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A new species of the water mite genus *Hesperomonomia* Harvey, 1998 from Australia (Acari: Hydrachnidia: Momoniidae)

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The water mite genus *Hesperomonomia* Harvey, 1998 is an endemic genus of Australia. *Hesperomonomia* species are inhabitants of interstitial habitats. Currently, two species are known, i.e., *H. humphreysi* Harvey, 1998 from Western Australia and *H. similis* Smit, 2007 from New South Wales (Harvey 1998, Smit 2007).

According to Harvey (1998) *Hesperomonomia* shares two plesiomorphic character states with other momoniid genera, i.e. males with the acetabula situated within the genital field and a complete ventral shield in both sexes. Here we describe a third species of the genus from Queensland.

The following abbreviations have been used: I-leg-6—sixth segment of first leg; lgs II–IV—second to fourth leg; P-I–V—palp segments 1–5; RMNH—Naturalis Biodiversity Center, Leiden; QM—Queensland Museum, Brisbane.

Systematics

Family Momoniidae K. Viets, 1926

Subfamily Momoniinae K. Viets, 1926

Genus *Hesperomonomia* Harvey, 1998

Hesperomonomia gracilipes sp. nov.

Figs. 1A–H

Material examined—Holotype ♂, dissected and slide mounted, Australia, Queensland, Little Yabba Creek, at crossing with road to Kenilworth-Maleny, 26°37.437 S, 152°41.334 E, alt. 98 m, 19-xi-2014 leg. Smit (QM). Paratypes: 1♂, 2♀, same data as holotype (RMNH), 1♀, same data as holotype, dissected and slide mounted (QM).

Other material—Australia, Queensland, Conondale NP, Booloumba Creek, at crossing with Booloumba Creek Road, hyporheic, 26°38.084 S, 152°38.990 E alt. 141 m, 19-xi-2014, leg. Smit 1♂ (RMNH).

Diagnosis—Large anterior dorsal plate with postocularia and two pairs of associated setae, shifted to lateral margins of the plate; large posterior dorsal plate with three pairs of associated setae; I-leg-6 relatively slender, length/height ratio 4.1
Description. *General features*—Dorsal and ventral shields present; eyes present but small. Dorsum with two large plates, dorsoglandularia on these plates lacking, only associated setae present. Anterior plate with postocularia and two pairs of associated setae, both shifted to lateral margins of the plate; posterior plate with three pairs of associated setae (Figures 1A, B). Lateral of these large plates two platelets with glandularia, and two platelets without glandularia or associated setae. Moreover, two pairs of minute platelets lateral of large platelets. Ventral shield undivided. Gnathosomal bay moderately long, basally rounded; suture lines of coxae obliterated. Genital field with three pairs of acetabula situated on the gonopore (Figures 1C–D). Excretory pore closer to posterior idiosoma margin than to genital field. Chelicera two-segmented (Fig. 1E). P-IV enlarged, with two strong and pointed ventral setae; P-V with a heavy terminal seta (Fig. 1F). I-leg-6 typical for the family Momoniidae, claws enlarged, folded backwards towards the segment base, dorsal clawlet pointed, ventral clawlet rounded; I-leg-5 elongated (Figs. 1G–H). Claws of legs II–IV with large clawlet and small claw blade.

Male (holotype)—Anterior dorsal plate 306 long and 411 wide; posterior dorsal plate 326 long and 397 wide. Ventral shield 684 long and 525 wide; gnathosomal bay 94 long. Gonopore small and oval, 51 long and 44 wide. Ejaculatory complex 130 long.

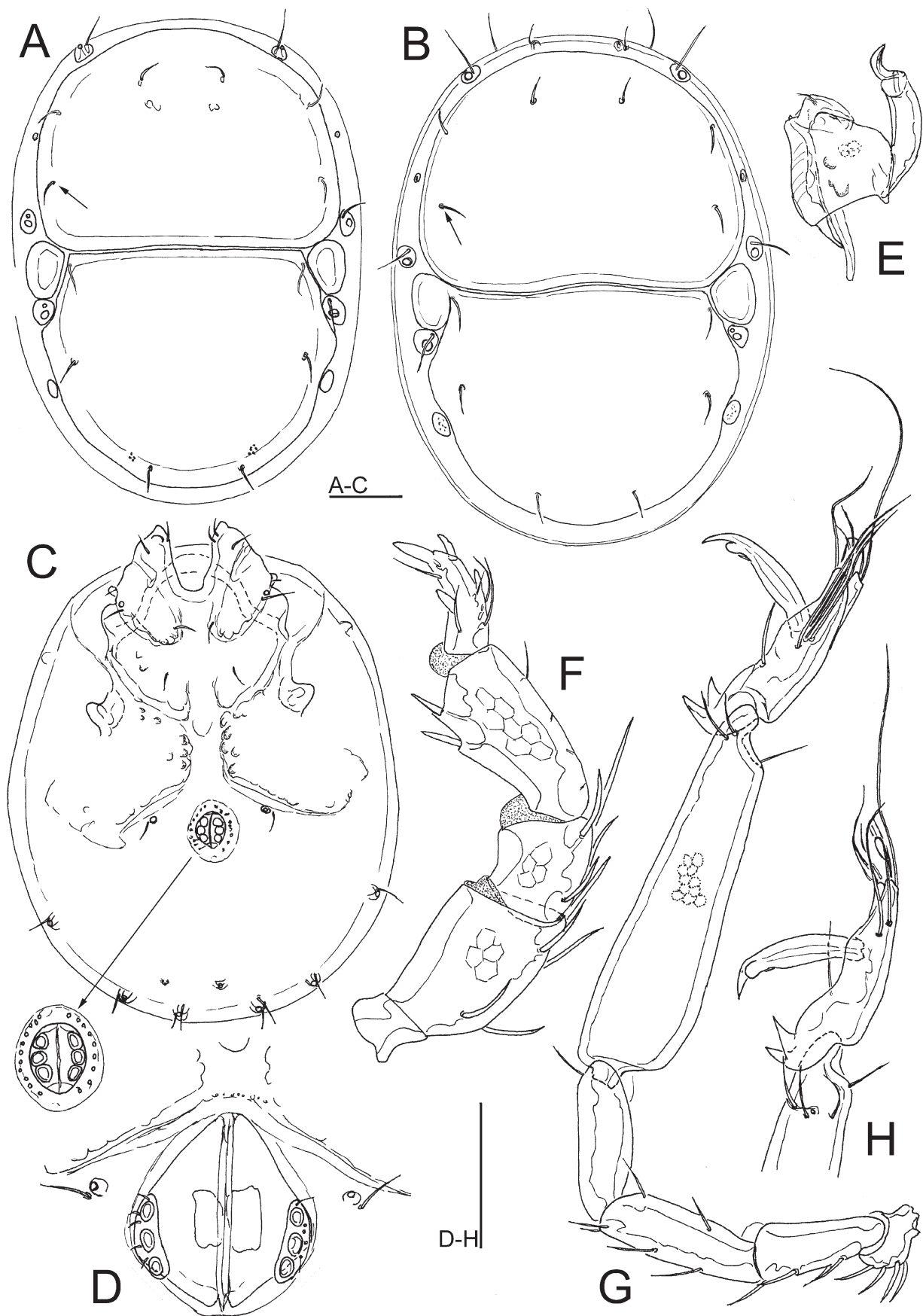


FIGURE 1. *Hesperomonomia gracilipes* sp. nov., Little Yabba Creek, Australia (A, C, E–H, ♂ holotype; B, D, ♀ paratype): A–B = dorsum; C = ventral shield (inset—genital field enlarged in 1C); D = genital field; E = gnathosoma and chelicera; F = palp; G = I-leg; H = I-leg-6. Scale bars = 100 µm (A–E, G–H), 50 µm (F).

Gnathosoma ventrally 80 long. Chelicera 109 long, basal segment 81 long, claw 23 long, length ratio basal segment/claw ratio 3.5. Palp total length 240, dorsal length/height, ratio: P-1, 19/21, 0.9; P-2, 64/41, 1.58; P-3, 39/30, 1.29; P-4, 68/31, 2.17; P-5, 50/16, 3.21. Dorsal lengths of I-leg: 45, 73, 119, 109, 283, 152; dorsal lengths of IV-leg: 75, 89, 106, 141, 175, 167.

Female (paratype)—Anterior dorsal plate 334 long and 448 wide; posterior dorsal plate 331 long and 433 wide. Ventral shield 714 long and 550 wide; gnathosomal bay 99 long. Gonopore 139 long and 122 wide, pear-shaped, each pair of three acetabula on a small platelet, these platelets 59 in length. Egg maximum diameter (n=1) 163.

Gnathosoma ventrally 88 long. Chelicera 105 long, basal segment 78 long, claw 25 long, length ratio basal segment/claw ratio 3.1. Palp total length 244, dorsal length/height, ratio: P-1, 19/23, 0.82; P-2, 66/48, 1.38; P-3, 41/34, 1.18; P-4, 70/31, 2.22; P-5, 48/16, 3.1. Dorsal lengths of I-leg: 50, 78, 122, 116, 293, 153; dorsal lengths of IV-leg: 77, 92, 109, 145, 186, 174.

Etymology—Named for the relatively slender first leg.

Remarks—*Hesperomonomia similis* Smit, 2007, a species known from a single female specimen collected in the hyporheic of Hortons Creek in New South Wales (Smit 2007), differs in the position of the setae on the anterior dorsal plate with the posterior pair much closer to each other than the anterior pair, and by having two pairs of setae instead of three on the posterior dorsal plate in *H. gracilipes* **sp. nov.**

Hesperomonomia humphreysi Harvey, 1998 a species known in both sexes from Western Australia shares with the new species a similar arrangement of setae on both the anterior and posterior dorsal plates, but differs in having a stouter I-Leg-6 (length/height ratio 3.4 vs. 4.1 in *H. gracilipes* **nov. sp.**; ratio for *H. humphreysi* calculated from Fig. 24 in Harvey 1998).

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