

## A new genus of the water mite family Piersigiidae from Australia (Acari: Hydrachnidia)

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**Abstract** – A new genus from the water mite subfamily Piersigiinae and its sole new species, *Austrapiersigia montana*, are described from Victoria, Australia. It is the first record of this subfamily for the southern hemisphere.

### INTRODUCTION

The water mite family Piersigiidae contains two distinct subfamilies, the Piersigiinae and the Stygolimnocharinae. The Piersigiinae, with the only genus *Piersigia* Protz, have been collected only in the Holarctic. Most of the four described species of this subfamily inhabit temporary water bodies or semi-aquatic habitats (Imamura and Mitchell 1967; Van Maanen et. al. 1997). However, because of its reduced lateral eyes, *Piersigia crusta* Mitchell might be an interstitial species (Cook 1974). The Stygolimnocharinae, with the genera *Stygolimnochares* Cook and *Parawandesia* E. Angelier, are known from India, Australia and Europe. The three known species of these genera live in interstitial habitats (Cook 1967, 1986; Gerecke and Cook 1995).

Utilising the Karaman-Chappuis method (see Schwoerbel 1979), an interstitial water mite belonging to the subfamily Piersigiinae was collected in Victoria. This is not only the first record of this subfamily for Australia, but also for the southern hemisphere. The species belongs to a new genus, and is described below.

### MATERIAL AND METHODS

The material has been collected by the author. The holotype has been deposited in the Museum of Victoria, Melbourne.

Measurements of palp and leg segments are dorsal lengths. All measurements are in  $\mu\text{m}$ . The body length is measured dorsally from the unmounted specimen. The following abbreviations have been used: PI–PV palp segments 1–5; I–leg–5 fifth segment of first leg.

### SYSTEMATICS

Family Piersigiidae Oudemans

Subfamily Piersigiinae Oudemans

Genus *Austrapiersigia* gen. nov.

#### Type Species

*Austrapiersigia montana* sp. nov.

#### Diagnosis

Characters of the subfamily Piersigiinae. Dorsum with two pairs of large plates medially and one large plate posteriorly, none of them encompassing glandularia.

#### Description

Lateral eyes in capsules, incorporated into an eye plate composed of two pairs of glandularia platelets and the pre- and postocularia platelets, loosely joined by sclerotized bridges. A clear area in the anterior part of the largest eye platelet might be a median eye. Glandularia sclerites partially surrounding the large glandularia. Dorsum medially with two pairs of large plates, and posteriorly with one large plate. Capitulum with a large circular mouth opening containing a frilled, wheel-like membrane. Coxal plates in four groups. Acetabula numerous, in four groups, surrounded by sclerotized rings. Acetabula shortly stalked. Excretory pore on a sclerite. PIII expanded laterally.

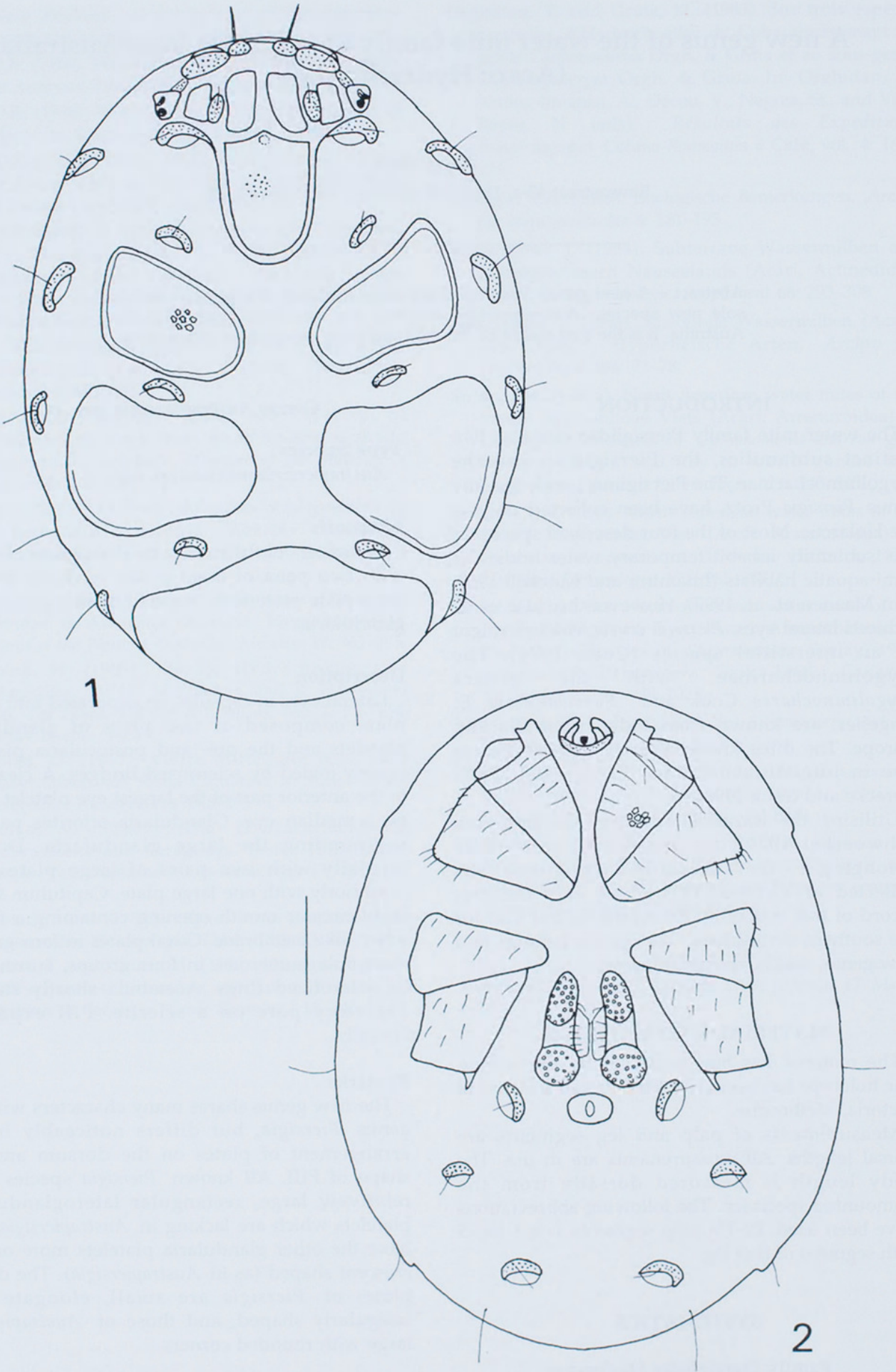
#### Remarks

The new genus shares many characters with the genus *Piersigia*, but differs noticeably in the arrangement of plates on the dorsum and the shape of PIII. All known *Piersigia* species have relatively large, rectangular lateroglandularia platelets which are lacking in *Austrapiersigia*, and have the other glandularia platelets more or less crescent shaped (as in *Austrapiersigia*). The dorsal plates of *Piersigia* are small, elongate and irregularly shaped, and those of *Austrapiersigia* large with rounded corners.

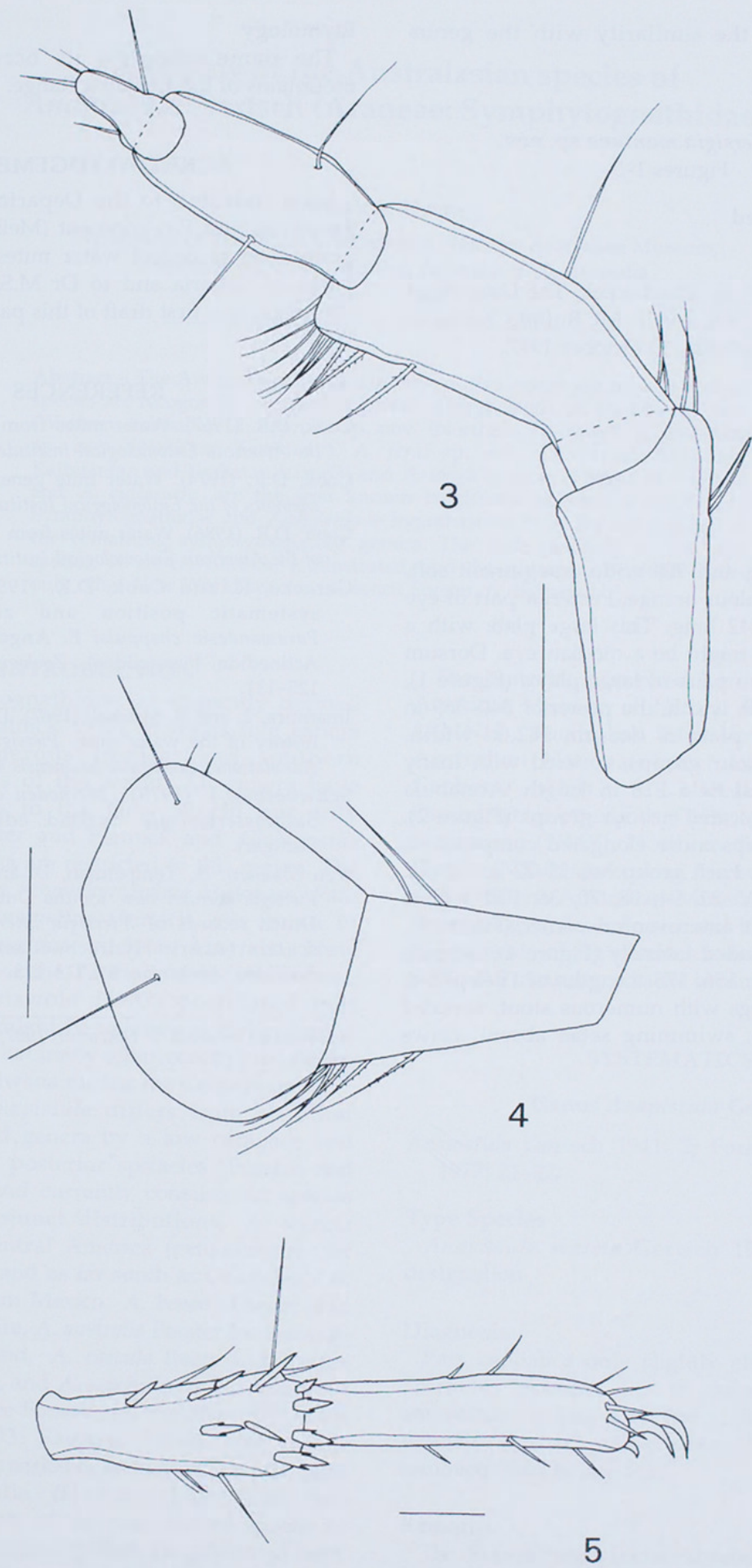
#### Etymology

The name of the new genus refers to its southern





Figures 1, 2 *Austrapiersigia montana* sp. nov., holotype ♀: 1, dorsal view; 2, ventral view. Scale line 200 µm.



Figures 3–5 *Austrapiersigia montana* sp. nov., holotype ♀: 3, lateral view of PII–PV; 4, dorsal view of PII–PIII; 5, I–leg–5–6. Scale lines 50 µm.



occurrence and the similarity with the genus *Piersigia*.

*Austrapiersigia montana* sp. nov.

Figures 1–5

**Material Examined**

*Holotype*

♀, interstitial of unnamed creek, The Long Plain (± 1300 m above sea level), Mt Buffalo National Park, Victoria, Australia, 10 October 1997.

**Diagnosis**

As for genus.

**Description**

*Female*

Body 1319 long and 980 wide. Integument soft, papillate, body colour orange. Posterior part of eye plate rounded, 242 long. This large plate with a clear area which might be a median eye. Dorsum medially with two pairs of large plates (Figure 1), the anterior 281 in width, the posterior 340–369 in width. Posterior plate of dorsum 582 in width. Coxal plates in four groups, covered with many fine setae. Genital field 218 in length. Acetabula shortly stalked, located in four groups (Figure 2), the anterior groups more elongated compared to posterior groups. Each group has 21–22 acetabula. Lengths of PI–PV: 32, 94, 98, 70, 36. PIII with a group of setae at anteroventral corner (Figure 3), PIII greatly expanded laterally (Figure 4). Lengths of I–leg–4–6: 115, 156, 173. Lengths of IV–leg–4–6: 165, 194, 223. Legs with numerous stout, serrated setae (Figure 5); swimming setae absent, claws simple.

**Etymology**

The name refers to its occurrence in the mountains of the Dividing Range.

**ACKNOWLEDGEMENTS**

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