

Macrochelidae from the Kermadec Islands and a key to species of *Macrocheles* Latreille from the New Zealand region (Acari : Mesostigmata)

R. M. EMBERSON

Department of Entomology, Lincoln College, Canterbury

Abstract

Two species of Macrochelidae are reported from the Kermadec Islands: *Macrocheles muscaedomesticae* and *M. robustulus*. A key to the 12 species of *Macrocheles* from the N.Z. region is presented. The N.Z. records of *M. caelatus* are misidentifications of *M. peniculatus*.

Keywords: Acari, Macrochelidae, *Macrocheles*, key, Kermadec Islands.

The macrochelid fauna of the Pacific Islands has scarcely been investigated. However, the recent volcanic origin and small size of the Kermadec Islands, together with their history of agricultural modification, indicate that most species would be ex-

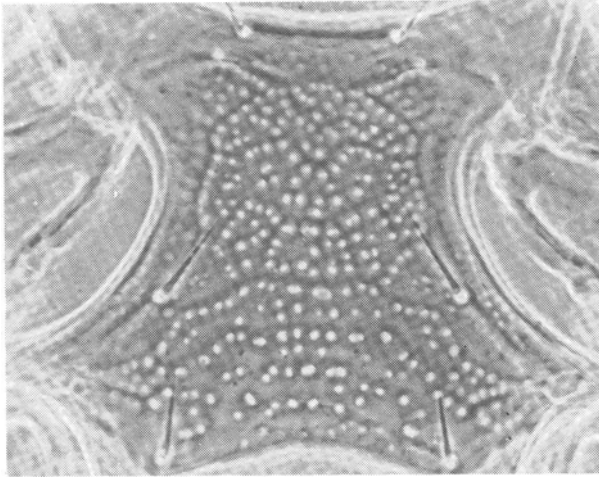


Fig. 1. *M. robustulus*, sternal shield showing distinctive pattern of punctures.

pected to be widespread ones associated with domestic animal dung and synanthropic flies. This is borne out by the collections reported here.

All material is in the N.Z. Arthropod Collection (NZAC), Entomology Division, DSIR, Auckland, except for one specimen in the collection of the Entomology Department, Oregon State University (OSU), Corvallis, U.S.A.

Macrocheles muscaedomesticae (Scopoli, 1772)

This species is probably nearly cosmopolitan in distribution, being closely associated with the house fly, *Musca domestica*, and other species of synanthropic flies. It has been recorded previously from New Zealand (Emberson 1973a).

Specimens have been seen from nests of *Porzana tabuensis Plumbea*, the spotless crane, and *Turdus merula*, the blackbird, and also from a decayed bird carcass, all collected on Meyer Is., and from soil at Blue Lake, Raoul Is. (OSU).

Macrocheles robustulus (Berlese, 1904)

This is the first record of this species from the New Zealand region. It has previously been recorded from New South Wales, Australia (Krantz & Filipponi 1964) and a specimen has been intercepted at Auckland from Fiji. In the northern hemisphere it is very widespread, usually associated with cattle manure and dung beetles. It has been redescribed by Costa (1967) and the pattern on the sternal shield (Fig. 1) will distinguish it from other species found in New Zealand.

Specimens have been seen from nests of *Porzana tabuensis plumbea*, the spotless crane, *Turdus merula*, the blackbird, *Pterodroma neglecta*, the Kermadec petrel, *Pt. hypoleuca nigripennis*, the blackwinged petrel, and *Anous* sp., noddies, all collected on Meyer Is.

Krantz & Filipponi (1964) described *M. tenuirostris* from the nests of *Puffinus tenuirostris*, the Tasmanian shearwater from Fisher Is. in Bass Strait. It would be interesting to know if this or similar species also occurs in shearwater nests on the Kermadec Islands.

Since the publication of my key to species of Macrochelidae in New Zealand (Emberson 1973a), five additional species of *Macrocheles* have been reported from the New Zealand region (Emberson 1973b) in addition to the seven included in the key.

The opportunity is therefore taken to present a new key to species of *Macrocheles* from the New Zealand region, and to correct the nomenclature of a previously recorded species.

KEY TO *MACROCHELES* SPECIES RECORDED FROM THE
NEW ZEALAND REGION

1. All setae on dorsal shield simple, needle-like; setae D1 short spine-like. Sternal shield with a pattern of 4 or 5 transverse lines . . . **subbadius** species group 2
 - Some dorsal setae, always including D1, pilose, at least distally. Sternal shield variously ornamented, sometimes without regular lines and never as above 3
2. All lines of the sternal shield with a strong edging of punctures. Genu IV with 7 setae **M. subbadius** (Berlese)
 - Transverse lines of sternal shield poorly marked and punctured. Genu IV with 6 setae **M. merdarius** (Berlese)
3. A group of simple setae in the middle of the dorsal shield, always including at least D6, M3, M6, and Dx or D7 4
 - All dorsal setae pilose **M. matrius** Hull
4. Most setae on the dorsal shield simple; setae Mg 5, Mg 6, and Mg 7 and usually others on the shield margin simple 5
 - All setae on the dorsal shield margins, including all the Mg series, pilose 9
5. Setae D1 elongate, over twice as long as setae D2 and noticeably longer than setae D3, minutely pilose distally. Sternal shield without distinct lines but with a more or less symmetrical pattern of punctures some of which may be linearly arranged (Fig. 1) **M. robustulus** (Berlese)
 - Setae D1 short and stout, little longer than setae D2 and D3, distinctly pilose in distal third to half. Sternal shield with a distinct pattern of lines **glaber** species group 6
6. Sternal shield with deeply incised lines, punctures not strongly developed 7
 - Lines on sternal shield not so obvious, punctures strongly developed 8
7. Ventrianal shield noticeably broader than long, sternal shield with 2 *lineae arcuatae*, dorsal setae L₃ pilose **M. perglaber** Filipponi and Pegazzano
 - Ventrianal shield no broader than long, sternal shield with 1 *linea arcuata*, dorsal setae L₃ simple **M. glaber** (Müller)
8. Ventrianal shield no broader than long **M. scutatus** (Berlese)
 - Ventrianal shield distinctly broader than long **M. hyatti** Krantz and Filipponi
9. Dorsal shield with 29 pairs of setae, an extra simple pair Dx between D6 and D7. Ventrianal shield obovate, broader than long, ornamented with curved rows of deep pits **M. novaezelandiae** Emberson
 - Dorsal shield with 28 pairs of setae. Ventrianal shield not as above 10
10. Setae D8 pilose distally, lateral and marginal setae weakly pilose in their distal thirds **M. muscaedomesticae** (Scopoli)
 - Setae D8 simple, lateral and marginal setae strongly pilose in their distal halves 11
11. Setae D5 pilose, ventrianal shield obovate and about as broad as long **M. pencilliger** (Berlese)
 - Setae D5 simple, ventrianal shield distinctly triangular, notched behind coxae IV, broader than long **M. peniculatus** Berlese

Macrocheles peniculatus Berlese, 1918

peniculatus Berlese, 1918, *Redia* 13: 166 (*Macrocheles*).

vicarius Berlese, 1918, *Redia* 13: 167 (*Macrocheles*).

caelatus: Ramsay, 1970 (*Macrocheles*); Emberson, 1973a (not Berlese, 1918; misidentification).

During a recent visit to the Berlese Collection at the Istituto Sperimentale per la Zoologia Agraria, Firenze, it was discovered by inspection of the type material that the species previously recorded from New Zealand (Emberson 1973a; Ramsay 1970) as *Macrocheles caelatus* is in reality *Macrocheles peniculatus*, a species originally described from La Plata, Argentina, but since recorded from Europe (Bregetova & Koroleva 1960). The synonymy of *Macrocheles vicarius* also described from La Plata is confirmed.

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