

## Male terminalia and undescribed female of *Ceratoplatus fullerae* Schmitz (Diptera: Phoridae) from New Zealand

B.V. BROWN<sup>1</sup>, H. OLIVER<sup>2</sup>

<sup>1</sup>Entomology Section, Natural History Museum of Los Angeles County, 900 Exposition Boulevard, Los Angeles, CA, 90007, USA.

E-mail: bbrown@nhm.org

<sup>2</sup>172 Dinsdale Road, Hamilton, 3204, New Zealand

### ABSTRACT

The male terminalia and previously undescribed female of *Ceratoplatus fullerae* Schmitz, known only from New Zealand, is described. The monobasic genus *Ceratoplatus* Schmitz is confirmed to belong in the Hypocerinae (sensu Brown 1992), and its identification is clarified within the latest key to world genera (Disney 1994).

**Keywords.** *Ceratoplatus*, Systematics, New Zealand, Phoridae, Diptera.

### INTRODUCTION

Among the many new and unusual phorids described by Schmitz (1939) from New Zealand, *Ceratoplatus fullerae* Schmitz stands out because of the greatly enlarged male flagellomere 1 (Fig. 1). Female specimens were not known, and since the original description, almost nothing new has been published about this monobasic genus and its sole species. The exceptions are Brown's (1992) revision of phorid genera, where *Ceratoplatus* Schmitz was placed among some other New Zealand genera in subfamily Hypocerinae, and its inclusion in the key to world genera of phorids (Disney 1994).

Recently, we collected new material of both sexes of this genus in preparation of a combined molecular and morphological phylogenetic re-analysis of world phorid genera (Brown & Smith in preparation). We herein take the opportunity to illustrate the previously undescribed male terminalia and to describe the previously unknown female, making vital character states available for phylogenetic analyses.

### MATERIALS AND METHODS

Specimens collected into alcohol were dried using the chemical hexamethyldisilazane (Brown 1993). All specimens are deposited in the Natural History Museum of Los Angeles County (LACM) and New Zealand Arthropod Collection (NZAC).

### RESULTS

#### *Ceratoplatus fullerae* Schmitz (Figs 1-4)

Schmitz 1939: 101, Figs 8, 14, 15.

#### Key descriptive features

**Male terminalia.** Epandrium short (Fig. 3), not extending ventrally below cerci. Hypandrium with extremely large, densely setulose outer lobes that project much farther ventrally than rest of hypandrium. Cercus short, round.

**Female.** Similar to Schmitz's description of male. Body colour dark brown (Fig. 2), with legs contrastingly yellow (except mid- and hind coxae dark brown). Frons short, similar to that of male; with one pair of divergent, dorsally-pointing, supra-antennal setae, and 0-4-4 other frontal setae. Flagellomere 1 small, round; arista dorsal, long. Wing with only one seta at base of Rs; R<sub>2+3</sub> present. Abdominal tergites 1-6 dark brown with short, scattered setulae. Segment 7 lacking sclerites; small tergite 8 present (Fig. 4).

#### Classification and notes on identification

Based on the structure of the male terminalia, this genus is classified with the other New Zealand genera in the Hypocerinae of Brown (1992). In particular, the male terminalia are similar in structure to those of *Bothroprosopa* Schmitz (illustrated in Brown 1992: Fig. 14D), with the laterally flattened genital capsule and the greatly enlarged hypandrium.

The lack of female tergite 7 is surprising, as is the single seta at the base of Rs in both sexes. Both are hypothesized to be



Figure 1. Male specimen of *Ceratoplatus fullerae* Schmitz, left lateral (body length 1.7 mm).



Figure 2. Female specimen of *Ceratoplatus fullerae* Schmitz, left lateral (body length 1.9 mm).

primitive character states within Hypocerinae by Brown (1992). Presumably, if they are properly placed with other New Zealand hypocerines, *Ceratoplatus* represent the sister group to the rest.

In the latest key to world phorid genera (Disney 1994), the male keys out properly if one accepts that the arista is apical at couplet 14; however, the arista is slightly subapical. The female keys to couplet 251 and agrees with *Triphleba* Rondani (part). In most *Triphleba* species, however, both the ventral interfrontal and

ventral fronto-orbital setae are present, whereas both are lacking in *Ceratoplatus*. Additionally, *Triphleba* species (as we define the genus) are not known from New Zealand, and *Ceratoplatus* is only known from there.

#### Material examined

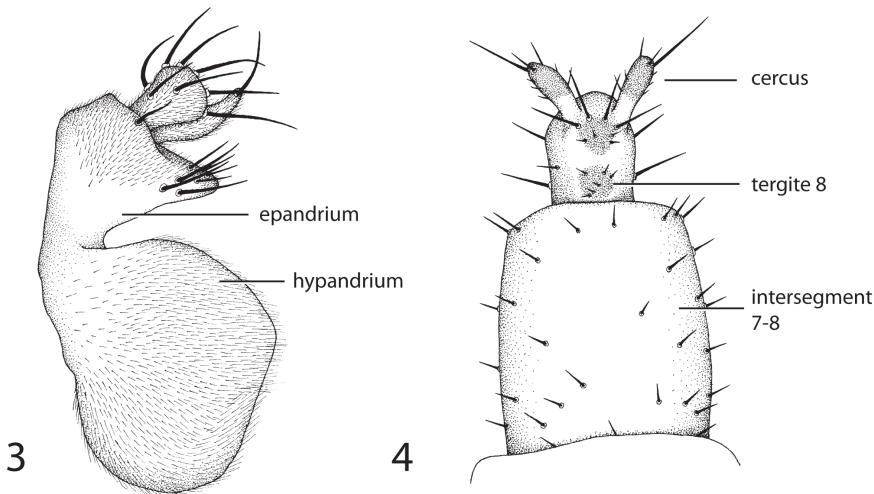
**New Zealand.** North Island: Desert Road at Oturere River, near Turangi, 39.18°S, 175.76°E, 2♂, 1♀, 10-14.ii.2006, B. Brown, H. Oliver, Malaise trap, 850m; Lake Rotopounamu, 39.02°S, 175.73°E, 5♂, 13.ii.2006, B.V. Brown, sweeping along trail; Tree Trunk Gorge, near Turangi, 39.17°S, 175.81°E, 1♂, 1♀, 12-14.ii.2006, B. Brown, H. Oliver, Malaise trap, 2♂, 14.ii.2006, H. Oliver, liver-baited yellow pans.

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Figures 3-4. Male and female terminalia of *Ceratoplatus fullerae* Schmitz. (3), Male terminalia, left lateral. (4), Tip of female abdomen, dorsal.