

NEW CANADIAN MITES.

[Arachnoidea, Acarina.]

BY NATHAN BANKS.

In the following pages I have brought together the descriptions of some new mites from Canada which form part of a considerable collection of Acarina, sent me for identification by Professor Tennyson D. Jarvis, of the Ontario Agricultural College at Guelph, Canada. Several of them represent genera hitherto unrecorded from our country.

Of particular interest are some species of *Laelaps*, three of which are described from the muskrat, groundhog, and chipmunk, all similar to the *L. echidinus* which has recently been taken from rats in California.

Family CHEYLETIDÆ.

Cheyletus longipes, new species.

Pale yellowish. Body about one and one-half longer than broad; with bristles bearing fine, short hairs. Head sub-triangular, with two bristles each side, the anterior one much shorter than the other; on anterior part of the cephalothorax each side are three bristles close together; one on each shoulder, and behind this a sub-lateral row of seven bristles, the last one close to tip. Legs long and slender, the first pair much longer than the others, in fact nearly twice as long as the body, with long bristles as figured, and three at the tip; other legs with a few long bristles near middle of the length, but only very short ones near tip of tarsi. Palpi not very greatly thickened near base, the second joint bearing two bristles above, and one on the outer side below; third joint with two simple bristles, and the claws and comb as figured.

Length, 0.5 mm.

Guelph, Ontario, Canada; on gelatin culture in bacteriological laboratory.

Cheyletiella canadensis, new species.

Dorsum with two broad shields; the anterior one extending back to coxæ III, and bearing above on each side two bristles, one bristle each side between the shields, and one each side on the anterior margin of the posterior shield; tip of abdomen with a long bristle near each outer corner, a smaller one each side near middle, and a long bristle on each shoulder; claw of palpus not very stout, and with a tooth near its inner base, and an inner lobe.

Length, 0.18 mm.

Guelph, Ontario, Canada, on bluebird.

Myobia caudata, new species.

Body about twice as long as broad, broadest behind coxæ IV, plainly constricted behind coxa I and behind coxa II, abdomen behind hind legs broadly rounded. Dorsum with a sub-median row of long, slender bristles, at tip of abdomen a pair of very long bristles arising from small tubercles, in fact longer than the entire body. Legs short and stout, tapering to the tip, each with various short hairs and a few larger bristles, usually near the tip; first pair modified as usual, the claw at tip is rather more curved than in *M. musculi*; claws at tips of other tarsi are rather shorter and more curved than in *M. musculi*.

Length, 0.2 mm.

Guelph, Ontario, Canada, on little brown bat.

Differs from *M. musculi* in more elongate form, slender dorsal bristles, longer bristles near tips of legs, shorter claws, etc.

Family TETRANYCHIDÆ.

Tetranychopsis spinosa, new species.

Body about one and one-fourth times as long as broad, in general sub-globular; the furrow separating the cephalothorax and abdomen is distinct, and on the dorsum of abdomen are two other transverse furrows. Cephalothorax with three spines each side, two of them short and sub-clavate are situated on the margin, the other is twice as long and acuminate. Abdomen with a sub-median row of three long spines each side arising from tubercles, and on margin of abdomen each side are six spines, four long and slender, and usually curved, two others, one behind the long humeral spine, and the other the last of the series, are short and sub-clavate. The legs are long and slender, femur I about one-half the length of body; the basal joints with short thick, mostly blunt-pointed, spines, other joints with slender bristles.

Length, 0.4 mm.

Guelph, Ontario, Canada, on leaves of basswood.

Family GAMASIDÆ.

Liponyssus canadensis, new species.

Pale yellowish. Body elongate; in the female about one and a half times longer than broad, in male nearly twice as long as broad; the dorsal shield nearly covering the entire dorsum, legs of about moderate length; hind legs reaching a little beyond tip of body, both body and legs with many short stout bristles, some each side near tip of body are longer; second pair of legs plainly thicker than other pairs. The peritreme long and slender, very sinuous, nearly reaching to base of coxa I.

Length, 0.6 to 0.7 mm.

Guelph, Ontario, Canada, on English sparrow, red-eyed vireo, meadow lark, and king bird. It differs from the other species of the genus in larger shield, more sinuous peritreme, more spine-like hairs, etc. From *Dermanyssus hirundinus* and *D. passerinus* it differs, aside from the generic characters, in the much longer peritreme.

Sejus macropilis, new species.

Pale yellowish. Body about one and one-half times longer than broad, rather truncate behind. Above with four very large heavy curved spines each side, situate near the margin, the last two close together, the anterior one is the largest; they are minutely spinulate or bristly. At tip of body is a pair of curved stout hairs, more slender than the spines, near each anterior spine is a short stout spine. Legs long and slender, with some short, fine hairs, IV pair with extremely long tarsi; the tibia IV with a very long stout spine similar to those on the body, and a short erect spine near tip of the preceding joint.

Length, 0.3 mm.

From Guelph, Ontario, Canada, attacking *Eriophyes* on large-toothed aspen, July 27.

Celænopsis pedalis, new species.

Female—Pale yellowish. Body about twice as long as broad, tapering each way, but mostly toward posterior end; dorsum with many long, stout bristles, perhaps most numerous on the sides and behind; venter also with long bristles; one at each anterior corner of the sternal plate, two pairs near middle of this plate, and a small one at each posterior corner; three or four each side near bases of the coxæ, two pairs each side on ventral plate, two each side near anus, and several others on outer region of venter and along the margin. Legs slender and long; I fully as long as body, IV next, II rather stouter than the others, all very bristly, especially near tips. The female genital aperture is longer than broad, broadest in front, and its anterior margin bi-convex; the mandibles show an apophysis from the side of the outer finger.

Length, 0.8 mm.

Guelph, Ontario, Canada; taken from the larva of *Pelidnota punctata*, April 1.

Celænopsis latus, new species.

Color yellowish-brown, legs rather paler. Body broad, about one and one-half times as long as broad, broadest in middle, and broadly rounded behind, dorsum smooth, margin with some bristles, two of these on each posterior side are very long. Legs short, leg I very slender, II a little thicker than any of the others, all with hairs, and some very short spines. Sternum with a very stout curved spine or

bristle at each corner, a bristle at base of coxa II, also at IV, and one each side of vulva; vulva not reaching back of coxa III. On ventral plate are three bristles each side; the lateral plates have a few bristles and one each side on anal plate, the anal plate appears closely attached to the postanal plate.

Length, 1.1 mm.

From the beetle *Passalus cornutus*, at Guelph, Ontario, Canada.

Laelaps multispinosus, new species.

Pale yellowish; body rather more than one and a half times as long as broad, very broad behind legs. Body and legs with many short, stout, spine-like bristles, those on the dorsum mostly curved, those on venter longer and straight; sternal plate with two on anterior margin, and three each side, ventral plate with a basal pair and three on each posterior side, anal plate with a median one behind, rest of venter with many similar spines, coxæ I each with two large spines, II with one large spine, III with one short spine, and IV mutic. Legs with many short spines and hairs; tarsus II with two short stout spines just before tip, III and IV with many stout spines.

Length, 1 mm.

Guelph, Ontario, Canada, from muskrat, April 26. Resembles *L. echidinus* from rats (which species occurs in California) but with shorter spines on dorsum, and the hind coxæ unarmed.

Laelaps, pedalis, new species.

Pale yellowish. Body about twice as long as broad, slightly more narrowed in front than behind. Dorsum with many quite fine hairs, those on posterior sides are longer. Venter with quite a number of slender bristles, sternum with a pair in front, and four each side at bases of the coxæ. Legs with many bristles, especially near tips of tarsi, a stouter spine on inner side near tip of palpus. Legs moderately slender, not very long, first pair much shorter than the body, tarsi tapering, except I, which ends bluntly.

Length, 1 mm.

Guelph, Ontario, Canada, on chipmunk, in May. In a general way this species is related to *L. echidinus* and *L. multispinosus*, but all the bristles are fine instead of spine-like; the venter is much like *L. propheticus*, but the ventral shield has more bristles, the hind legs are shorter, etc.

Laelaps propheticus, new species.

Male—Pale yellowish-brown, dorsum with many fine, short hairs, venter with the ventral plate narrowed at base and a large triangular plate each side behind hind coxæ, anal plate broad, but very short,

peritreme long, reaching coxæ I, stigma just behind coxæ III; legs slender, second pair rather thicker than the others, III pair with the intermediate joints slightly produced on the middle behind; tarsus I of even thickness to the tip, other tarsi tapering. Similar to *L. stabulans*, but leg II less stout, and with fine hairs.

Length, 1 mm.

Guelph, Ontario, Canada; from groundhog.

Several have no distinct shields on venter, although some carry a large egg; they are probably nymphs.

***Laelaps longiseta*, new species.**

Pale yellowish. Body nearly twice as long as broad, with many bristles, and on the posterior sides and apical margin are many fine, short hairs; on each humerus is a very long bristle, and a similar long one from near tip of each hind femur. The legs are rather short and with bristles and hairs; leg II of male is heavy, but without apophyses. On the venter are rather fine and slender bristles, a pair at front margin of sternum, one at base of coxa II, and III, and two at base of coxa IV; anal plate large and broad, with many hairs.

Length, 0.9 mm.

Guelph, Ontario, Canada, February 27, from carrion beetle. Readily known by long bristles on humeri, and hind femora.

***Gamasus posticatus*, new species.**

Color yellowish. Body nearly twice as long as broad, broadest at shoulders, concave and tapering in front, broadly rounded behind. Dorsum with a pair of frontal bristles, a long one on each shoulder, and a submarginal row of four each side, the last near tip and shorter than the others; a submedian row of seven shorter and finer hairs, the first the longest, and a few others near shoulders; two each side on the posterior margin near tip, the inner one the longer, and two on the posterior sides. Epistoma with three teeth in front, the median one the longest; legs and palpi slender, all with long spines, leg II thickened, and with a small tooth at tip of third joint beneath, leg IV extremely long, very much longer than body. Sternal plate with a bristle at each corner, and several on venter, especially near the anal opening.

Length, 0.7 mm.; leg IV, 1 mm.

From Guelph, Ontario, Canada, under decaying maple leaves.

***Gamasus attenuipes*, new species.**

Yellow brown. Body of female much broader behind than in front. The shield follows the margin for one-half way when it is cut away quite suddenly, and tapers to the tip; above with many fine, short hairs. Legs extremely long and slender, all with fine hairs; palpi long and slender, last joint showing a thumb inserted near tip. Sternal plate with

three short bristles each side, vulva triangular, as figured, ventral and anal plates united, very broad, with many fine hairs. Stigma above coxæ III; the dorsal shield folds down to include the stigma and the long peritreme.

Length, 1.4 mm.

Guelph, Ontario, Canada; on turnip, January 10.

Distinct by shape of dorsal shield and vulva.

Family ORIBATIDÆ.

Pelops terminalis, new species.

Dark reddish-brown, a pale yellowish spot before the middle. The cephalothorax is short, with narrow lamella each side; a basal trans-lamella, from which arises the spatulate superior bristles; the pseudostigmatic organ is of moderate length, and clavate; abdomen faintly roughened above, each side with two groups of two tiny round dots, two clavate hairs on the anterior lateral edge over the wing, and behind on each side are three clavate hairs, the longer one near tip and lower down than the others. Venter smooth, genital aperture its length in front of the smaller anus, the latter more than its own length from the hind margin; sternal plate with two lines each side. Wings deep, incurved, rounded at tip, legs short and with three unequal claws, the tarsi bearing two or three hyaline spatulate hairs.

Length, 0.5 mm.

From Guelph, Ontario, Canada; under bark of ironwood, March 6. This is the first species in the genus to be recorded from our country; there are eight or ten species in Europe.

Galumna sylvicola, new species.

Pale yellowish. Abdomen elongate, smooth, without hairs. Cephalothorax with a rather broad lamella each side, tipped by a long bristle, no trans-lamella, superior bristles long, erect, distant from pseudostigma; pseudostigmatic organ rather long, capitate, but tip pointed. Wings moderately large, not reaching in front of the abdomen, quite deep and rounded below. Legs rather short, with few hairs, mid and hind femora margined below. Venter smooth, genital opening fully one and one-half times its length in front of the much larger anal opening; sternal plate with three lines each side, none reaching the middle, the hind margin of sternal plate is not as distinct as the lines.

Length, 0.38 mm.

From Guelph, Ontario, Canada, among fallen leaves in the forest, April 28.

Oribatella formosa, new species.

Yellow-brown, a pale yellow spot on base of abdomen. Cephalothorax with a broad lamella each side, and a trans-lamella; each lateral

lamella is divided in two points at tip, the inner one much the shorter, and from between them arises a large, stout, serrate bristle; superior longer, and serrate; pseudostigmatic organ rather short, capitate; beneath, on each side of the cephalothorax in front of leg I is a long spine-like process tipped by a stout, incurved, serrate bristle. Legs of moderate length, tarsi with many hairs, some beneath are large and serrate; patella and tibia I and II each with a prominent thickened hair or bristle near tip. Abdomen plainly longer than broad, broadest behind, with six short stiff, rather thick hairs each side, and two on each wing above, and two each side on posterior margin lower down than the others. Venter smooth, genital opening broader in front than long, nearly twice its length in front of the much larger anal aperture, which is broader behind than in front; sternal plate not separated from venter, and showing three short lines each side; a large tectopedium behind coxa I, with a serrate bristle beneath.

Length, 0.5 mm.

From Guelph, Ontario, Canada; from under bark of various trees, as mountain ash, April 17; Norway spruce, February 27; catalpa, February 14; balsam, February 13.

Liacarus parvulus, new species.

Reddish brown, or more yellowish. Body globose, high; cephalothorax very short and depressed, the lateral lamellæ very small, and terminated by a small hair; no superior bristles visible; the pseudostigmatic organs quite long, clavate at tip; body smooth, no hairs, broader behind than in front; a curved plate behind coxæ I; legs short, three equal claws, the hairs of legs simple, one near tip of penultimate joint very long. Venter smooth; genital aperture one and one-half times its length in front of the slightly larger anal opening; in front of the genital aperture there is a broad transverse plate, concave in front, its outer anterior corners extended; it is thicker than the rest of the skeleton and darker colored; at its sides the sternal plate is divided by a line and dot.

Length, 0.4 mm.

Near *L. nitidus*, but smaller, and no visible superior bristles.

Guelph, Ontario, Canada; from moss on a stump, April 26.

Oribata canadensis, new species.

Yellowish brown. Cephalothorax with a pair of curved anterior bristles; superior bristles, erect, stiff, close to the pseudostigma; the pseudostigmatic organ longer than the width of the cephalothorax, barely thickened at end, straight. Abdomen globose, smooth, with a submedian row each side of eight stiff, erect bristles, and at tip a pair of curved hairs, and at base a pair close together projecting over the cephalothorax. Legs long and slender, with slender hairs, one above

tibiæ and patellæ thicker and more plumose than others; tarsi extremely slender. Venter smooth; sternal plate with a line each side, ventral openings distinctly separate, the genital broader but no longer than the anal.

Length, 0.45 mm.

From Guelph, Ontario, Canada; under bark of ironwood, March 6.

Oribata perolota, new species.

Yellow-brown. Cephalothorax with a pair of small apical bristles, a median pair of quite long bristles, and a superior pair of short erect bristles; pseudostigmatic organ moderately long and clavate. Abdomen a little longer than broad, smooth, bearing above on each side six quite long curved bristles: one near the tip, four near the side-margin, and one sub-median and toward the tip; genital aperture nearly twice its length in front of the very much larger anal opening; anterior sternal plate divided by a complete line, posterior sternal plate indented by the genital aperture, without marks or lines. Legs long and slender, joints slightly nodose, the short middle joint is not swollen; the tarsi with many fine hairs, a few on the other joints, a long one near tip of penultimate joint of leg I; trochanter of leg III prominent, globose; one claw to tarsus.

Length, 0.45 mm.

From Guelph, Ontario, Canada; in corn stubble, April 26. Related to *O. concolor* as figured by Berlese, but he shows more bristles on dorsum.

Oribata neosota, new species.

Dark yellow-brown, legs paler. The cephalothorax is quite long and humped at base and before the tip, the sides irregularly trilobed; a sub-apical projection each side in front, a pair of short fine apical hairs, a curved bristle each side on middle lobe; superior bristles very long and simple; pseudostigmatic organ not very long, sub-clavate. Abdomen longer than broad, nearly smooth, with six curved hairs above on sides and near tip. Legs rather short; behind coxæ I and II are large tectopodia; leg I not near as long as body, leg IV almost as long as body; the middle joint of legs very small and not swollen. Venter smooth; the genital aperture distinctly separated from the scarcely larger anal opening; anterior sternal plate with a line each side, the posterior sternal plate undivided, but deeply indented by the genital aperture.

Length, 0.45 mm.

Guelph, Ontario, Canada; from among forest leaves; April 28.

Cyberemaeus parvula, new species.

Yellowish brown. Cephalothorax blunt in front, punctulate above and reticulated; pseudostigmatic organ of moderate length, clavate; abdomen elongate, flat; a central area separated by a distinct groove from the margin, the central area reticulate, the margin mostly striate, partly reticulate; between the cephalothorax and abdomen there is on each side a prominent projection; on apical margin are four tiny clavate hairs. Venter and sternum strongly granulate; anal and ventral apertures about one-third their length apart. Legs short and thick, with few very short, simple hairs; on leg I the penultimate joint has a long apical process extending over the tarsus; one claw.

Length, 0.35 mm.

From Guelph, Ontario, Canada, under bark of ironwood, March 6.

Family TYROGLYPHIDÆ.

Histiostoma valida, new species.

In general characters and appearance this species is like *H. gracilipes*, described and figured in my Revision of the Tyroglyphidæ, but differs in that the third joint (from the tip) in all legs is twice as long as the penultimate joint, and nearly twice as long as the preceding joint. The tarsi are even more slender than in *H. gracilipes*; the tips of the palpi are also longer than in that species; and I cannot see any hairs on the abdomen.

Length, 0.3 mm.

From Guelph, Ontario, Canada; on horse-manure.

Family ANALGESIDÆ.

Pterodectes armatus, new species.

Similar to *Pt. cylindricus*. Dorsum with two shields; the anterior narrowed in front and indented on the sides, its hind margin distinctly undulate, and with a pair of bristles above; apex of female as in *Pt. cylindricus*, but each lobe has two bristles instead of one. In the male the tip of abdomen is more deeply incised, the lobes broader at tip, and three bristles inward of the large one; from the tip of dorsum there extends back beyond the lobes a rounded, hyaline plate.

Length, 0.5 mm.

Guelph, Ontario, Canada, on various birds; song sparrow, hermit thrush, junco, robin, white-throated sparrow, cedar bird, palm warbler, black and white warbler.

Pterodectes muticus, new species.

Similar to *Pt. rutilus*, but with rather shorter legs; a pair of shorter bristles on cephalothorax. In male the tip of body more deeply in-

cised than in *Pt. rutilus*, and the lobes more divergent, and the largest terminal bristle is longer. In the female the tip of abdomen is divided, but the lobes not divergent, and there is no apical spine, but only an ordinary bristle.

Length, 0.5 mm.

Guelph, Ontario, Canada, on vesper sparrow and phœbe.

Rivoltasia bispinosa, new species.

Female—Body about one and one-half times as long as broad, broadest at the shoulders, the abdomen short and broadly rounded at tip. Beak short, depressed; legs short and stout, tapering from base to tip, leg I about one-half the length of body, leg IV plainly longer than I, each with a few hairs, mostly toward tip, and a long one just before the tip; on each shoulder is a long bristle and at apex of abdomen are two bristles each side, the outer one two-thirds as long as body, and arising from a small tubercle, the inner one is very short. The male has the abdomen ending in two divaricate lobes, each tipped by a slender curved spine and with another shorter spine pointing inwards from its base; a long bristle arises from a bulb-like lobe at outside of the apical spine.

Length, 0.15 mm.

Guelph, Ontario, Canada, on pigeons.

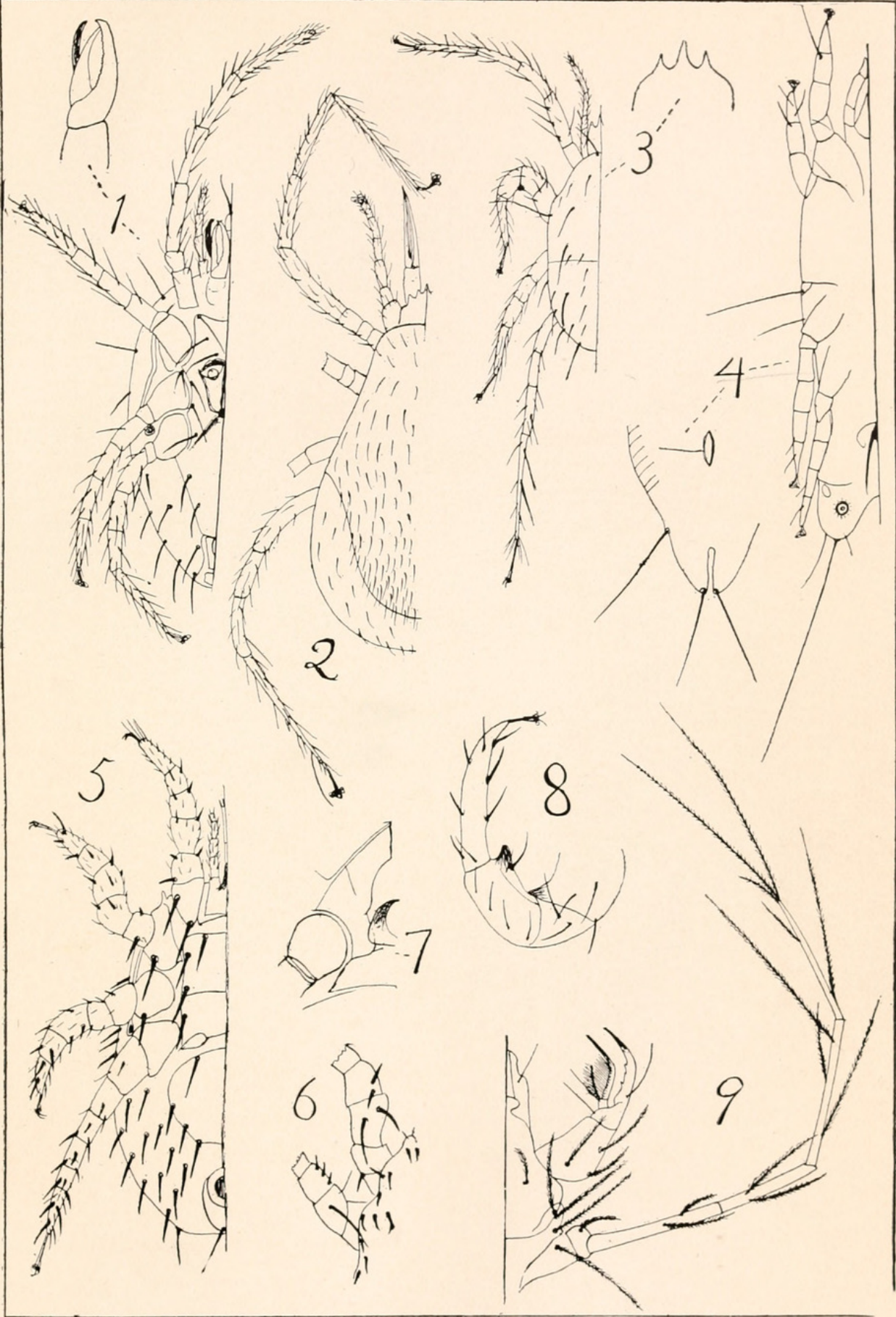
Family LISTROPHORIDÆ.

Listrophorus validus, new species.

Male—Pale yellowish hyaline, the lobes of the attaching apparatus brownish. Body a little more than one and a half times as long as broad, broadest just in front of the third legs; the anterior end is distinctly truncate, on each side of head beneath is a large curved thin plate, transversely-ribbed or striate, at the base is a ribbon-like strip, striated the opposite way. Anterior legs are slender, usually, at least, folded over body; the posterior legs heavier, all tarsi with a long subterminal bristle. Tip of abdomen narrow, slightly emarginate, with a bristle at each corner. Dorsum with an anterior shield, reaching back beyond coxæ II, back of this shield the abdomen is transversely striate for a short distance, and beyond smooth or much more finely striate; venter coarsely transversely striate. In the female the body is more slender, three times as long as broad, extending much beyond hind legs, and the anterior legs are more prominent, the femur I being quite long and slender.

Length, 0.4 mm.

Guelph, Ontario, Canada, April 26, 1906; taken from muskrat.



NEW ACARINA



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Proceedings of the Entomological Society of Washington 11, 133–143.

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