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A NEW GENUS AND SPECIES OF TYDEIDAE
(ACARI: PROSTIGMATA) FROM NEW ZEALAND

BY

A. V. Spain,

Entomology Department, Lincoln College, New Zealand.

No species of the family Tydeidae have previously been described from New Zealand and records of the family in this country are confined to a few scattered literature reports. Lamb (1952) recorded Tydeus caudatus (Dugès, 1834) but, beyond stating that the specimen had been determined by H. Womersley gave no further details. Collyer (1964) recorded Tydeus californicus (Banks) as common on orchard trees and Wood (1964) recorded the presence of members of the following genera: Paralorryia Baker, 1965; Lorryia Oudemans, 1925; Triophydeus Thor, 1932; Tydaeolus Berlese, 1910 and Microtydeus Thor, 1931.

In the following description the nomenclature used is that of Baker (1965) except for the term "eugenital setae" which is used in accordance with the terminology of Grandjean (1938).

The specimens on which the description below is based were collected from the foliage of a subalpine scrub plant, Olearia colensoi Hook. f. This plant forms dense stands in the wetter parts of New Zealand, below 38 degrees South latitude (Allan, 1961).

The collections were made as part of a general study of the Arthropoda associated with the above plant, the results of which are partially reported elsewhere (Spain, 1968; Spain and Harrison, 1968).

Family: Tydeidae Kramer, 1877

Genus: Australotydaeus n. gen.

Tydeidae with \(L_2\) in the lateral position and five complete rows of hysterosomal setae arranged as in Fig. 1. All setae including sensilli, long smooth, tapering distally. Striae transverse between hysterosomal dorsal setae and on posterior

part of propodosoma, longitudinal anterior to sensilli. Lobes of striae approximately twice as long as tall.

The leg setal pattern is as follows:

<table>
<thead>
<tr>
<th>Leg</th>
<th>Setal Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leg I</td>
<td>10 - 4 - 3 - 5 - 1 - 2</td>
</tr>
<tr>
<td>Leg II</td>
<td>6 - 2 - 3 - 3 - 1 - 1</td>
</tr>
<tr>
<td>Leg III</td>
<td>5 - 2 - 1 - 1 - 1 - 3</td>
</tr>
<tr>
<td>Leg IV</td>
<td>5 - 2 - 0 - 2 - 0 - 2</td>
</tr>
</tbody>
</table>

The palpal setal count is (6 - 2 - 2). There are three pairs of ventral setae, six pairs of genital setae, four pairs of paragenital setae and, in the male only, 4 pairs of eugenital setae. The anal setae are inserted anterior to the anal platelets. The cheliceral stylets are strong and extend some distance beyond the capitulum. No distinct suture present between propodosoma and hysterosoma.

Type species: *Australotydaeus kirsteneae* n. sp.

This species keys to *Lasiotydaeus* Berlese in Baker’s (1965) work but differs from the generic description given by this author in the dorsal setal pattern and number of setae on the palps and legs. It also differs from *Lasiotydaeus* in that it has six pairs of genital setae and the anal setae situated in front of the anal platelets.

*Australotydaeus* has a number of similarities to *Lasiotydaeus*. These include the pattern of the dorsal striations, the uniformly long smooth dorsal setae and an equal number of dorsal setae.

It is considered that the sum of the differences and similarities between *Lasiotydaeus* and *Australotydaeus* warrant the erection of a new genus allied to the former.

*Australotydaeus kirsteneae* n. sp.

**Dorsum:** General body shape as in Fig. 1. Propodosoma and hysterosoma not divided by a distinct suture. Idiosoma broadest between legs I and II, tapering anteriorly and posteriorly. Dorsal setae all long, smooth, tapering; inserted as in Fig. 1. Setae $P_1$ inserted close together on anterior part of propodosoma; approximately three times as long as mutual distance of bases. Setae $P_2$ smaller, inserted postero-lateral of setae $P_1$; slightly less than half mutual distance of bases. Setae $P_3$ long inserted almost directly posterior to $P_2$; slightly shorter than mutual distance of bases. Sensilli moderate in length, inserted mesad of bases of setae $P_3$; slightly longer than mutual distance of bases. Setae $D_1$, moderate in length inserted postero-laterad of sensilli; slightly shorter than mutual distance of bases. Setae $L_1$ longer than $D_1$, inserted laterad of $D_1$; less than half as long as mutual distance of bases. Setae $D_2$ moderate in length, inserted postero-mesad of $D_1$; slightly longer than mutual distance of bases. Setae $L_2$ long, inserted laterad of
$D_2$; approximately two thirds as long as mutual distance of bases. Setae $D_3$ moderate in length, inserted postero-laterad of $D_2$; slightly longer than mutual distance of bases. Setae $L_3$ longest of body, inserted laterad of $D_4$; approximately one third longer than mutual distance of bases. Setae $D_4$ moderate in length, inserted posterior to $D_2$; nearly twice as long as mutual distance of bases. Setae as long as mutual distance of bases. Setae $L_4$ moderate in length, inserted posterior to

![Dorsum and Venter Diagram](Fig. 1-2: *Australotydaeus hirsteanae* n. g., n. sp.

1. — Dorsum. 2. — Venter.)

$D_4$; approximately one third longer than mutual distance of bases. Setae $D_5$ moderate in length, inserted mesad of $L_4$; slightly longer than twice mutual distance of bases. Setae $L_5$ shortest of dorsal setae, inserted posterior to $D_5$; slightly longer than mutual distance of bases. Pattern of dorsal striae similar to that of *Lasiotydaeus krantsi* Baker (Baker 1965).

Venter: Chaetotaxy and general shape as shown in Fig. 2. All setae fine, smooth, tapering; shorter than dorsal setae. Three pairs of ventral setae.
Four pairs of paragenital setae. Six pairs of genital setae with the two most anterior inserted on the same pinaculum, or clear area around the base; smallest of ventral setae. Eugenital setae (4 pairs) present only in the male (Grandjean, 1938). Anal setae, one pair inserted anterior of anal platelets.

**Palpi:** Distal segment long. Chaetotaxy as in Fig. 3a. Setal formula (6 - 2 - 2). Tarsal solenidion (ω) is small, directed distally at a small angle to the tarsus.

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**Legs:** All tarsi bidactyl, claws slender. Pulvillus large, pad-like; as long as claws. Setal formula is given in the diagnosis of the genus.

The tarsal solenidion (ω) is present on legs I and II. On leg I it is a short rod approximately one sixth as long as tarsi plus claws and inclined at an angle of approximately 45° to the tarsal surface.

**Capitulum:** Conspicuous, projecting well forward of idiosoma. Cheliceral stylets broad basally, narrowing distally; projecting beyond capitulum in dorsal aspect. Two pairs of small adoral setae present.

**Size:** The mean body measurements of 10 specimens were: length 318 μ, breadth 195 μ. The lengths, in microns, of the dorsal setae of 5 specimens are as follows:
<table>
<thead>
<tr>
<th>Seta</th>
<th>Setal height</th>
<th>Mutual distance of bases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Range</td>
</tr>
<tr>
<td>P₁</td>
<td>62</td>
<td>54 - 64</td>
</tr>
<tr>
<td>P₂</td>
<td>55</td>
<td>52 - 62</td>
</tr>
<tr>
<td>P₃</td>
<td>93</td>
<td>92 - 94</td>
</tr>
<tr>
<td>S</td>
<td>64</td>
<td>58 - 67</td>
</tr>
<tr>
<td>D₁</td>
<td>63</td>
<td>58 - 70</td>
</tr>
<tr>
<td>D₂</td>
<td>69</td>
<td>62 - 77</td>
</tr>
<tr>
<td>D₃</td>
<td>64</td>
<td>60 - 69</td>
</tr>
<tr>
<td>D₄</td>
<td>72</td>
<td>67 - 75</td>
</tr>
<tr>
<td>D₅</td>
<td>69</td>
<td>65 - 74</td>
</tr>
<tr>
<td>L₁</td>
<td>79</td>
<td>73 - 83</td>
</tr>
<tr>
<td>L₂</td>
<td>94</td>
<td>87 - 101</td>
</tr>
<tr>
<td>L₃</td>
<td>107</td>
<td>92 - 142</td>
</tr>
<tr>
<td>L₄</td>
<td>80</td>
<td>73 - 83</td>
</tr>
<tr>
<td>L₅</td>
<td>38</td>
<td>35 - 42</td>
</tr>
</tbody>
</table>

Colour: In life, this species is a light translucent yellow.

Type Specimens:


The holotype and six paratypes are to be lodged in the collection of Entomology Division, D.S.I.R., Nelson, New Zealand. Three paratypes are to be lodged in the collection of the British Museum (Natural History).

The species is named for my daughter, Kirsten.

Ecology: Nothing is known of the trophic relationships of this species. However, the lower leaf surfaces of Olearia colensoi possess a deep, diffuse tomentum which, by providing a micro-environment that is moister than ambient, helps to make them a favourable habitat for mites (Spain and Harrison, 1968).

Acknowledgments.

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ABSTRACT.

A new genus and species of tydeid mite, *Australotydaeus kirsteneae* n. g., n. sp., is described from the South Island of New Zealand. The specimens on which the description is based were collected from the foliage of an indigenous, subalpine scrub plant *Olearia colensoi* Hook. f.

RéSUMÉ.

Un nouveau genre et une nouvelle espèce de tydéide, *Australotydaeus kirsteneae* n. g. n. sp., de l’Ile du Sud, en Nouvelle-Zélande sont décrits. Les exemplaires qui ont servi à la description ont été trouvés sur une plante subalpine indigène, *Olearia colensoi* Hook. f.

REFERENCES


