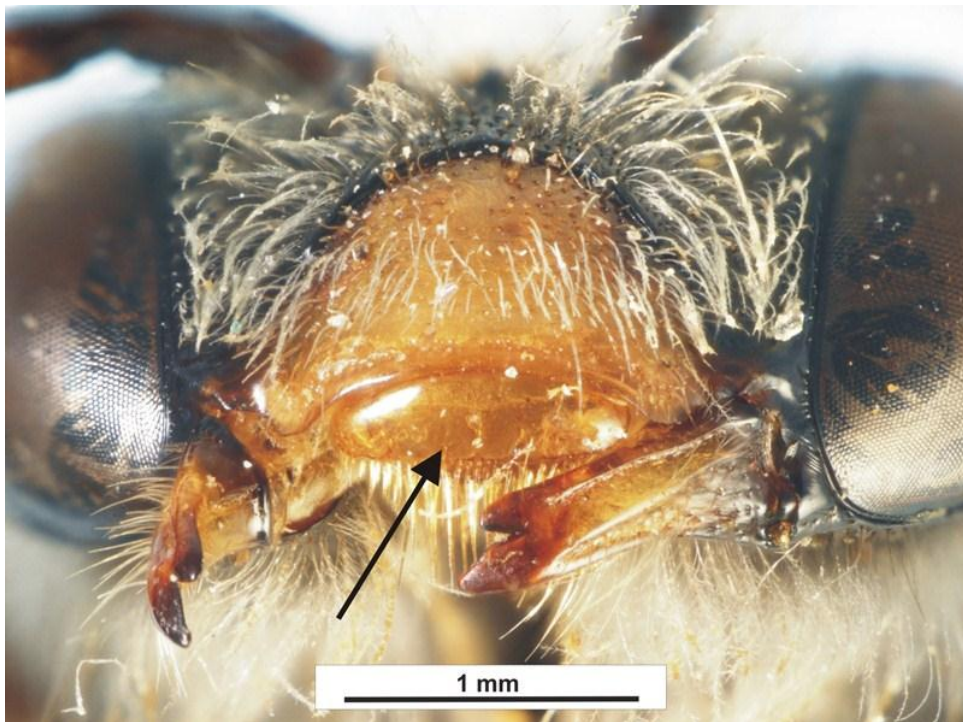
**Fig. 1.** Facial view of *Hesperocolletes douglasi*, holotype, male.

This native bee is known from just a single male specimen collected on Rottnest Island, near Perth, Western Australia. An entry in a Museum register book records the collection date of this specimen as 9-12 November, 1938. Bee expert Charles Michener described and named the species in 1965 on the basis of this specimen, designating it as the 'holotype', and created the genus *Hesperocolletes* for *H. douglasi* alone. For reasons unknown, he recorded the type-specimen's month of collection as February, not November. Unfortunately, no record of the circumstances of capture (e.g. flowers visited) is available.

To date, no other species of *Hesperocolletes* have been discovered and, despite searches made on Rottnest Island, Garden Island and coastal mainland areas north and south of Perth, *H. douglasi* has not been rediscovered. It is officially listed as 'presumed extinct' under the Western Australian Wildlife Conservation Act. Nevertheless, there is a possibility that the species might survive somewhere in Western Australia and this information sheet is intended to aid in its recognition. Only the diagnostic features of the male can be given and the reader should be aware that, generally speaking, females differ from males in certain anatomical characters and sometimes the differences can be dramatic.

*Hesperocolletes douglasi* is superficially like a number of other native bees and careful examination under a microscope would be required to distinguish a specimen. The bee is about the same size as a honeybee (body length approximately 12 mm), generally black and brown and moderately hairy.

The species belongs to the large family Colletidae and, in particular, the subfamily Paracolletinae. Colletids are characterized by having a short, broad, blunt tongue (or 'glossa') (a flexible, hairy appendage at the end of the proboscis; not always visible as it can be retracted). Paracolletines (at least in most species, including *H. douglasi*) have three submarginal cells in the fore wing (Fig. 5) and females usually have densely hairy hind legs (for carrying pollen). The diagnostic characters of *Hesperocolletes* can occur individually in various paracolletine bees and it is the *combination* of those features that one must look for: lower part of face yellow-brown (Figs 1, 2); labrum (a hinged flap attached to the lower margin of the face) more than twice as wide as long and not strongly convex (Fig. 2); a distinct carina (sharp edge) around and especially behind each compound eye; tarsal claws with inner prongs expanded and flattened (Fig. 6).



**Fig. 2.** Ventral view of head showing labrum (arrowed).

For some other diagnostic characters which are too technical to mention here, the reader is referred to Michener (1965).

### Reference

Michener, CD. 1965. A classification of the bees of the Australian and South Pacific Regions. *Bulletin of the American Museum of Natural History* **130**: 1-362.



**Figs 3 (above) and 4.** Lateral and dorsal views of holotype male, respectively.



**Fig. 5.** Fore wing (the three submarginal cells are numbered)



**Fig. 6.** Apical segment of tarsus showing flattened inner prong of tarsal claw (arrowed.)