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Thibault Ramage. – **First record of the superfamily Proctotrupoidea from French Polynesia (Hymenoptera)**

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Abstract. – A Helorid wasp, *Helorus ruficornis* Förster, 1856, is reported for the first time on Tahiti (Society Islands), which is also the first record of both Proctotrupoidea and family Heloridae in French Polynesia. The potential hosts of *Helorus ruficornis* in French Polynesia are discussed.

Résumé. – **Première citation d'une guêpe Proctotrupoidea de Polynésie française (Hymenoptera)**. Une espèce d'Heloridae, *Helorus ruficornis* Förster, 1856, est signalée pour la première fois de l'île de Tahiti (îles de la Société), ce qui représente également la première citation de la superfamille et de la famille en Polynésie française. Les proies potentielles d'*Helorus ruficornis* en Polynésie française sont précisées.

Keywords. – Tahiti, faunistics, new record, *Helorus ruficornis*.

The small and nearly worldwide family Heloridae Förster, 1856, belongs to the superfamily Proctotrupoidea Latreille, 1802. The genus *Helorus* Latreille, 1802, is the only extant genus within the family, with 19 living species found in all biogeographic regions except the Antarctic (Zhang *et al*., 2020). Heloridae are parasitoids of larvae of Chrysopinae Schneider, 1851 (Neuroptera, Chrysopidae) (Achterberg, 2006; Choi *et al*., 2012; Zhang *et al*., 2020).

During a recent study in Tahiti about the impact of *Wasmannia auropunctata* (Roger, 1863) (Formicidae) on both avifauna and entomofauna in the natural park Te Faaiti, a Proctotrupoidea has been collected in a Malaise trap (fig. 1) (Ramage *et al*., 2018). This superfamily was not yet reported from French Polynesia. This specimen turned out to be a female *Helorus ruficornis* Förster, 1856, a widespread species already known from Hawaiian Islands (Beardsley & Perreira, 2000).

Family **Heloridae** Förster, 1856

Genus ***Helorus*** Latreille, 1802

Helorus ruficornis Förster, 1856 (fig. 2-3)

Material examined. – 1 ♀, Tahiti, Papenoo valley, natural park Te Faaiti, second mountain refuge, 17°36'5.90"S 149°26'48.30"W, 474 m, Malaise trap, 31.VIII.2017, *F. Jacq* (collection T. Ramage).

Fig. 1. – Location of the Malaise trap, natural park Te Faaiti, Tahiti *(F. Jacq ©)*.

Diagnosis. – *Helorus ruficornis* is the only Proctotrupoidea wasp from French Polynesia, which makes it easy to identify, especially by its wing venation (fig. 3). *H. ruficornis* can be distinguished from other *Helorus* species by the following combination of characters: antennae yellowish brown or brown (fig. 2); first flagellomere about 2.8 × longer than wide; relatively slender petiole (3.0-3.3 × as long as its maximum width); hind trochanters, trochantelli and tarsi yellowish brown; hind tibiae and tarsi brownish yellow; pterostigma robust (2.1-2.5 × as long as wide) (fig. 3) (Achterberg, 2006; Choi *et al*., 2012; Buffington & Copeland, 2016; Zhang *et al*., 2020).

Distribution. – North America, Palearctic, sub-Saharan Africa, Hawaiian Islands, French Polynesia (Tahiti) (Achterberg, 2006; Choi *et al*., 2012; Buffington & Copeland, 2016).

Biology. – *Helorus ruficornis* has been reared from several species of *Chrysopa* Leach, 1815, and *Chrysoperla* Steinmann, 1964 (Choi *et al*., 2012; Buffington & Copeland, 2016).

Observations in French Polynesia. – Nine species of Chrysopidae of the genera *Chrysopa*, *Chrysoperla*, *Mallada* Navás, 1925, and *Plesiochrysa* Adams, 1982, are reported from the

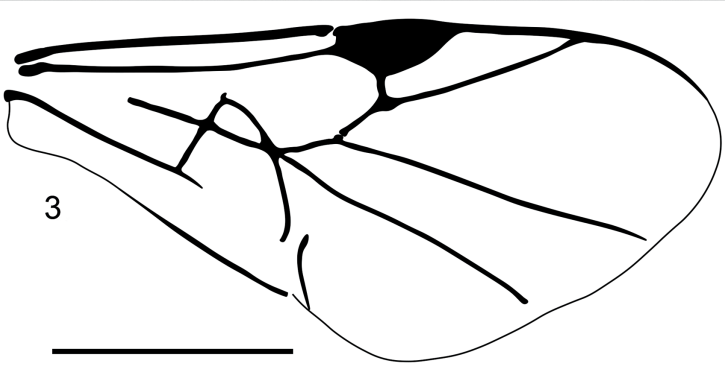

Fig. 2-3. – *Helorus ruficornis* Förster, 1856. – 2, Lateral habitus. – 3, Drawing of fore wing venation. Scale bars: 1 mm.

Society Islands, French Polynesia (Ramage, 2017). The species *Plesiochrysa remota* (Walker, 1853) and *Mallada basalis* (Walker, 1853) have been collected in the natural park Te Faaiti, the latter being very common (Ramage *et al*., 2018). As the genera *Mallada* and *Plesiochrysa* belong to the tribe Chrysopini Schneider, 1851, along with *Chrysopa* and *Chrysoperla*, *Helorus ruficornis* may use these species as hosts.

The presence of *Helorus ruficornis* in this particularly remote natural park (about 8 km inland) implies that this species has been introduced to Tahiti at least a decade ago and is now widespread on this island, including in agroecosystems. With the agricultural interest in Neuroptera as useful insects for pest control, it would be interesting to study the impact of *H. ruficornis* on Chrysopidae populations in agrosystems.

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