

**SOME NOTES ON
HETEROJAPYX NOVAEZEELANDIAE
(VERHOEFF) (DIPLURA : JAPYGIDAE)**

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The Japygidae were originally placed in the Order Thysanura, but later a separate Order, the Diplura, was defined to accommodate them. The main points separating this Order from the Thysanura are the mouth-parts enclosed within the head-capsule and the absence of a median tail appendage.

The New Zealand species show close relationships to the Australian fauna. The genus **Heterojapyx** occurs in both countries, two species are known from New Zealand (one undescribed) and four from Australia. **H. novaezeelandiae** (Verhoeff) 1903 was at first placed in the genus **Japyx** and in the following year Verhoeff erected a new genus, **Heterojapyx** for it. Womersley (1939) considered the genus to be so distinct that he placed it in a separate sub-family, the Heterojapyginae, individuals of which are characterised by the presence of a short stout inner process at the base of each tarsal claw.

H. novaezeelandiae has been referred to in literature as **H. novae-zelandiae** Silvestri (Tillyard 1924, p.239 and Britton 1949, p. 49), **H. novae-zelandae** Verhoeff (Womersley 1939, p.64) and **H. novae-hollandiae** Verhoeff (Womersley 1934, p.37, 42 & 46).

As Verhoeff's description was published in German, a translation is given below:—

“36mm excluding the forceps. 10th abdominal segment 4.25mm long. Head 3mm long. The forceps more than 3.5mm long. The posterior angles of the 7th abdominal segment completely rounded off. Styli on segments 1-7. Coxosternum with yellowish tips. The body greyish white, the 7th abdominal tergite somewhat yellowish brown, 8th and 9th segments for the most part yellowish brown, 10th together with the forceps brown and strongly setose.

Antennae with 39 segments, many only a little wider than long, the first three with only a few but strong bristles, the others with a ring of dense bristles, the last 13-14 completely and densely setose. There are no sensillary setae. Legs all with three strong pointed tubercules in front of the claws, one above (accessory claw), two below. Tarsus with strong bristles, little shorter than the tibia. Cerci also strongly setose. Cerci and posterior half of the dorsal part of the 10th abdominal segment with prominent dark granules, as well as the transverse and distinctly projecting lobes of the posterior margin. The forceps with wart-like and knob-like denticulations along the whole of their inner margin, excluding the tips, also the left one with one strong tooth and the right one with two.

The sternite of the 9th abdominal segment transverse, posteriorly rounded, fairly large, densely and conspicuously setose. Above segment 9 there are several processes around the genital opening—an almost triangular lobe above and two small warts below (“papillae” in Grassi’s terminology) all distinctly setose. Abdominal segments 1-8 above and below very sparsely setose, on superficial examination nearly naked.

Location: The Zoological Museum of Berlin has three specimens of this handsome species from New Zealand (Greymouth).”

Womersley (1934) recorded specimens from Dun Mountain and the Nelson district. Study of fresh material from this area has shown that some statements in Verhoeff’s description need modification.

The number of antennal segments is variable. Most specimens examined had 44 segments, with an extreme variation of 34-45 in adults. Silvestri (1910) recorded a specimen with 46 segments. Some individuals had a different number of segments on each antenna.

In every instance, where a group of juveniles were associated with an adult, all had the same number of antennal segments. This has been observed for both 1st and 2nd instar nymphs and shows a marked difference from Dermaptera (an Order which has often been compared with the Diplura because of certain similarities in behaviour and superficial morphology) in which young of **Forficula auricularia L.** have fewer antennal segments than the adults (Miller, 1969).

On several occasions an adult has been found associated with a group of eggs. A small cell excavated in the ground beneath a log or stone, contained 20-30 eggs (each up to 2mm diameter) which hung by a stalk in a freely suspended cluster (approximately 5mm across). The stalk was attached to the egg-mass from the centre of a single egg (Fig. 1). A cross-section showed it to be composed of a substance separate from the chorion and would probably have been secreted by accessory glands just prior to the commencement of egg laying. The same material was probably used to cement the whole egg cluster together.

Adults have been found with either 1st or 2nd instar young grouped under the arched body of the parent. When disturbed they quickly wriggled away through the loose soil particles.

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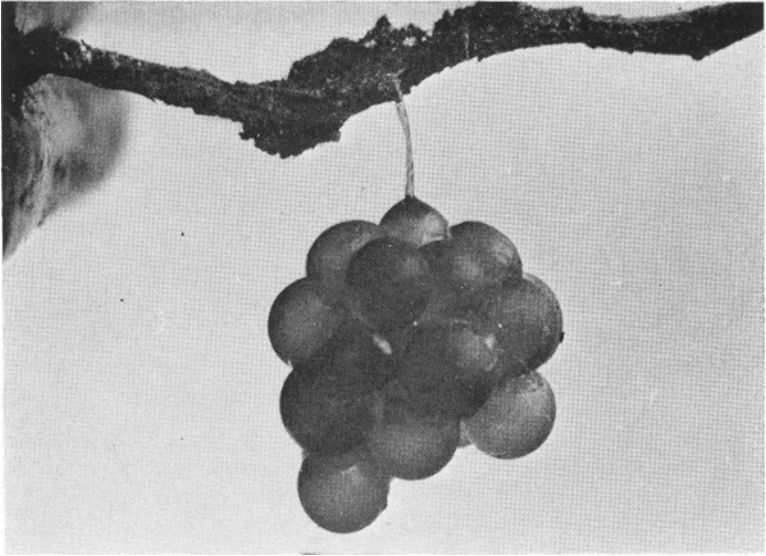


Fig. 1. Egg cluster of *Heterojapyx novaezeelandiae* (V erhoeff).
Mt. Riley 3000', Marlborough, 14 November, 1959, B. B. Given and J.
I. Townsend. (Specimen in Entomology Division Collection).

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