

WATER MITES OF THE FAMILY PONTARACHNIDAE FROM SINGAPORE, WITH A DESCRIPTION OF ONE NEW SPECIES (ACARI: HYDRACHNIDIA)

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ABSTRACT. – One new species of the water mite family Pontarachnidae, *Litarachna triangularis*, new species, is described from Singapore. In addition, *L. curtipalpis* Smit is reported for the first time from Singapore.

KEY WORDS. – Acari, Hydrachnidia, Pontarachnidae, *Litarachna*, new species.

INTRODUCTION

The water mite family Pontarachnidae Koenike, 1910 is the sole family of the Hydrachnidia occurring in the marine environment. Two genera are known, *Pontarachna* Philippi, 1840, with 19 known species and *Litarachna* Walter, 1925, with 13 known species. The Pontarachnidae are one of the least known water mite families. Nothing is known about their life cycle, hosts or food. Pontarachnids occur almost worldwide, but most species are found in subtropical or tropical areas. A few species have been found in freshwater, but all of these occur in estuaries or locations near the sea.

In this paper one *Litarachna* species new to science will be described, and one species new for the fauna of Singapore is reported.

MATERIAL AND METHODS

All material was collected by Dr Ilse Bartsch (Forschungsinstitut Senckenberg, Hamburg). Holotypes are lodged in the Zoological Reference Collection of the Raffles Museum of Biodiversity Research, Singapore (ZRC), paratypes and non-type material in the Zoological Museum of the University of Amsterdam (ZMAN). Mites were mounted in glycerine-jelly.

The following abbreviations have been used: PI-PV palp segments 1–5; IV-leg-4–6 fourth to sixth segments of fourth leg. All measurements are dorsal lengths and are in μm .

SYSTEMATICS

Litarachna Walter, 1925

Litarachna curtipalpis Smit, 2003 (Figs. 1–3)

Litarachna curtipalpis Smit, 2003: 556.

Material examined. – 1 male, 3 females (ZMAN), tidal surface sediment rich in debris, Lazarus Island, Singapore, 1°13'21.26''N 103°51'09.07''E, coll. I. Bartsch, 3 Oct.2004.

Remarks. – Previously known from Western Australia. The specimens from Singapore fit well in the description of the Australian specimens. I give here some additional characters. Anterolateral of the two wheel-like acetabula (sensu Cook, 1996) a platelet with three pores, no setae are visible on these pores. Both III-leg-5 and IV-leg-5 have two swimming setae, IV-leg-4 has one swimming seta. Two ovigerous females have three very large eggs, 150–160 μm in diameter. Excretory pore terminal, unsclerotized. Claws with large clawlet and claw blade.

Litarachna triangularis, new species (Figs. 4–6)

Material examined. – Holotype: Female (ZRC), tidal surface sediment rich in detritus, Lazarus Island, Singapore, 1°13'21.26''N 103°51'09.07''E, coll. I. Bartsch, 3 Oct.2004. Paratype: 1 female, same data as holotype (ZMAN); 1 female, 1 deutonymph (ZRC), 1 female (ZMAN), sediment/*Avicennia*, West Coast Park, Singapore, 1°17'41.32''N 103°45'46.20''E, coll. I. Bartsch, 5 Oct.2004.

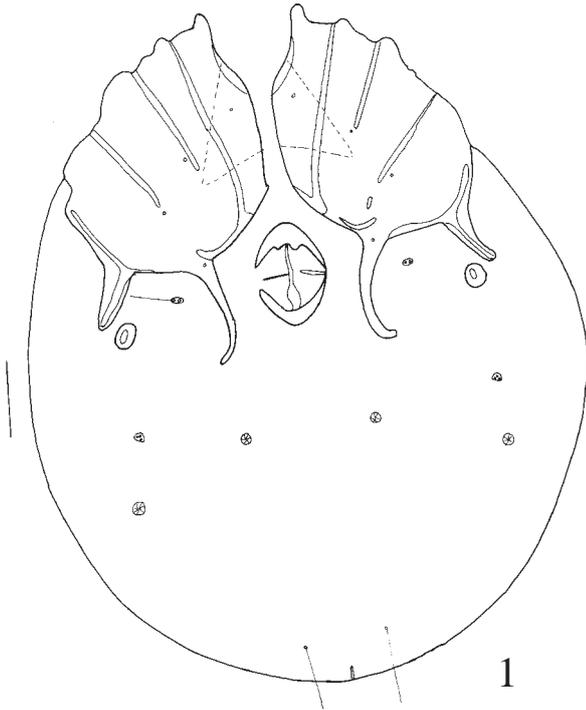


Fig. 1. *Litarachna curtipalpis* Smit, female, ventral view. Scale bar = 50 μ m.

Diagnosis. – PII with a short triangular extension, PIV without setal tubercles.

Description. – **Female:** Idiosoma soft, 429 (356–405) long and 356 (227–316) wide. First coxal plates separated medially. Suture lines of second and third coxal plates incomplete. Medial posterior apodemes of fourth coxal plates of moderate length. Genital field located between third and fourth coxal plates. Genital field 68 long and 53 wide. Pregenital and postgenital sclerite fused, forming a complete ring around the gonopore. Between genital field and excretory pore two pairs of wheel-like acetabula (sensu Cook, 1996) or specialized glandularia (sensu Tuzovskij, 1978). Ventrum laterally with a pair of large glandularia-like structures without the radiating spokes of the wheel-like acetabula. Excretory pore near posterior idiosoma margin, unsclerotized. Lengths of PI–PV: 14, 85, 40, 92, 28. PII ventrally with a triangular extension; PIV slightly curved, without setal tubercles. Lengths of I-leg-4-6: 52, 72, 52. Lengths of IV-leg-4-6: 110, 122, 98; IV-leg-5 with two swimming setae. Claws with clawlet and claw-blade.

Male: Unknown.

Deutonymph: As for adult, genital field absent. Idiosoma 204 long and 142 wide.

Etymology. – Named for the triangular extension of PII.

Remarks. – The palp resembles closely the palp of *L. kamui* Uchida, 1935, which also has a small triangular extension of PII. However, the latter species differs in the elongated



Fig. 2. *Litarachna curtipalpis* Smit, female, palp. Scale bar = 50 μ m.

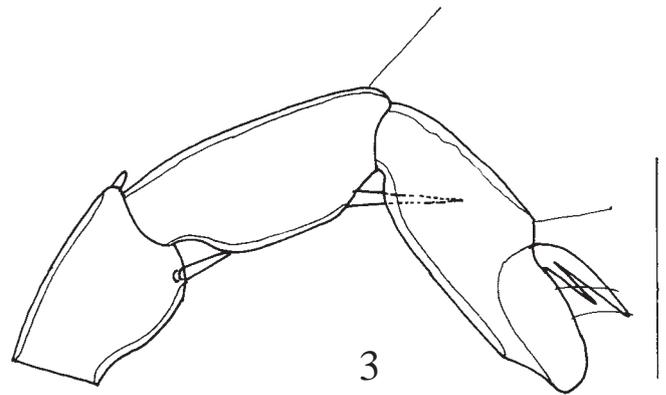


Fig. 3. *Litarachna curtipalpis* Smit, female, I-leg-4-6. Scale bar = 50 μ m.

genital field of the female and the short posterior medial apodemes of the fourth coxal plates. Moreover, *L. kamui* has the ventral margin of PIV with a short extension, just anterior of the two setae of the ventral margin. In the new species this extension of the ventral margin of PIV is absent. Two other species with PII with a small triangular extension, i.e. *L. curtipalpis* and *L. cawthorni* Wiles, Chatterjee & De Troch, 2002, have PIV with distinct setal tubercles.

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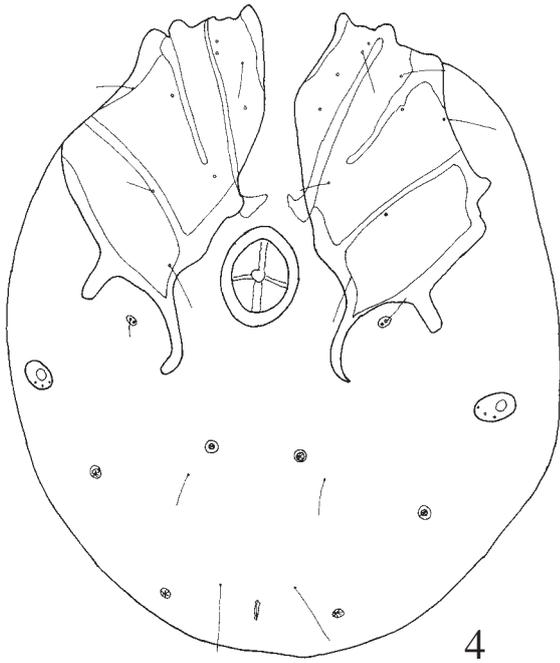


Fig. 4. *Litarachna triangularis* new species, holotype female, ventral view. Scale bar = 50 µm.

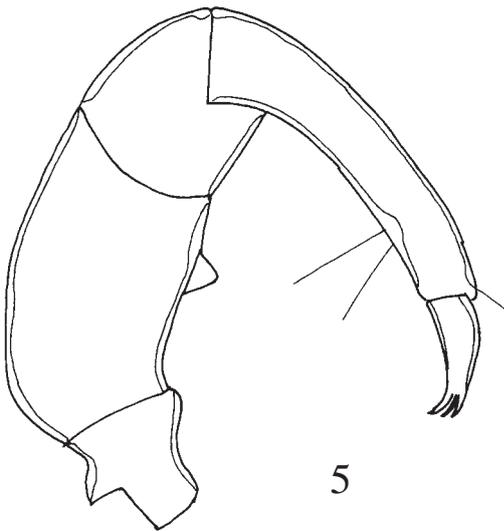


Fig. 5. *Litarachna triangularis* new species, holotype female, palp. Scale bar = 50 µm.

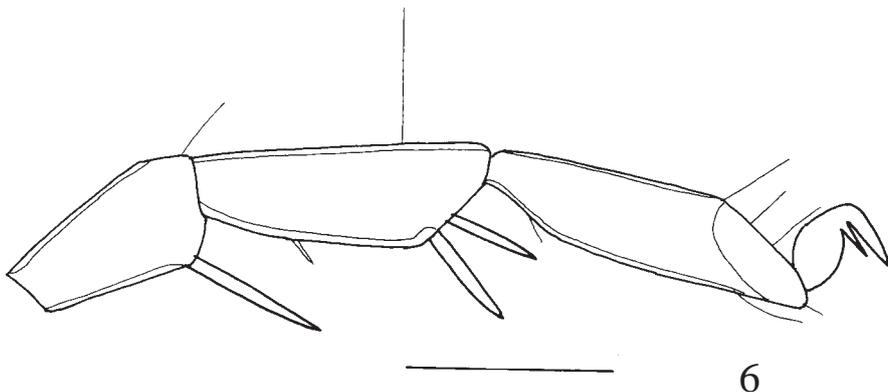


Fig. 6. *Litarachna triangularis* new species, holotype female, I-leg-4-6. Scale bar = 50 µm.

