

New Acarina

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Below are descriptions of several new mites, some of them from California and of economic value.

BDELLIDÆ

Bdella utilis n. sp.

Red. Body about twice as long as wide, broadest in the middle, and tapering toward each end; ocelli close together. The cephalothorax with six long bristles, two widely separated at about middle, and four behind in a transverse row, the two each side being close together; abdomen with a submedian row of four long bristles, one on humerus, and one each side toward tip, and about eight at tip, hardly as long as the others. Legs stout, fourth pair nearly as long as the body, all with many simple hairs; apical part of femora I and II hardly longer than broad, and tibiæ I and II about twice as long as patellæ. Beak long and slender, two and one-half times as long as broad near base, with a pair of bristles at about middle; palpus but little longer than beak, third joint fully twice as long as broad, and rather longer and broader than the fourth; fifth hardly as long as third plus fourth, with two bristles above, and two very long ones at tip. Length .8 mm.

From black scale imported into California from South Africa (Carnes).

Cunaxa armata n. sp.

Red. Body rather broad, especially in front; head about one and one-fourth as long as broad, rounded behind; mandibles very slender, reaching to the tip of third joint of the palpus. Palpi very long and stout, second and third joints (which are apparently united as in the European *C. taurus*) each about three times as long as broad, third with long curved spine below, fourth about as long as third, with a long spine on the inner

side, and a longer spine at tip; fifth claw-like, with a spine on inner side before the middle (in *C. taurus* beyond the middle). Cephalothorax with four long hairs; legs, slender, especially the tarsi, with a few short, fine hairs, one on the middle of penultimate joint of hind legs is longer than the others. Length .5 mm.

From Washington, D. C., May, on leaves. *C. quadripilis*, which is similar, has shorter mandibles, second and third palpal joints shorter, and the fifth joint has no spine, but a fine bristle from near base.

CHEYLETIDÆ

Cheyletus cocciphilus n. sp.

Body but little longer than broad, divided by furrow in middle, surface granulate above; cephalothorax with a submedian row of four scale-like hairs, and a submarginal row of three similar hairs; on abdomen are similar rows, but the scales are less broad, and near tip of the body, hardly more than thickened hairs, a lateral scale at broadest part of body on the posterior part of the cephalothorax. Legs not as long as width of the body; leg I with three scales, and other legs with thickened, often curved, hairs; leg I ends in two very long simple hairs. The head has a scale in front each side of the beak, and each palpus has two scales above. Each palpus ends in three combs, and two curved bristles. Length .3 mm.

From orange twigs infested with purple scale from Mayaguez, Porto Rico, April 30, (Carnes).

RHYNCHOLOPHIDÆ

Rhyncholophus mæstus n. sp.

Red. Body hardly twice as long as broad, broadly rounded behind, much narrowed in front, covered with many fine short hairs; on the frontal lobe are some long stiff bristles. The dorsal groove reaches almost to the abdomen, with a pair of pits or sensillæ at each end of it; one eye-spot each side on cephalothorax. Legs slender, first and fourth pairs hardly longer than

the body, all with fine hairs; the three long joints are subequal in length, the last joint of leg I is about two-thirds as long as the penultimate, the last joint of leg IV about one-half as long as the penultimate joint. Length 1.2 mm.

From Monrovia, California, June, (Essig).

TETRANYCHIDÆ

Caligonus terminalis n. sp.

Red. Body hardly twice as long as broad, much narrowed behind, the tip being almost acute, and with four stout, straight bristles. Suture between the cephalothorax and abdomen distinct; apparently but one eye-spot each side on cephalothorax, four bristles on cephalothorax; on dorsum of abdomen a submedian row of four rather long bristles and two each side nearer margin, and a longer and stouter humeral bristle. Palpi stout; thumb ends in two hairs, of which one is much longer than the other; claw long and evenly curved. Hind coxæ situated considerably behind the front pairs. Legs stout, no longer than width of body, with some long and a few short bristles; tarsi I and II with two long apical bristles. Length .3 mm.

From Chula Vista, California, May 7, on lemon leaves, (Quayle).

Tetranychus simplex n. sp.

Body one and one-half times as long as broad, slightly tapering, but rounded behind; with twenty-four long, stout bristles above, situated about as in *T. bimaculatus*, and two pairs of shorter bristles at tip. Legs of moderate length, first pair not as long as body, all with long, stout bristles; femora and tibiæ I and II with one above as long as those on the body; tibiæ I and II barely longer than these patellæ; tarsus ends in a simple claw, which has four bristles arising from near its base. Mandibular plate about twice as long as broad, tapering and rounded in front, without emargination. Length .3 mm.

From date palm, El Centro, Imperial County, California, July 29, (Carnes).

PARASITIDÆ

Ophiomegistus n. gen.

Belonging to the Antennophori section of the Parasitidæ. Body broad, rounded. Legs short, first pair without claws or caroncle, ending in several fine hairs. Peritreme long, and reaching forward in front of coxæ I. Ventral shield in two parts separated just in front of vulva; anal not separated, the ventri-anal shield occupying all the venter. Genital aperture of male only a short distance back of front margin of sternal plate.

Type—The following species:

Ophiomegistus luzonensis n. sp.

Body as broad as long, narrowed each side in front, above smooth, margin (except in front and concave anterior sides) provided with a row of stiff bristles, less than half a bristle length apart; a few, mostly near the tip, are longer than the others. Legs short and stout, first pair plainly longer and more slender than others, tipped with bristles, no claws; other legs with large caroncles, all with rather stiff scattered hairs. Venter in female with a transverse bowed line between coxæ III and IV, and a curved furrow in the middle behind it. Greater part of ventral surface provided with very short spines, pointing forward; behind are several curved rows of elongate scales, and near margin is a submarginal groove. The peritreme shows, on outer edge, near the spiracle, a series of transverse apertures, and forward are many of these slits in the thickened rim of the peritreme. The male genital aperture is transversely elliptic, and hardly half its short diameter from anterior margin of sternum; on hind femur is a curved tooth, and on submarginal groove, three teeth, the posterior two close together. Length .8 mm.

From Los Banos, Philippine Islands, on snakes, (Baker).

Polyaspis lamellipes n. sp.

Body not twice as broad as long, broadly rounded behind, rather narrowed in front. Leg I not as long as body; leg IV

barely longer than width of the body. Dorsum of body with two reticulate submedian stripes connected in front and behind, a sublateral corneous stripe on each side of body with six scale-like hairs, one nearly over coxa II, three each side close together, and two each side toward the tip; the sublateral corneous stripe also bears a few thickened bristles. Legs I and II with lateral lamellæ and clavate hairs as figured; legs III and IV with lamellæ narrower and with few clavate hairs; sternal shield with three thickened hairs each side; mentum or lip with two submedian long spines. Length .7 mm.

From Cedar Point, Ohio, on *Orthosoma brunneum*, July 31, (Brain).

Macrocheles sublævis n. sp.

Pale yellowish, tips of mandibles dark brown. Body little more than twice as long as broad, plainly constricted in front, broadest at middle, and broadly, evenly rounded behind; above almost smooth, with scattered short, simple bristles, about as in figure of the nymph, but the anterior ones are not thickened; a very short pair on the hind border. Front legs but little longer than the width of the body, last joint plainly longer than the preceding and slightly constricted on one side near the middle, tip with hairs longer than width of joint. Leg II heavy, third joint with a tooth below, with some stout spines; leg IV not reaching one-half its length beyond the abdomen, rather stout; two prominent spines on lip, not far apart; ventral shield with few short hairs; four bristles each side on the sternal shield and three each side on ventral shield, the last pair close to anus. Length .6 mm.

From Cedar Point, Ohio, on *Ligyryus relictus* and *Boletotherus bifurcus*, in June; nymphs on *Silphis surinamensis* larva.

Parasitus inæqualis n. sp.

Pale yellowish. Body about one and one-half times as long as broad, broadest in the middle, tapering behind and in front, with rather prominent shoulders; dorsal shield divided; anterior shield with six long bristles, two on humeri, and four on pos-

terior part of disc; two moderately large frontal bristles; other bristles small. A long, large bristle at tip of each femur of legs III and IV; tip of mandible with two slender bristles, last joint of palpus with a basal inner group or comb of stout bristles; legs I and IV about as long as the body; venter with stout spines, one in front and one behind on coxæ II and III, one on inner side of coxa IV, three each side and a frontal pair on sternal shield. Length 1.2 mm.

From Cedar Point, Ohio, August 6, on *Necrophorus orbicollis* (Brain).

TARSONEMIDÆ

Tarsonemus approximatus n. sp.

♀ Body large and broad; venter with two transverse lines near the separation of cephalothorax and abdomen. Three short bristles on each side, and a pair near tip of body; beak pointed in front. Legs short, but rather slender, with few hairs; tarsus I with a subbasal clavate hair, a long hair nearby, a pair near the tip above, and a clavate hair just before them; hind coxæ approximate, separated behind, but hardly by more than the width of a coxa; the terminal hairs not especially long. The male has the sides of body more parallel, the legs about as in the female, except the hind pair, which is thickened, but no tooth on the last joint, nor preceding joint; the claw very stout; the terminal hair fully twice as long as the last joint.

From Pomona, California, July 8, (Quayle), from under scale, *C. longulus*.

Tarsonemus assimilis n. sp.

In general similar to *T. approximatus*, but on tarsus I the bristles and clavate hairs are placed differently, as seen in figure. The body of female shows below apparently but one transverse line, which at middle has a median tooth with notch each side; the beak is pointed in front; the legs are rather stout, especially the anterior pairs; tarsus I is shorter than in *T. approximatus* and shows a subbasal clavate hair and long hair nearby. There is a large, fusiform hair at middle of the

joint, and two near tip, with one or two others nearer to tip. Coxæ III are more slender than in *approximatus*, the coxæ IV are close together as in that species, and the terminal hairs are very long.

From Whittier, California, September 7, (Quayle), from red scale. This and the preceding species, by their approximate hind coxæ, are related to *T. culmicolus* Reuter. Our other species have the tips of the hind coxæ more widely separated.

Disparipes apicola n. sp.

Pale yellowish brown. Body plainly longer than broad. From below, showing two bristles each side on the anterior part, the posterior bristle being the longer, and one each side near the humerus; a ventral pair of long bristles, and two pairs of poststernal bristles, the intermediate pair being placed more forward; also a pair of presternal, and three pairs of axillary bristles. On the posterior part of dorsum are two pairs of prominent thickened bristles, the posterior pair of which extends much behind the abdomen. Tarsi bristly, I and II with thickened process near tip above; leg IV with two very long bristles, three subequal shorter ones at tip, and two others still shorter and more basad, one on each side. Length .13 mm.

From honey bee, Guelph, Ontario, Canada, May 5, (G. J. Spencer).

CANESTRINIDÆ

Canestrinia blattophaga n. sp.

♀ Body broad, about one and one-half times as long as broad, without long bristles; a pair of short spines over base of mouth parts; a rather long bristle at humerus; a few short spines in pairs on the posterior dorsum, and four simple hairs on posterior margin. Venter with four spines each side on posterior part, and a pair at base of epimera of first legs; vulva V-shaped, with a transverse furrow behind it. Legs short; legs I and II heavier than the others, with only a few simple bristles; one at tip of penultimate joint is longer than others; a heart-shaped caroncle attached near tip of tarsi. Male with

more slender body and rather longer hind legs, but legs I and II are much stouter than in the female; the male aperture is lyre-shaped, and situated behind coxæ IV. There are four spines each side on posterior venter, the anterior pair being heavier than the others, and a pair between the bases of coxæ III. Length .7 mm.

From a cockroach (*Periplaneta americana*) Canal Zone, Panama, (Dr. Darling).

EXPLANATION OF PLATES

- Figure 1. *Tarsonemus approximatus*. Male.
Figure 2. *Tarsonemus assimilis*. Female.
Figure 3. *Caligonus terminalis*.
Figure 4. *Tarsonemus assimilis*. Tarsus I.
Figure 5. *Tarsonemus approximatus*. Tarsus I.
Figure 6. *Disparipes apicola*.
Figure 7. *Caligonus terminalis*. Palpus, tarsus I.
Figure 8. *Disparipes apicola*. Tarsus I.
Figure 9. *Disparipes apicola*. Tarsus IV.
Figure 10. *Cheyletus cocciphilus*. Leg I.
Figure 11. *Tarsonemus approximatus*, and male tarsus IV.
Figure 12. *Parasitus inaequalis*.
Figure 13. *Parasitus inaequalis*. Lip.
Figure 14. *Macrocheles sublaevis*. Palpus, mandible, epistoma.
Figure 15. *Macrocheles sublaevis*. Legs I and II.
Figure 16. *Polyaspis lamellipes*. Mandible, leg I.
Figure 17. *Macrocheles sublaevis*. Lip.
Figure 18. *Bdella utilis*. Mandible, palpus.
Figure 19. *Canestrinia blattophaga*. Male, leg II, and venter of male.
Figure 20. *Canestrinia blattophaga*. Female.
Figure 21. *Cheyletus cocciphilus*. Palpus.
Figure 22. *Rhyncholophus moestus*. Head.
Figure 23. *Rhyncholophus moestus*. Leg I.
Figure 24. *Cunaxa armata*. Palpus.
Figure 25. *Macrocheles sublaevis*.
Figure 26. *Ophiomegistus luzonensis*. Male, leg IV.
Figure 27. *Rhyncholophus moestus*. Palpus.
Figure 28. *Ophiomegistus luzonensis*.
Figure 29. *Ophiomegistus luzonensis*. Ventral scales.
Figure 30. *Tetranychus simplex*. Palpus.
Figure 31. *Ophiomegistus luzonensis*. Male.
Figure 32. *Tetranychus simplex*. Tarsal claw.