

The Myriapoda of the Kermadec Islands

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The Kermadec Islands are a small, isolated, subtropical, active volcanic group situated approximately 1000 km NE of Auckland (Watt, 1975). Formerly farmed, they are now mainly a Flora and Fauna Reserve with a small area on Raoul Island, occupied by a meteorological station and its attached farmlet. Much of the native vegetation is heavily modified by volcanism, by farming and the introduction of goats, cats and rats.

It is accepted that before man's activities the flora and fauna arrived by transoceanic dispersal followed by some subsequent divergence to form subspecies and species.

Of the Myriapoda only the centipede *Lamyctes emarginatus* (Newport, 1844) has been recorded, first as *L. kermadecensis* Archey 1917, but later synonymised (Archey, 1937). All specimens examined were collected on Raoul, the largest and only inhabited island, except *L. emarginatus*, which was found on Meyer Island.

KEY TO SPECIES

Diplopoda

1. Body uniformly brown *Cylindroiulus britannicus*
 — Body brown with two pale brown stripes dorsally *Brachyiulus pusillus*

Chilopoda

1. Body relatively short and broad, with 15 pairs, or fewer legs 2
 — Body very elongate and narrow, more than 20 pairs of legs 3
 2. Length up to 25 mm, deep reddish brown, eyes multiple *Lithobius forficatus*
 — Length up to 12 mm, yellow brown in colour, single ocellus on each side *Lamyctes emarginatus*
 3. Body of 21 segments *Cryptops hortensis*
 — Body of more than 50 segments 4
 4. Head small and round, body distinctly narrower for anterior third, trunk setose *Ballophilus hounsellii*
 — Head elongate, approximately as wide as the uniform body, trunk with few setae *Pachymerinum ferrugineum*

FAMILY JULIDAE

Cylindroiulus britannicus (Verhoeff, 1891)

Origin: Europe.

This is almost cosmopolitan and is widespread and common in Tasmania and New Zealand where it is the dominant millipede associated with agriculture, horticulture and exotic forests. It has however, only invaded the natural forests or scrub where there has been considerable interference by sheep or cattle or roading. References for descriptions etc. Blower, 1958, Schubart, 1934, Johns 1962, 1967.

Brachyiulus pusillus (Leach, 1815)

Origin: Europe.

Almost as widespread, but not as common as the preceding species and in New Zealand it seems to be confined to coastal situations and areas of intense modification, cities, towns and associated market and household gardens. References for descriptions etc. Blower, 1958, Johns 1962, 1967.

FAMILY CRYPTOPIIDAE

Cryptops hortensis (Leach, 1815)

Origin: Europe.

A new record, but again the species is established on the mainland in Auckland household gardens. References for description etc. Brolemann, 1930, Eason, 1964.

FAMILY LITHOBIIDAE

Lithobius forficatus (Linnaeus, 1758)

Origin: Europe.

The species *Lithobius argus* Newport, 1844 from Wellington is now a synonym (Eason, 1972, 1974). *L. forficatus* has also been taken recently in Timaru. References for description etc. Brolemann 1932, Eason 1964.

FAMILY HENICOPIDAE

Lamyctes emarginatus (Newport, 1844)

L. kermadecensis Archey, 1917 (type seen, deposited in Canterbury Museum).

L. emarginatus: Archey, 1937.

Origin: New Zealand, or Australia.

Although this species is said to be endemic to Australia and New Zealand (Newport, 1844, Archey, 1937), the holotype (?from Tasmania) has not yet been checked against specimens from populations throughout New Zealand. The Kermadec material is identical with New Zealand material and at least some specimens from New Zealand have been identified as *Lamyctes fulvicornis* Meinert (Crabill, in litt.). On the New Zealand mainland this species is most common in gardens and agricultural areas but not often seen in native forests where endemic species of *Anopsobius* and *Haasiella* are common.

FAMILY GEOPHILIDAE

Pachymerium ferrugineum (C. L. Koch, 1835)

Origin: Europe.

Another new record of a now almost cosmopolitan, originally European species, well known to tolerate maritime conditions. References for description etc., Brolemann 1932, Eason, 1964.

FAMILY SCHENDYLIDAE

Ballophilus hounselli (Archey, 1936)

Origin: New Zealand.

The few specimens available could be as easily placed in the New Caledonian species, *B. rouxi* Ribaut, 1923, which suggests that the New Caledonian material should be compared directly with some from New Zealand. References for description: Archey, 1936, Ribaut, 1923.

REMARKS

It is clear that the Kermadec group supports no endemic myriapod and the greater number come from Europe, and not one could be considered as having got there by natural transoceanic dispersal. This is consistent with the nature of the island fauna which is depauperate and has very few endemics. Its size and distance also reduce the chances of overseas colonisation and the introduction of foreign species during man's colonisation was facilitated by his uncontrolled cartage of plants, soil, ballast, sacks etc. during the earlier days of settlement. Such cartage of all the European species above is paralleled in the faunas of North America, Tasmania and New Zealand.

In sharp contrast is the absence from these islands of the tropical tramp species *Pseudospirobolellus bulbiferus*, *Spirostrophus naresii*, *Orthomorpha coarctata*, *Oxidus gracilis* and *Scolopendra subspinipes*. Some of these species

are to be found on similar volcanic islands and others in the South Pacific: Fiji, Cook Islands, Tonga, Rapa, Norfolk Island, Pitcairn and Easter Island.

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