

The New Zealand Species of *Oliarus* (Hem. Cixiidae)

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Abstract

CHARACTERS which distinguish the two species *O. oppositus* and *O. atkinsoni* are described.

INTRODUCTION

Myers (1924) redescribed *Oliarus oppositus* (Walk.) and described an additional species *Oliarus atkinsoni*. Recently, adults of the latter species have been shown to transmit the "yellow-leaf" disease of *Phormium tenax* Forst. (Cumber, 1952). *O. oppositus*, although breeding on a wide variety of plants, is often found in the adult stage feeding on the blades of *Phormium*, but as yet has not been incriminated as a vector of the disease, whereas *O. atkinsoni* is largely restricted to *Phormium* as a host plant. The purpose of the present account is to indicate the characters (some of which were not described by Myers) which readily separate the two species.

CHARACTERS DISTINGUISHING THE TWO SPECIES

- a. *O. oppositus* is usually yellow-brown in colour, whereas *O. atkinsoni* is grey.
- b. The macrotrichia are more conspicuous in *O. oppositus*.
- c. *O. oppositus* is much the smaller species although considerable variation in size occurs in both species—e.g., *O. oppositus* 4.6–7.0 mm., *O. atkinsoni* 7.2–9.4 mm. (vertex to extremity of tegmen, wings folded).
- d. In *O. oppositus* the vertex is relatively broader than in *O. atkinsoni* (Fig. 1). A series of specimens of both species collected at different localities gave the following ratios for maximum width of frons. width of vertex at level of posterior carina. (Measurements were made with a micrometer eye-piece 1 mm. = 178 units.)

<i>O. oppositus</i>			
Locality.	Date.	Males.	Females.
Mangamuka	17. 2.51	2.02, 1.84	2.00
New Plymouth	29.11.48	1.86, 2.22	1.99, 1.99, 1.86, 2.04
Ngauranga	1. 2.51	1.86, 2.10	1.93, 1.97, 1.89, 1.84
Paiaka (Shannon)	4. 1.50	1.96, 2.16, 2.05	1.82, 2.01, 1.76
Puketū Forest (Kaeo)	11. 2.51	2.00	

<i>O. atkinsoni</i> .			
Locality.	Date.	Males.	Females
Mangamuka	17. 2.51	2.61, 2.71	2.71
Omapere (Okaihau)	5. 3.50		2.70, 2.48, 2.55, 2.86, 2.63, 2.79
Paiaka	24 11.49	2.85, 2.96, 3.00	2.61, 2.55, 2.63

It is seen that these ratios do not overlap in the two species.

e. In *O. oppositus* the frontal carina is continued as a lighter-coloured raised area for only a short distance into the clypeus, whereas in *O. atkinsoni* it continues to the tip of the latter (Fig. 1).

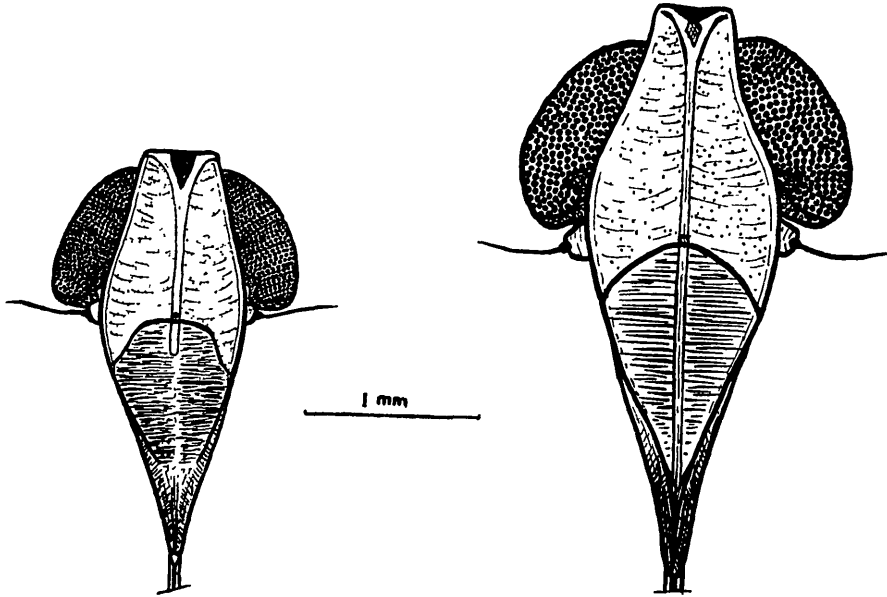


FIG. 1.—The head of *O. oppositus* (L.) and *O. atkinsoni*, showing the relatively broader vertex in the former, the extension of the frontal carina in the latter, and the shape of the fronto-clypeal sutures.

f. The fronto-clypeal suture of *O. oppositus* takes the form of a wide-based inverted "U," whereas in *O. atkinsoni* the suture is more acute and is "V"-shaped (Fig. 1).

In both species as a preliminary to copulation, the individuals will line up alongside and level with each other, and it is not uncommon to see as many as five bugs (central female with two males on each side) placed in this manner. Where adults of both species are present at Paiaka on the *Phormium*, it has been noted that the males of one species will often take up position alongside females of the other species.

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