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PANONYCHUS CAGLEI, NEW SPECIES,
THE RASPBERRY RED MITE
(ACARINA : TETRANYCHIDAE)

BY

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CAGLE (1962 a) describes the biology of a spider mite, Panonychus sp., which is found frequently on raspberry in Virginia. He refers to this mite as the raspberry red mite and lists dewberry, blackberry, soybean, lima-bean, snap-bean, Kudzu-vine, and common mallow as other plant hosts. MELLOTT and CONNELL (1965) report this mite from Glycine max (L.) Merrill, Potentilla norvegica L., and Rosa sp. in Delaware. Although this species is morphologically very similar to the citrus red mite, Panonychus citri (McGregor), and to the European red mite, Panonychus ulmi (Koch), fertilization tests by CAGLE (1962 b) indicate that it is biologically a separate species. The adults can be separated from the other two species on the basis of a few morphological characters which the author has found to be constant on all of the approximately one hundred specimens examined.

Panonychus caglei, new species.

Males and females of this species can be distinguished from P. ulmi and P. citri by the presence of only two setae on genu IV. Adults of P. ulmi and P. citri both have three setae on genu IV. The striations on the genital flap of P. caglei (Fig. 2) are longitudinal anterior to the setae of the genital flap. The striations on the genital flap of P. ulmi are similar to those of P. caglei but those of P. citri are transverse (Fig. 3). Attempts to use the outer sacral setae and the clunal setae to distinguish the three species, with respect to their lengths, are not always satisfactory. P. caglei exhibits considerable variation in the lengths of the outer sacrals when compared with the lengths of the clunals.

1. Research Assistant, Department of Entomology, Oregon State University, Corvallis, Oregon.
2. Technical Paper No. 2287, Oregon Agricultural Experiment Station.

Female:

Terminal sensillum of palpus about one and a fourth to one and a half times as long as wide. Peritreme straight distally. Tarsus I with one sensory and five tactile setae proximal to paired duplex setae and three sensory and four tactile setae distal to them. Tarsus II with one short sensory seta and four tactile setae proximal to the single pair of duplex setae and with three sensory and four tactile setae distal to them. Tarsus III and IV each with one short sensory seta and nine tactile setae. Tibia I with one sensory and seven tactile setae. Tibia II, III, and IV with five tactile setae. Genu I and II each with five, genu III with three, and genu IV with two tactile setae. Striations on genital flap longitudinal anterior to setae of genital flap and transverse posterior to them. Dorsal setae of idiosoma large, pubescent, and borne on strong tubercles.

Male:

Terminal sensillum of palpus small, conical, slightly longer than wide. Peritreme straight distally and ending in a simple bulb. Tarsus I with three sensory
and five tactile setae proximal to paired duplex setae, and with three sensory and four tactile setae distal to them. Tarsus II with one sensory and four tactile setae proximal to single pair of duplex setae and with three sensory and four tactile setae distal to them. Tarsus III and IV each with one sensory and nine tactile setae. Tibia I with four sensory setae and seven tactile setae. Tibia II, III and IV each with five tactile setae. Genu I and II each with five tactile setae. Genu III with three and genu IV with two tactile setae. Aedeagus dorsally directed and sigmoid. Dorsal setae long, pubescent, and borne on strong tubercles.

P. caglei and P. citri were maintained in laboratory culture for seven months to observe characteristics by which they may be distinguished. P. caglei was cultured on leaves of raspberry and snap-bean while P. citri was cultured on orange fruit, lemon leaves, and snap-bean leaves.

Adult females of P. ulmi may be distinguished readily from P. citri and P. caglei, in field and/or laboratory cultures, by the conspicuous white tubercles which bear the dorsal idiosomal setae. The dorsal tubercles of P. caglei are a light red-to-pink while those of P. citri are usually a darker red. The overall body color of the adult females of all three species is deep red.

The leg segments of legs II-IV of the adult female of P. caglei are pale yellow-green. Tarsus and tibia I are orange, while the other segments are yellow-green. The gnathosoma is pale yellow-green. The dorsal idiosomal setae are colorless.

Legs I and II in many females of P. citri are orange in all segments. The tarsus and tibia of legs I are generally darker, however, than the other segments. Rather dark pigment is present in the coxa, trochanter and proximal half of the femur of legs I and II in many instances. The tarsus and tibia of legs III and IV are light orange while the other segments are generally yellow-green. The gnathosoma is red. The dorsal idiosomal setae contain a red pigment. The second and third pairs of propodosomal setae and the first pair of dorsolateral hysterosomal setae are often noticeably a darker red than the other dorsal setae.

P. ulmi is primarily a pest of deciduous fruit trees. P. citri is a pest of citrus. P. caglei has been collected primarily from low-growing plants.

Holotype:

Female, United States National Museum No. 3230, ex Rubus sp. (raspberry), Newark, New Castle Co., Delaware, September 23, 1965 (W. A. Connell).

Paratypes:

Three females, ex Rosa sp. (rose), Dover, Kent Co., Delaware, July 8, 1963; one female, ex Potentilla norvegica L. (rough cinquefoil), Dover, Kent Co., Delaware, July 15, 1963; four females and four males, ex Rubus sp., Newark, Delaware, September 23, 1965 (W. A. Connell).
FIG. 4-11. _Panonychus caglei_ n. sp.

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