

Marine water mites (Acari: Hydrachnidia:
Pontarachnidae) from Taiwan, Korea and India with the first
description of the *Pontarachna australis* Smit. 2003

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Abstract

New records of two water mite species of the predominantly marine water mite family Pontarachnidae: *Pontarachna australis* Smit, 2003 (Taiwan) and *Litarachna denhami* (Lohmann, 1909) (South Korea and India) are given. Male of the first species is reported for the first time.

Key words: Acari, Pontarachnidae, new records, Taiwan, South Korea, India.

Introduction

Water mites of the family Pontarachnidae Koenike have been reported from tropical and temperate littoral habitats bordering the Mediterranean Sea, Aral Sea, Caspian Sea, Atlantic Ocean, Pacific Ocean, Red Sea and Indian Ocean (Smit 2002). Most species live in marine littoral zone, but a few species are known from freshwater or brackish habitats. In the present paper, the new records of two water mite species: *Pontarachna australis* Smit, 2003 (Taiwan) and *Litarachna denhami* (Lohmann, 1909) (South Korea and India) are given; the first species is described for the first time from males. This is the first record of the family Pontarachnidae from Korea and India.

Material and methods

Specimens were preserved in alcohol, fixed in Koenike-fluid, dissected and then mounted in Hoyers medium. A few specimens of *Pontarachna* were left unmounted. All specimens have been deposited in the collection of the first author.

All measurements are given in μm . Enumeration follows Wiles (1997). The following abbreviations are used: Cx = coxae, L = length, I/II/III/IV-Leg-1-6 = first to sixth segments of leg I/II/III/IV, Lgl = lateroglandularia, P-1 to P-5 = palp segments 1 to 5, Vgl = ventroglandularia, W = width.

Results

Genus *Pontarachna* Philippi, 1840

Pontarachna australis Smit, 2003

(Figs. 1-5)

Material examined. TAIWAN: He-Ping-Dao (25°09'45N 121°45'46E), NE Taiwan, intertidal, among coralline algae, two males, six females.

Description. *Female.* Illustrated and described by Smit (2003). Figures 4–5 show some morphological details of the specimen from Taiwan.

Male. Idiosoma LAV 347/325. First coxal plates separated medially. Suture lines of first and second coxal plates complete, suture line of second and third coxal plates incomplete; suture lines of third and fourth coxal plates posteriorly ending in long apodemes (Fig. 1). Posterior of fourth coxal plates a pair of glandularia-like structures. Genital field 53 long and 49 wide, consisting of a sclerotized ring with 18-20 pairs of setae. Two pairs of small wheel-like acetabulae (sensu Cook 1996) or specialized glandularia (sensu Tuzovskij 1978) located posteriorly of genital field, these on a common platelet on their respective sides. Excretory pore unsclerotized, near the posterior extremity. Palp (Fig. 2) total L 189, dorsal L and relative L (given as % of total L): P-1 20 (10.6), P-2 49 (26.0), P-3 41 (21.7), P-4 58 (30.7), P-5 21 (11.1); P-2/P-4 0.85. Lengths of I-Leg-2-6 (Fig. 3): 33, 41, 38, 62, 74; lengths of VI-Leg-2-6: 44, 52, 90, 100, 96; IV-Leg-4 with one swimming seta, IV-Leg-5 with two swimming setae.

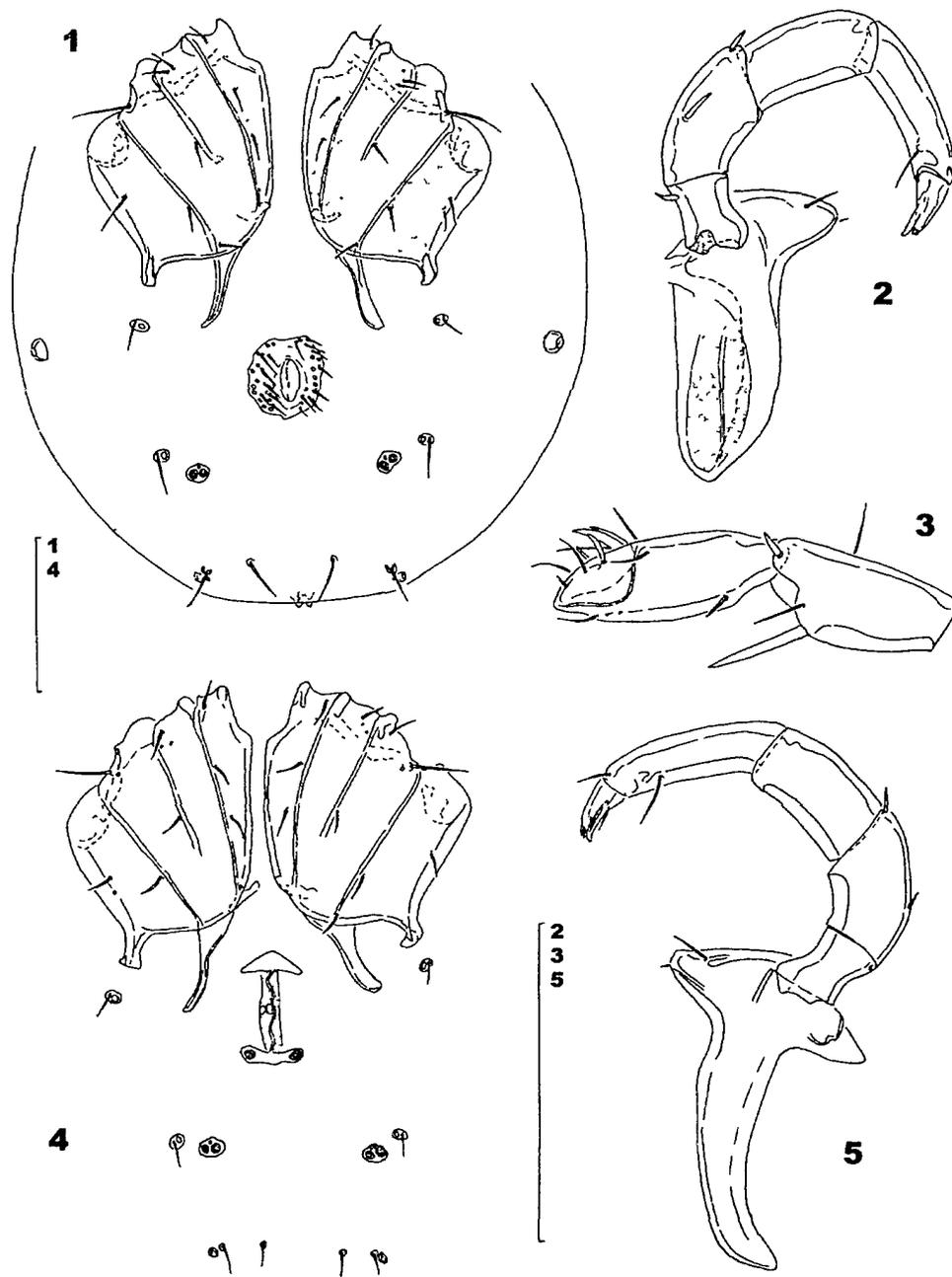
Remarks. This species was first described from Western Australia by Smit (2003) based on a female specimens, and therefore the first description of the male is given here. The distribution of this species extends from Western Australia to Taiwan.

Genus *Litarachna* Walter, 1925

Litarachna denhami (Lohmann, 1909)

(Figs. 6-12)

Material examined. SOUTH KOREA: Masan-ri (35°41'30"N 135°20'30"E), Pohang, Youngil Bay, among coralline algae and submerged macroalgae on shallow sublittoral rocks, depth < 1m, one male, one female. INDIA: Malvam (16°05'11N 75°27'37E), West coast of India, Maharashtra, Arabian Sea, among subtidal macroalgae, two males.



FIGURES 1-5. *Pontarachna australis* Smit, 2003 (1-3 = male, 4-5 = female): 1 = idiosoma, ventral view; 2 = palp and capitulum; 3 = I-Leg-5/6; 4 = idiosoma, ventral view; 5 = palp and capitulum, Scale bars = 100 μ m.



FIGURES 6-12. *Litarachna denhami* (Lohmann, 1909) (6-7, 11-12 = male, 8-10 = female; 6-10 specimens from Korea, 11-12 specimen from India): 6 = idiosoma, ventral view; 7-8 = palp; 9 = coxal and genital field; 10 = IV-Leg-4/6; 11-12 = palp. Scale bar = 100 μ m.

Remarks. This species was first described from Western Australia by Lohmann (1909), and later recorded also from the Red Sea (Viets, 1959), South Africa (Wiles et al. 2002) and Western Australia (Smit 2003). The Red Sea and South Africa specimens differ from our specimens from South Korea and India in the shape of the palp which is much more slender, especially P-4 and P-5. The shape of lateral pair of Cx-4 apodeme depending on squeezing during slide mounting. However, in the other characters (e.g., shape of the male genital field (Fig. 6); the Vgl-3, fused to Lgl-3 to form a platelet with two glands and two setae) our specimens show a general conformity with the type descriptions. Differences in smaller dimensions of palp (Figs. 11-12) in males from India (palp total L 268 μ m vs. 339 μ m in male from South Korea) are surely of no taxonomical significance. The distribution of this species extends from Korea to South Africa.

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CAPTIONS FOR FIGURES

FIGURES 1-5. *Pontarachna australis* Smit, 2003 (1-3 = male, 4-5 = female): 1 = idiosoma, ventral view; 2 = palp and capitulum; 3 = I-Leg-5/6; 4 = idiosoma, ventral view; 5 = palp and capitulum, Scale bars = 100µm.

FIGURES 6-12. *Litarachna denhami* (Lohmann, 1909) (6-7, 11-12 = male, 8-10 = female; 6-10 specimens from Korea, 11-12 specimen from India): 6 = idiosoma, ventral view; 7-8 = palp; 9 = coxal and genital field; 10 = IV-Leg-4/6; 11-12 = palp. Scale bar = 100µm.