

1843 in *Drosophila melanogaster* reference sequence. Representative sequences have been deposited in Genbank: 18S: EU041960-EU042009; 28S: EU042010-EU042038, EU073708:EU073711; ITS1: EU042039-EU042097, EU073664: EU073707). Primers used to generate these fragments are listed in Table 1. In some cases we utilized a standard PCR diagnostic to test for *Wolbachia* [20]. *Wolbachia* are obligate intracellular endosymbiotic bacteria that cause reproductive incompatibility between infected and uninfected lineages, resulting in an increased proportion of infected maternal lineages that cannot reproduce.

**Results**

**Taxonomic synopsis**

**Check-List of Malagasy *Anochetus* Species**

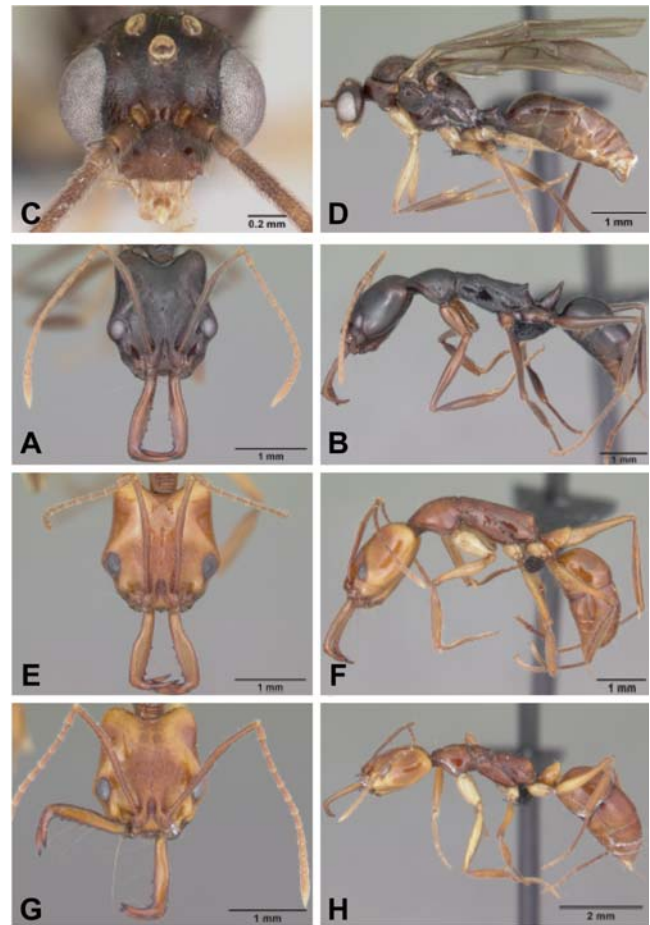
- boltoni* sp. nov.
- goodmani* sp. nov.
- grandidieri* Forel, 1891
  - = *madecassus* Santschi, 1928
- madagascarensis* Forel, 1887
  - = *africanus* var. *friederichsi* Forel, 1918
- pattersoni* sp. nov.

**Key to workers and queens of Malagasy *Anochetus***

1. Inner mandibular blade without preapical teeth and denticles (Figs 3a, 4a) . . . . . 2
1. Inner mandibular blade with at least four preapical teeth and denticles (Figs 2a,e) . . . . . 4
2. Worker compound eye large, >0.15 mm long. In full face view, antennal scape extends beyond posterior margins of occipital lobe. Dorsal surface of head and mesosoma with or without numerous short setae. . . . . 3
2. Worker compound eyes small, <0.15 mm long. In full face view, antennal scape usually fail to reach, and never surpass, posterior margin of occipital lobe. Dorsal surface of head with numerous short setae (Fig. 3a) . . . . . ***grandidieri***
3. Dorsal surface of head and mesosoma without numerous short setae (Fig. 3a). Pronotal dorsum glassy smooth. . . . . ***madagascarensis***
- Dorsal surface of head and mesosoma with numerous short setae (Figs 7a,b). Pronotal dorsum with punctures anteriorly and longitudinal ridges posteriorly (Aldabra) . . . . . ***pattersoni***
4. Petiolar node as seen from front or rear with apical margin deeply concave, lateral corner forming long spine (Fig. 5a). . . . . ***boltoni***
- Petiolar node as seen from front or rear with apical margin rounded, or slightly flattened, the lateral corner without spine (Fig. 5b). . . . . ***goodmani***

**Key to males of Malagasy *Anochetus*** (males of *goodmani* unknown and not included)

1. Shortest distance between lateral ocellus and margin of compound eye smaller than maximum length of ocellus. Petiolar node as seen from front or rear with lateral corners rounded, without acute spine or sharp tooth . . . . . 2
- Shortest distance between lateral ocellus and margin of compound eye distinctly greater than maximum length of



**Figure 2. *Anochetus* spp. full face and lateral view.** A–B, *boltoni* worker CASENT0104542. C–D, *boltoni* male CASENT0063847. E–F, *goodmani* worker CASENT0104543. G–H, *goodmani* ergatoid queen CASENT0454531. doi:10.1371/journal.pone.0001787.g002

- ocellus. Petiolar node as seen from front or rear with lateral corners with acute spine or tooth . . . . . 3
2. Body yellowish brown. Petiolar node as seen from front or rear with apical margin concave. Paramere simple with rounded apex (Fig. 8c). . . . . ***madagascarensis***
- Body dark brown, black. Petiolar node as seen from front or rear with apical margin more or less flat. Paramere constricted apically into a ventrally-directed digitiform lobe (Fig. 8d) . . . . . ***pattersoni***
3. Head and mesoscutum with dense reticulate sculpture, opaque, not smooth or shiny. Declivitous surface of propodeum abrupt, about as long as dorsal surface. . . . . ***grandidieri***
- Head and mesoscutum with weak sculpture, smooth and shiny areas present. Declivitous surface of propodeum gradually sloping posteriorly, indistinctly delimited from dorsal surface. . . . . ***boltoni***

***Anochetus boltoni* Fisher sp. nov.**

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Figures: **worker** 2a,b, 5a; **male** 2c,d, 8a; **map** 6a

**Type Material:** *Holotype* worker, MADAGASCAR: Antsirana, Parc National de Marojejy, Manantenina River, 28.0 km