

TWO NEW SPECIES OF MITES FROM PAKISTAN
(ACARINA : PHYTOSEIIDAE)

BY

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The two species of mites described in this paper were collected by the author in Swat State and Lyallpur in Pakistan. I am thankful to Dr. D. A. CHANT, Department of Biological Control, University of California, Riverside; and to Dr. F. M. SUMMERS and Mr. R. O. SCHUSTER, Department of Entomology, University of California, Davis, for helping to compare the specimens and for valuable suggestions in writing this paper. I am also thankful to Dr. A. LATIF, West Pakistan Agricultural University, Lyallpur, Pakistan, for providing facilities for making this collection and encouragement in the work.

***Typhlodromus hadii* n. sp.**

(Figs. 1-4).

Female. — Chelicera 35 μ long, with two subapical teeth and pilus dentalis on fixed digit; one subapical tooth on movable digit (Fig. 3). Dorsal shield 343 μ long, 174 μ wide, with 18 pairs of setae and 6 pairs of very minute pores (Fig. 1). Verticals 23 μ ; dorsocentrals I 6 μ , II 8 μ , III-IV 16 μ ; prelaterals I 43 μ , II 8 μ , III 55 μ , IV 20 μ , V 55 μ , VI 61 μ ; postlaterals I 53 μ , II 43 μ , III 35 μ , IV 74 μ ; promediolaterals 6 μ , postmediolaterals 59 μ ; sublaterals I 27 μ , II 31 μ ; clunals 6 μ . All setae simple except postlaterals IV, which are weakly serrate. Peritreme extending to prolaterals II. Ventrianal plate 109 μ long, 74 μ wide, constricted to form waist, with four pairs of preanal setae and a pair of elliptical pores (Fig. 2). Four pairs of setae on membrane surrounding ventrianal plate. Two pairs of metapodal platelets, primary platelet 31 μ long, accessory platelet 14 μ long. Genital plate 70 μ wide. Spermatheca not clear. Leg IV with macrosetae on genu, tibia, basi-tarsus, measuring 39 μ , 35 μ and 61 μ respectively (Fig. 4).

Male. — Not known.

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Type. — Holotype female collected on fig leaves at Behrain (Swat State), Pakistan, July 18, 1961, and deposited in the Department of Entomology, West Pakistan Agricultural University, Lyallpur, Pakistan.

This species resembles *T. rickeri* Chant but is separated from it by having 2 subapical teeth on fixed digit instead of one as for *rickeri*; the dorsocentrals are about one-third to one-fourth as long as those of *rickeri*; postlateral seta III of *rickeri* is only 16 μ long whereas it is 35 μ long in this species; prolateral seta IV is slightly longer than II in *rickeri*, but more than twice as long as prolateral II in this species.

***Typhlodromus zafari* n. sp.**

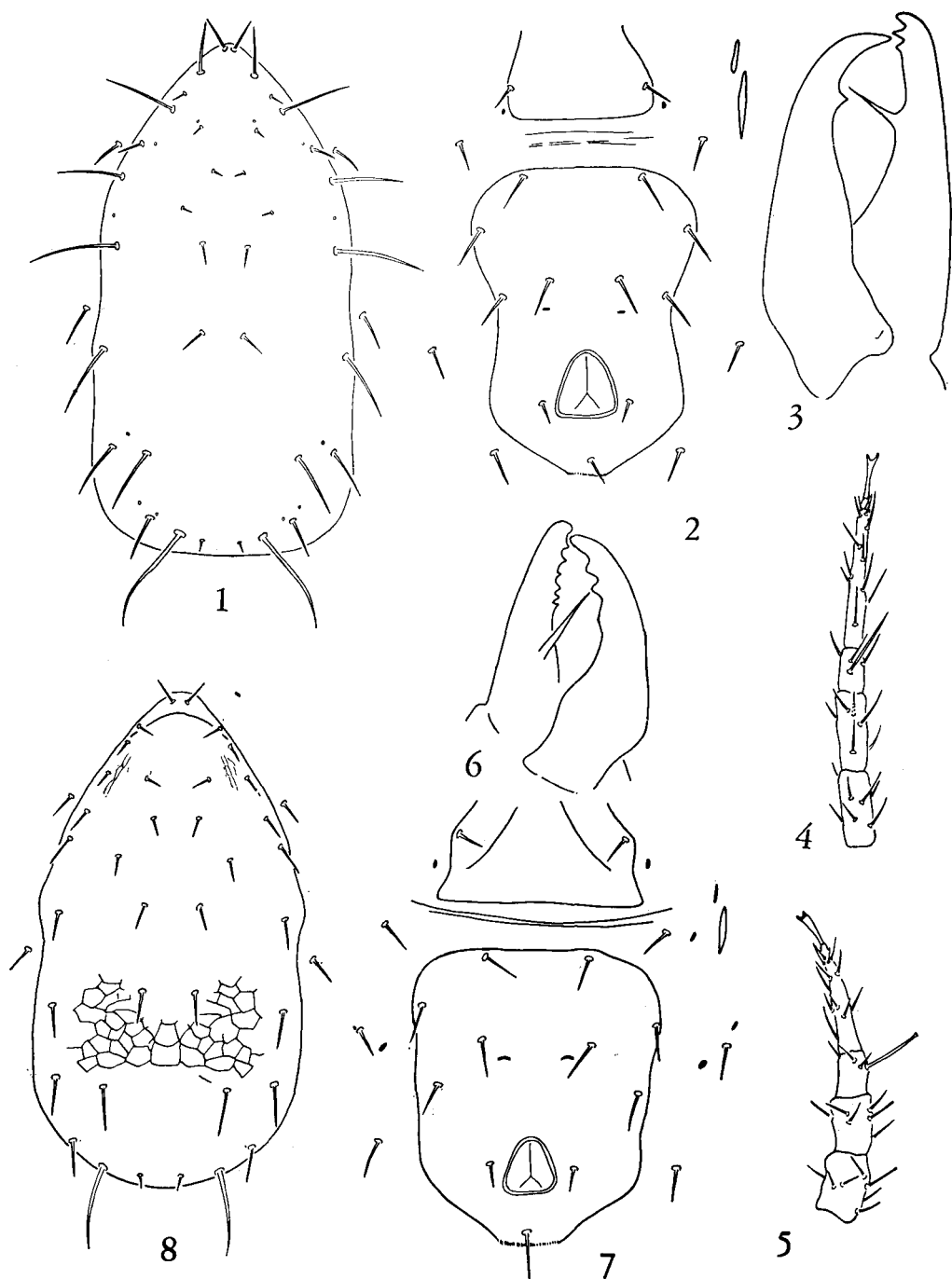
(Figs. 5-8).

Female. — Chelicera 31 μ long; fixed digit with six subapical teeth and pilus dentalis, movable digit with three subapical teeth (Fig. 6). Dorsal shield 343 μ long, 202 μ wide with 18 pairs of setae (10 pairs in the lateral row), reticulation of the shield distinct (Fig. 8), pores on the shields untraceable except one pair near postlateral III. Verticals 20 μ ; dorsocentrals I 10 μ , II 13 μ , III 15 μ , IV 19 μ ; prolaterals I and III 16 μ , II 14 μ , IV 22 μ , V 24 μ , VI 25 μ ; postlaterals I 29 μ , II 30 μ , III 27 μ , IV 56 μ ; promediolaterals 14 μ , postmediolaterals 32 μ ; sublaterals I and II 20 μ ; clunals 10 μ . All setae simple except postlaterals IV which are weakly serrate. Peritreme extending to base of verticals. Ventrianal plate longer than wide and wider than genital plate, 103 μ long, 78 μ wide with 4 pairs of preanal setae and a pair of elliptical pores in anterior half (Fig. 7). Four pairs of setae on membrane surrounding ventrianal plate. Two pairs of metapodal platelets, primary platelet 23 μ long, accessory platelet 12 μ long. Three pairs of minute sclerotized plates lying between ventrianal plate and metapodal platelets. Genital plate 74 μ wide. Atrium and cervix together 12 μ long; atrium is a minute structure, cervix long, bell shaped with a long neck. Leg IV with three macrosetae, spatulate distally, measuring 20 μ , 20 μ and 34 μ , on genu, tibia and basitarsus respectively (Fig. 5).

Male. — Not known.

Type. — Holotype female, collected on mulberry leaves at Lyallpur, Pakistan, October 16, 1961, deposited in United States National Museum, Washington; one paratype female, same collection data, deposited in Department of Entomology, West Pakistan Agricultural University, Lyallpur, Pakistan.

This species closely resembles *T. vulgaris* Ehara and *T. rehnanus* (Oud.) in having 18 pairs of dorsal setae, reticulated dorsal plate, 4 pairs of preanal setae with a pair of pores. It can be separated from *vulgaris* and *rehnanus* on the basis of number of teeth on cheliceral digits. The fixed and movable digits have 3 teeth distally, a distal and 2 subdistal adjacent teeth in *vulgaris*; four and two teeth



Typhlodromus hadii n. sp. — Figs. 1. dorsal plate ;
 2. genital and ventrianal plates ; 3. cheliceral digits ; 4. leg IV.
Typhlodromus zafari n. sp. — Figs. 5. leg IV ; 6. cheliceral digits ;
 7. genital and ventrianal plates ; 8. dorsal plate.

in *rhenanus* ; and this species has six subapical teeth on the fixed digit and three subapical teeth on the movable digit. The basi-tarsus (IV) macroseta on *rhenanus* is longer than in this species.

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