

A NOTE ON THE INTRODUCED MILLIPEDES OF NEW ZEALAND

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SUMMARY

Twelve exotic species of millipedes in New Zealand are listed together with notes on those common in household gardens. The association of *Ophiulus verruculiger* (Verhoeff) with new city housing areas is recorded.

In New Zealand exotic millipedes have not been reported to be of major economic importance, but occasionally they have been of great nuisance in homes and gardens throughout the country. Two species of *Ophiulus* appear in numbers in houses at certain times of the year. The widespread and abundant *Ophiulus pilosus* will enter houses in the autumn during minor wandering movements following large increases in the populations in garden refuse during the summer. *O. verruculiger* becomes a great nuisance in housing development areas, its biology being linked to the leaching of calcium, sodium and potassium salts that takes place from concrete for several months after it has been laid down as paths and floors and walls of buildings. Normally its distribution is apparently limited to coastal and limestone areas but it is suspected from verbal reports that populations are being encouraged entirely by the leaching of concrete in the new housing areas around Auckland. *Brachyiulus pusillus*, *Cylindroiulus britannicus*, *Ophiulus pilosus*, *Polydesmus coriaceus* and especially *Nopiuulus minutus*, *Brachydesmus superus* and *Blaniulus guttulatus* are important inhabitants of household gardens. There, these species congregate in any decaying vegetation and, if the populations become large, will attack living vegetables and tubers. In a very simple experimental procedure the author, in Christchurch, has allowed apples, carrots and potatoes to lie undisturbed on or in the ground, whereupon in the late summer all showed definite damage by millipedes. It was not uncommon to find 30-50 *Blaniulus guttulatus* in one apple.

Estimated populations in an undisturbed area (approximately 10ft. x 12ft.) of the garden were as follows:—

<i>Blaniulus guttulatus</i>	.....	.....	30 per sq. ft.
<i>Brachydesmus superus</i>	.....	.....	30 per sq. ft.
<i>Ophiulus pilosus</i>	.....	.....	3-10 per sq. ft.
<i>Cylindroiulus britannicus</i>	.....	.....	5 per sq. ft.
<i>Brachyiulus pusillus</i>	.....	.....	2 per sq. ft.

At the same time (May, 1966) a small number of *Ophiulus pilosus* were noticed in the house during a period of warm weather, whilst in a house only a short distance away a similar occurrence was noted in early June.

In Temuka, South Canterbury, **Nopoiulus minutus** was abundant in a garden during May, 1966, its habits being in this case, very similar to those of **Blaniulus guttulatus**. These two species have not been found co-existing in any garden examined.

Other exotic millipedes are not considered important as they are, relatively, quite rare.

CHECKLIST OF THE EXOTIC MILLIPEDES IN NEW ZEALAND

The nomenclature of the European species follows Blower (1958), Chamberlain (1920), Dawson (1958), Johns (1962) and Schubart (1964) record some of the species of this checklist. Two species are new records for New Zealand while a third awaits further material for confirmation.

PARADOXOSOMATIDAE

Akamptogonus novarae (Humbert and Saussure, 1869).

Taranaki 1920, Chatham Islands 1923, Norfolk Island 1927, Wanganui, Hawke's Bay, Wellington.

Oxidus gracilis (Koch, 1874).

The record of Chamberlain (1920) was doubted by Johns (1962) but the species has since been found by the author at Opononi and Auckland. In both cases it was in open roadside, not in direct association with cultivated land. Auckland 1934, Opononi 1963, Auckland 1964.

Genus near **Australiosoma**.

A single female is known from Kerikeri.

POLYESMIDAE

Brachydesmus superus (Latzel, 1884).

Christchurch 1920, 1923, 1963, Wellington 1921, Hamilton 1932, Wanganui 1963.

Polydesmus coriaceus (Porat, 1870).

Christchurch 1920, Wellington 1921, Hamilton 1963, D'Urville Island 1960, Wanganui 1963.

BLANIULIDAE

Nopoiulus minutus (Brandt, 1841).

Wellington 1921, 1965, Auckland 1949, Wanganui 1963, Temuka 1966.

Blaniulus guttulatus (Bosc, 1792) (new record).

Christchurch 1962, 1963, 1964.

JULIDAE

Brachyiulus pusillus (Leach, 1815).

Chatham Islands 1923, Norfolk Islands 1926, New Plymouth 1924. Wanganui, Wellington, Christchurch.

Ophiulus pilosus (Newport, 1842).

New Plymouth 1922, Chatham Islands 1923, 1954, Wanganui 1924, Christchurch 1923, Auckland 1927, 1933, Hawke's Bay 1929. Throughout New Zealand.

Ophiulus verruculiger (Verhoeff, 1910).

Whata-Whata 1932, Auckland 1946, 1949, Tauranga 1947, Wellington 1954. Christchurch, Bluff.

Cylindroiulus britannicus (Verhoeff, 1891).

Otakaike 1919, Queenstown 1920, Christchurch 1920, Chatham Islands 1922, 1923, 1954, Taranaki 1922, Hokitika 1923. Throughout New Zealand.

Cylindroiulus londinensis (Leach, 1815), (new record).

Hokitika 1963.

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