

TWO NEW SPECIES OF *PHYTOSEIUS* RIBAGA
FROM AUSTRALIA (ACARINA: PHYTOSEIIDAE)

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ABSTRACT

Females and males of 2 new phytoseiid mite species from New South Wales, Australia, are described and illustrated: *Phytoseius leaki* sp.n. from *Solanum mauritianum* Scop. and *Phytoseius woolwichensis* sp.n. from *Eupatorium* sp.

Phytoseius leaki sp.n. has been collected from the undersurfaces of leaves of *Solanum mauritianum* Scop. west of Casino on the North Coast of New South Wales, Australia. It was the only mite species present. *Phytoseius woolwichensis* sp.n. has been obtained from the undersurfaces of leaves of *Eupatorium* sp. at Woolwich on the Central Coast of New South Wales, where it appeared to feed on tydeid, phytoptipalpid, and tetranychid mites. Denmark's (1966) system of setal nomenclature is adopted for the description of the 2 new species. The dimensions listed are the range of measurements in microns (μ) taken from 5 females and 2 males of each species.

Phytoseius leaki Schicha, NEW SPECIES
(Fig. 1)

DIAGNOSIS: *Phytoseius leaki* is near *Phytoseius honkongensis* Swirski & Shechter. Most setae of the dorsal shield are slightly shorter in *leaki* than in *honkongensis*¹ (verticals 18-21 μ [25 μ], D2 5 μ [7 μ], D3 4-5 μ [7 μ], D4 5 μ [9 μ], clunals 6-7 μ [8 μ], M1 4-5 μ [8 μ], L1 58-64 μ [69 μ], L2 9-11 μ [14 μ], L3 40-43 μ [44 μ], L4 7 μ [13 μ], L5 79-87 μ [91 μ] except for L7 56-58 μ [90 μ] and L8 62-64 μ [75 μ] which are considerably shorter, and L6 79-83 μ [75 μ] which is longer). The macrosetae on basitarsus IV in *leaki* [28-30 μ] are longer than those in *honkongensis* with [21 μ]. The new species has 1 pair of large notocephalic pores near M1, in addition to 3 pairs of medium sized and 7 pairs of small pores, whereas *honkongensis* has only 3 pairs of notocephalic pores.

P. leaki is also close to *P. amba* Pritchard & Baker especially because of the nearly equal number and position of their dorsal pores. However, half the number of setae on the dorsal shield are slightly shorter in *leaki* than in *amba*² (verticals 18-21 μ [25 μ], D1 4-6 μ [7 μ], D2 5 μ [7 μ], D3 4-5 μ [7 μ], D4 5 μ [7 μ], clunals 6-7 μ [12 μ], L4 7 μ [13 μ], M1 4-5 μ [7 μ]), with L8 62-64 μ [79 μ] considerably shorter, except for L2 9-11 μ [7 μ] and L7 56-58 μ [55 μ] which are slightly longer, and L1 58-64 μ [42 μ], L3 40-43 μ [16 μ] and L6 79-83 μ

¹Measurements for *honkongensis* in brackets.

²Measurements for *amba* in brackets.

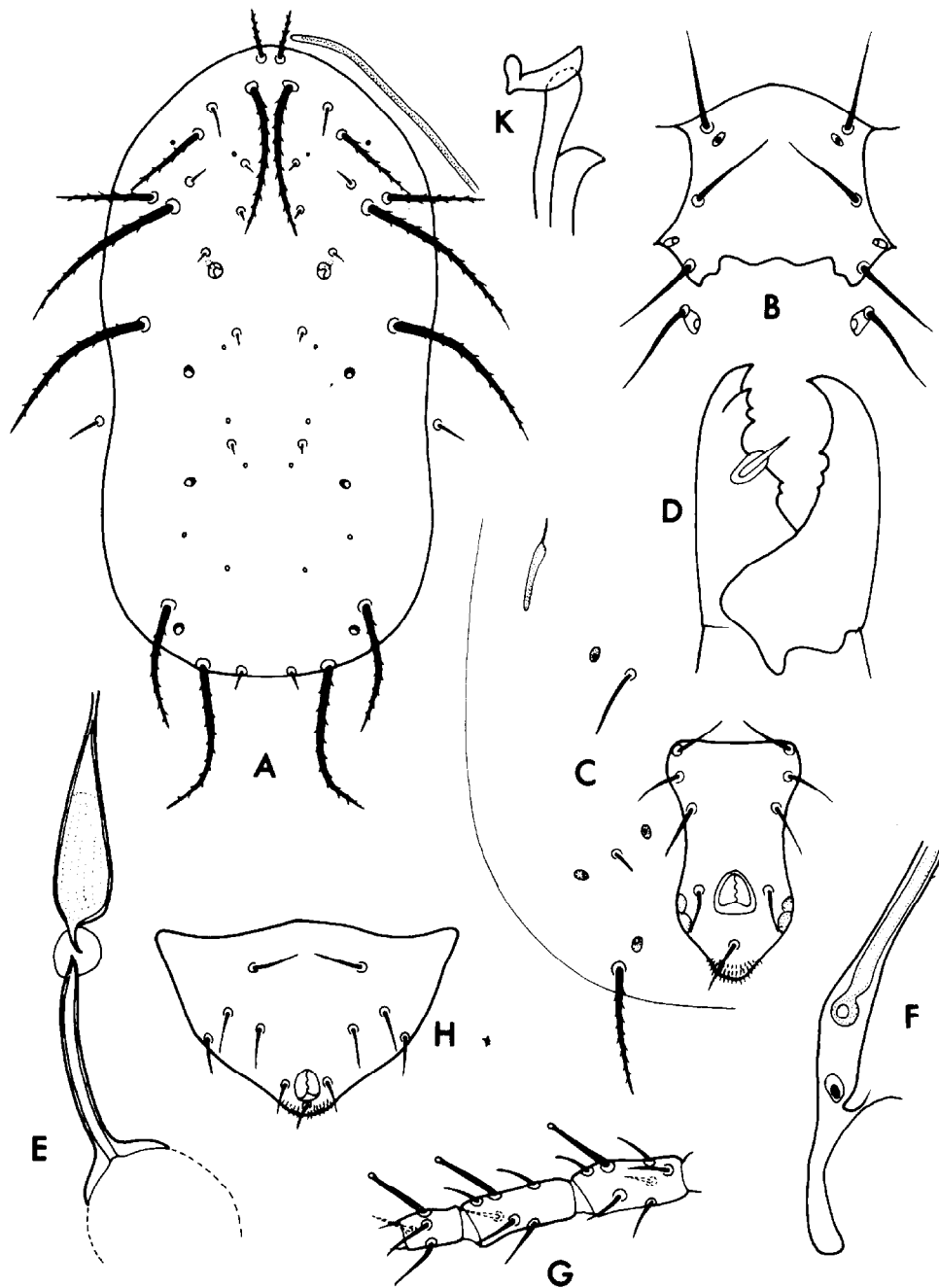


Fig. 1. Female *Phytoseius leaki* new species: A) Dorsal shield; B) Sternal shield; C) Ventrianal shield; D) Chelicera; E) Spermatheca; F) Posterior peritremal and stigmatal development; G) Leg IV; H) Male ventrianal shield; K) Spermatodactyl.

[57 μ] which are considerably longer). The macrosetae on genu IV 23-26 μ [15 μ] and on tibia IV 28-30 μ [20 μ] are longer in *leaki* than in *amba*.

FEMALE.—*Dorsum*: Smooth dorsal shield (Fig. 1A) 276-279 μ long, 131-145 μ wide at L5, with 16 pairs of setae, 4 dorsal, 8 lateral, and 1 pair each of me-

dians, anterior sublaterals, verticals, and clunals: D1 4-6 μ long, D2 5 μ , D3 4-5 μ , D4 5 μ , L1 58-64 μ , L2 9-11 μ , L3 40-43 μ , L4 7 μ , L5 72-80 μ , L6 77-81 μ , L7 50-60 μ , L8 57-67 μ , M1 4-5 μ , anterior sublaterals 40-41 μ , verticals 18-21 μ , clunals 6-7 μ . L1, L3, L5 to L8, verticals and anterior sublaterals serrated; all other setae smooth. L1, L3, L5 and L7 longer than, L2 and L4 as long as, all other setae shorter than, distances between their bases and bases of setae following next in series. One pair of large notocephalic pores near M1; 3 pairs of medium sized pores and 7 pairs of small pores as figured. Posterior sublaterals 13-14 μ , on interscutal membrane. Peritremes extend to the verticals. *Venter*: Sternal shield (Fig. 1B) 77-83 μ long, 100-117 μ wide, excavated posteriorly, with 3 pairs of long setae and 2 pairs of pores as figured. Fourth pair of sternal setae and a pair of small pores on metasternal shields. Genital shield 114 μ long, 71 μ wide, with 1 pair of setae. Smooth, vase-shaped ventrianal shield (Fig. 1C) 105-106 μ long, 57-58 μ wide, with 3 pairs of preanal setae; 3 para-anal setae. Three pairs of setae, 4 pairs of small plates, and 1 pair of elongate metapodal plates on posteroventral integument; serrated ventrocaudal pair of setae 49-53 μ long. *Chelicera* (Fig. 1D): Fixed digit 26 μ long, with 3 large teeth anterior, and 2 small teeth posterior of pilus dentilis. Movable digit 27-28 μ long, with 1 large backward pointing tooth in addition to 2 small teeth.

Spermatheca (Fig. 1E): Tube-like cervix 18-21 μ long, 1-2 μ wide; junction of cervix and vesicle form a shallow convex sclerotized portion; atrium 4 μ wide, bulbous; major duct 17-19 μ long, 4-5 μ wide.

Posterior peritremal and stigmatal development: (Fig. 1F) *Leg IV* (Fig. 1G): With 3 slightly knobbed macrosetae: on genu 23-26 μ long, on tibia 28-30 μ , on basitarsus 28-30 μ .

MALE. *Dorsum*: Smooth dorsal shield 222-227 μ long, 102-116 μ wide at L5, with chaetotaxy resembling that of female, but all setae relatively shorter: D1 to D4 4 μ long, L1 41-45 μ , L2 5 μ , L3 32-33 μ , L4 5 μ , L5 55-56 μ , L6 47-50 μ , L7 32-35 μ , L8 32 μ , M1 4 μ , anterior sublaterals 28-30 μ , verticals 19-20 μ , clunals 5 μ , posterior sublaterals 9 μ . *Venter*: Smooth ventrianal shield (Fig. 1H) 85 μ long, 114 μ wide, with 4 pairs of preanal setae. *Spermatodactyl* (Fig. 1K): Shaft 13-15 μ long; foot 8-9 μ long, with toe rounded anteriorly and pointed posteriorly. *Leg IV*: With 3 slightly knobbed macrosetae: on genu and tibia 15-16 μ long, on basitarsus 25-26 μ .

TYPE MATERIAL.—NEW SOUTH WALES: Holotype female, allotype male, 4 female paratypes, 1 male paratype from leaves of *Solanum mauritianum* Scop., west of Casino on the North Coast, E. Schicha, 25-V-1976, in Biological and Chemical Research Institute, Rydalmere.

Phytoseius woolwichensis Schicha, NEW SPECIES

(Fig. 2)

DIAGNOSIS: *Phytoseius woolwichensis* is closely related to *Phytoseius kapuri* Gupta because most setae of their dorsal shields are of equal length. Only the measurements of some setae are slightly different. In *woolwichensis*³ L3 34-38 μ [40 μ] and L5 84-92 μ [94 μ] are shorter and the clunals 9 μ [4 μ], L4 9 μ [6 μ] and M1 5-6 μ [4 μ] are longer than in *kapuri*. However, the new

³Measurements for *kapuri* in brackets.

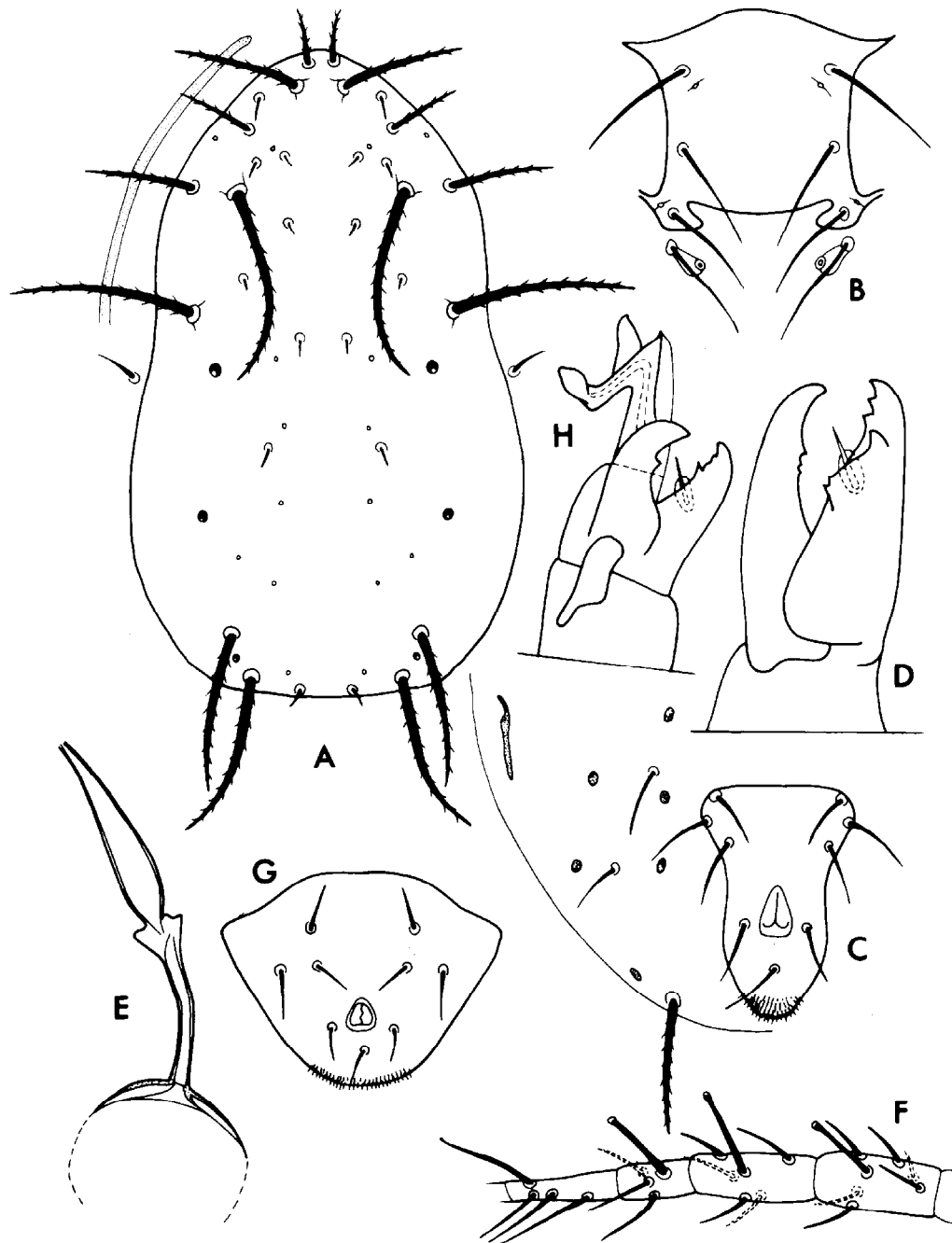


Fig. 2. Female *Phytoseius woolwichensis* new species: A) Dorsal shield; B) Sternal shield; C) Ventrianal shield; D) Chelicera; E) Spermatheca; F) Leg IV; G) Male ventrianal shield; H) Spermatodactyl.

species has 3 pairs of large pores (none near M1) and 8 pairs of small pores, whereas *kapuri* has only 1 pair of large pores (near M1) and 3 pairs of small pores. The macrosetae on genu IV $30-36\mu$ [27μ], tibia IV $38-42\mu$ [30μ] and basitarsus IV $33-36\mu$ [24μ] in *woolwichensis* are knobbed and longer than

those in *kapuri*, which are forked. In *woolwichensis* the fixed digit of the chelicerae bears 3 large and 2 small teeth, while in *kapuri* the fixed digit has only 3 teeth, and the movable digit 2.

FEMALE.—*Dorsum*: Smooth dorsal shield (Fig. 2A) 273-298 μ long, 110-120 μ wide at L5, with 16 pairs of setae, 4 dorsal, 8 lateral, and 1 pair each of medians, anterior sublaterals, verticals, and clunals: D1 4-6 μ long, D2 4-5 μ , D3 5 μ , D4 8-9 μ , L1 55-66 μ , L2 9-17 μ , L3 34-38 μ , L4 9 μ , L5 84-92 μ , L6 81-89 μ , L7 73-76 μ , L8 73-85 μ , M1 5-6 μ , anterior sublaterals 36-47 μ , verticals 22-30 μ , clunals 9 μ . L1, L3, L5 to L8, verticals and anterior sublaterals serrated; all other setae smooth. L1, L3, L5 and L7 longer than, L2 and L4 as long as, all other setae shorter than, distances between their bases and bases of setae following next in series. Three pairs of large pores and 8 pairs of small pores as figured. Posterior sublaterals 17-20 μ , on interscutal membrane. Peritremes extending to L1. *Venter*: Sternal shield (Fig. 2B) 64-73 μ long, 88-99 μ wide, excavated posteriorly, with 3 pairs of long setae and 2 pairs of pores as figured. Fourth pair of sternal setae and a pair of small pores on oval metasternal shields. Genital shield 113-118 μ long, 71-75 μ wide, with 1 pair of setae. Smooth vase-shaped ventrianal shield (Fig. 2C) 88-105 μ long, 54-65 μ wide, with 3 pairs of preanal setae; 3 para-anal setae. Three pairs of setae and 6 pairs of small plates on posteroventral integument; serrated ventrocaudal pair of setae 57-64 μ long. *Chelicera* (Fig. 2D): Fixed digit 25-28 μ long, with 3 large teeth anterior and 2 small teeth posterior of pilus dentilis. Movable digit 26-29 μ long, with 1 large backward pointing tooth in addition to 2 small teeth. *Spermatheca* (Fig. 2E): Tube-like cervix 17-18 μ long, 2 μ wide; junction of cervix and vesicle form a shallow convex sclerotized portion; atrium 4 μ wide, triangular; major duct 17-21 μ long, 4-5 μ wide. *Leg IV* (Fig. 2F): With 3 knobbed macrosetae: on genu 30-36 μ long, on tibia 38-42 μ , on basitarsus 33-36 μ .

MALE.—*Dorsum*: Smooth dorsal shield 213-224 μ long, 102-105 μ wide at L5, with chaetotaxy resembling that of female, but all setae relatively shorter: D1 3-4 μ , D2 and D3 4 μ , D4 4-5 μ , L1 42-43 μ , L2 6-9 μ , L3 28-30 μ , L4 7-8 μ , L5 60-61 μ , L6 50-57 μ , L7 44-46 μ , L8 38 μ , M1 4 μ , anterior sublaterals 34 μ , verticals 22-23 μ , clunals 6 μ , posterior sublaterals 9-11 μ . *Venter*: Smooth ventrianal shield (Fig. 2G) 87-90 μ long, 128-131 μ wide, with 3 pairs of preanal setae. *Spermatodactyl* (Fig. 2H): Shaft and foot 13 μ long, toe forming a large knob. *Leg IV*: With three knobbed macrosetae: on genu 22-24 μ long, on tibia 26 μ , on basitarsus 28-29 μ .

TYPE MATERIAL.—NEW SOUTH WALES: *Holotype* female, *allotype* male, 4 female *paratypes*, 1 male *paratype*, from leaves of *Eupatorium* sp., Woolwich on the Central Coast of New South Wales, E. Schicha, 5-XI-1975, in Biological and Chemical Research Institute, Rydalmere.

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