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## Two new species of the water mite family Pontarachnidae Koenike from Malaysia (Acari: Hydrachnidia)

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(with 8 figures)

### Abstract

Two new species of the marine water mite family Pontarachnidae Koenike are described from the Gulf of Thailand, Peninsular Malaysia, i.e. *Pontarachna longipes* sp. n. and *Litarachna muelleri* sp. n.

**K e y w o r d s:** Acari, Hydrachnidia, Pontarachnidae, two new species, Malaysia.

### Introduction

The water mite family Pontarachnidae Koenike, 1910 is the only family of the Hydrachnidia occurring in the marine environment. The family is represented by two genera only, i.e. *Pontarachna* Philippi, 1840 and *Litarachna* Walter, 1925. Although a few species have been described from freshwaters, these species were found in an estuary. Hence, true freshwater species have not yet been found. The family occurs worldwide, but is confined in general to tropical and subtropical waters. Within the Oriental region, pontarachnid species are known from Hong Kong, Taiwan, Korea, India and the Philippines (Smit 2002, Pesic et al. 2008), while two species were recently found in Singapore (Smit in press).

In this paper two new species will be described from the Gulf of Thailand, east of Malaysia.

### Material and Methods

The following abbreviations have been used: PI-PV palp segments 1-5; IV leg 4-6 - fourth to sixth segments of fourth leg; ZMH - Zoologisches Museum, Universität Hamburg; ZMAN - Zoological Museum, University of Amsterdam. All measurements are dorsal lengths and are in  $\mu\text{m}$ . Measurements of paratypes are given in brackets.

## Taxonomy

Family Pontarachnidae Koenike, 1910

Genus *Pontarachna* Philippi, 1840

*Pontarachna longipes* sp. n.

(Figs 1-4)

TYPE MATERIAL: H o l o t y p e (♀), Pulau Babi Besar, medium part of reef flat, in and under dead corals, intertidal - 1 m, Tioman Archipelago, Malaysia, 1 April 1991, coll. H.-G. Müller. Deposited in ZMH (Acc.No. A26/08).

ETYMOLOGY. Named for its long leg segments.

DIAGNOSIS. Wheel-like acetabula sensu Cook (1996) absent, leg segments long.

DESCRIPTION. F e m a l e: Idiosoma circular, 502 in diameter. Chelicera styliform. First coxal plates separated medially. Suture lines of first and second and of third and fourth coxal plates complete, suture lines of second and third coxal plates incomplete. Lateral apodemes of fourth coxal plates shorter than medial apodemes, the latter extending more or less halfway genital field. Pregenital sclerite 54 wide, postgenital sclerite 46 wide. Postgenital sclerite with a pair of pores, but it cannot be discerned if these are the so-called wheel-like acetabula sensu Cook (1996). Posterior of genital field a pair of glandularia, of one pair only the associated seta is visible. Moreover, a pair of small platelets present, but these also without the radiating spokes of the wheel-like acetabula. Lengths of PI-PV: 28, 42, 46, 84, 24. Lengths of I-leg-4-6: 74, 102, 79. Lengths of IV-leg-4-6: 126, 134, 104. IV-leg-5 with two swimming setae. M a l e: Unknown.

REMARKS. The new species resembles *P. otto*i, 1998 Harvey from Australia, in the lack of the wheel-like acetabula and long leg segments. However, PIV of *P. otto*i is longer. Most species of the genus *Pontarachna* have stocky leg segments. Moreover, in most species wheel-like acetabula are present, although in the older descriptions these are not always mentioned. As the new species has relatively long leg segments and lacks wheel-like acetabula, it is easily distinguished from all other species, except *P. otto*i.

Genus *Litarachna* Walter, 1925

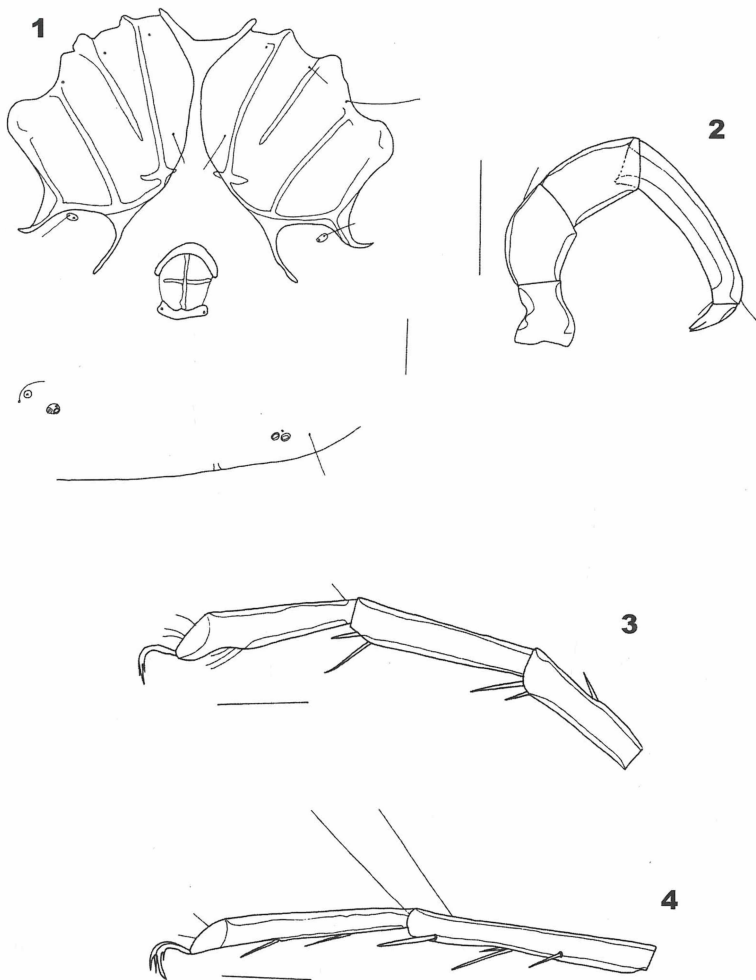
*Litarachna muelleri* sp. n.

(Figs 5-8)

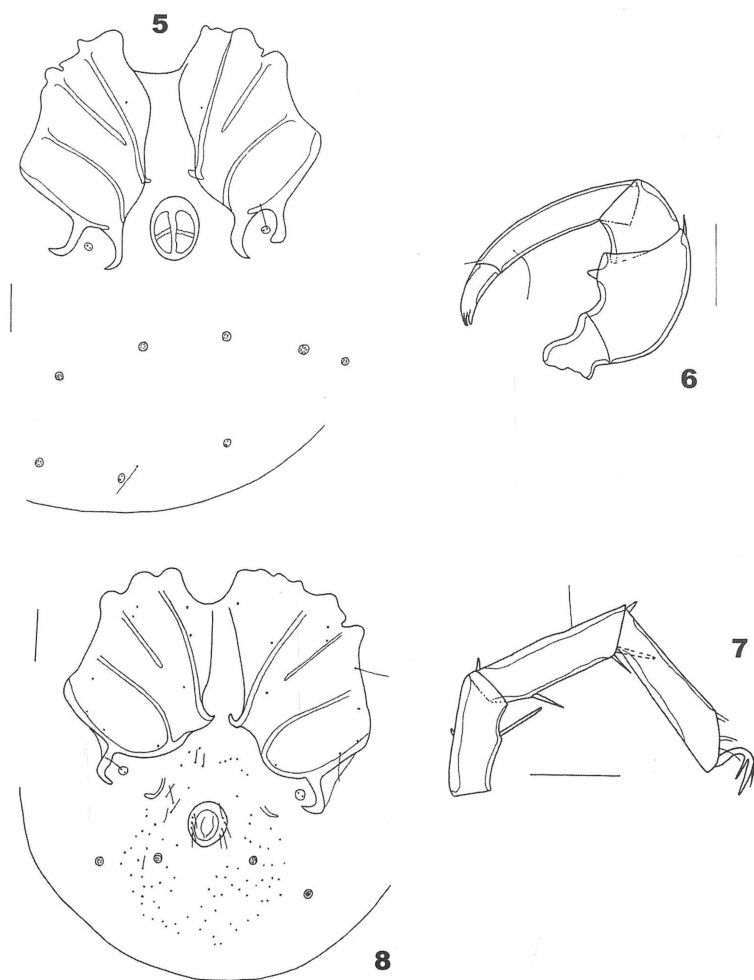
TYPE MATERIAL. H o l o t y p e (♀), Pulau Babi Besar, medium part of reef flat, in and under dead corals, intertidal - 1 m, Tioman Archipelago, Malaysia, 1 April 1991, coll. H.-G. Müller (ZMH). Paratypes: 1 female, 2 males (ZMH), 1 female, 2 males (ZMAN), same data as holotype.

ETYMOLOGY. Named after the collector of the material, H.-G. Müller (Waldsolms).

DIAGNOSIS. PII with a short ventral, triangular extension, PIV long and without ventral setal tubercles.



**Figs 1-4.** *Pontarachna longipes* sp. n., holotype ♀: 1. ventral view; 2. palpus; 3. I leg, segment 4-6; 4. IV leg, segment 5-6. Scale bars = 50 µm.



**Figs 5-8.** *Litarachna muelleri* sp. n. 5-7 holotype ♀: 5. ventral view; 6. palp; 7. I leg, segment 4-6; 8. paratype ♂, ventral view. Scale bars = 50 µm.

**DESCRIPTION.** F e m a l e: Idiosoma 567 (421-494) long and 462 (389-470) wide. First coxal plates separated. Suture lines of first and second and of third and fourth coxal plates complete, suture lines of second and third coxal plates incomplete. Lateral apodemes of fourth coxal plates as long as or shorter than medial apodemes, the latter relatively short. Genital field located between medial apodemes of fourth coxal plates. Pre- and post-genital sclerites fused, forming a complete ring, 66 long and 46

wide. Posterior of genital field three pairs of wheel-like glandularia. Near ventral posterior margin of idiosoma a pair of glandularia, and close to these glandularia a pair of setae, one of which cannot be seen due to folding of the idiosoma. Lengths of PI-PV: 20, 96, 40, 114, 42. PI with a concave ventral margin, PII with a triangular extension and PIV long and without ventral setal tubercles. Lengths of I-leg-4-6: 66, 94, 76. Lengths of IV-leg-4-6: 116, 136, 104; IV-leg-5 with two swimming setae.

**Male:** Idiosoma 405 (332-365) long and 373 (328-340) wide. First coxal plates separated. Suture lines of first and second and of third and fourth coxal plates complete, suture lines of second and third coxal plates incomplete. Lateral apodemes of fourth coxal plates as long as or shorter than medial apodemes, the latter relatively short. However, medial apodemes obliterated, and only posterior part can be seen. Genital field 43 long, consisting of a sclerotized ring with 4-5 setae. Posterior, lateral and anterior of genital field numerous genital setae. Posterior of genital field three pairs of so-called wheel-like acetabula, but one pair not illustrated due to their position in the slide. Lengths of PI-PV: 20, 84, 30, 100, 42; palp as in female. Lengths of I-leg-4-6: 60, 84, 82. Lengths of IV-leg-4-6: 100, 120, 96; IV-leg-5 with two swimming setae.

**REMARKS.** The new species is close to the Australian *L. halei* (Womersley, 1937). However, *L. halei* has much longer medial apodemes of the fourth coxal plates. Moreover, the palp of *L. halei* is much longer: PII is 176 long and PIV is 180 long (Smit 2003).

### Acknowledgements

I am indebted to Ilse Bartsch (Hamburg) for sending me the material, and to Johannes Postma (Ann Arbor) for reviewing the English.

### Zusammenfassung

Hier werden zwei neue Arten der Wassermilben Familie Pontarachnidae Koenike, 1910 beschrieben, i.e. *Pontarachna longipes* sp. n. and *Litarachna muelleri* sp. n., beide gesammelt im Golf von Thailand, an der Ostküste der malaiischen Halbinsel.

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