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HESPEROCHERNES CANADENSIS, A NEW CHERNETID PSEUDOSCORPION FROM CANADA¹

By C. CLAYTON HOFF²

Included in the collection of pseudoscorpions from the American Museum of Natural History, the writer found two individuals from Canada, representing a species described herein as new. The type specimens are deposited in the American Museum of Natural History. Description is based on individuals cleared in beechwood creosote and mounted in balsam, the body being treated with potassium hydroxide before clearing.

Hesperochernes canadensis, new species

Figures 1-7

MALE: Body moderately stout, brownish in color, length 2.3 mm. Carapace somewhat longer than wide, brown, granular; posterior margin finely serrate and very weakly convex; lateral margins posteriorly subparallel, convex anteriorly; anterior margin well rounded, appearing, however, medially subtruncate as a result of the persistent cheliceral membrane; two transverse furrows; the anterior furrow deeply impressed and located slightly posterior to the midpoint of the carapace; posterior furrow less impressed and closer to the posterior margin of the carapace than to the anterior furrow; setae subclavate, terminally multidenticulate; posterior disc with 18 setae, median disc with more than 20 setae, anterior disc with more than 30; a single pair of eyes located near the anterior margin of the carapace; length of carapace 0.82 mm., greatest width 0.69 mm.

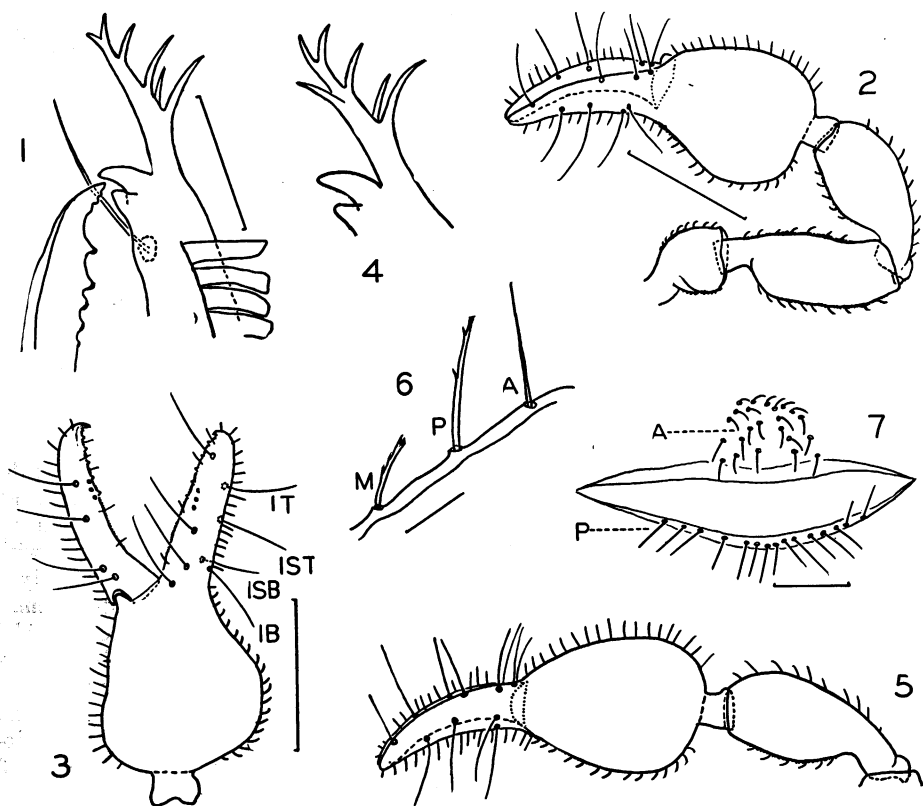
Abdomen subovate, length 1.5 mm., greatest width 1.2 mm. Tergites except the eleventh divided, granulate; setae subclavate, multidenticulate; a single row of

marginal setae in tergites 1 and 2, each posterior half tergite with a marginal row, a lateral seta, a medial seta, and one seta somewhat anterior to the marginal row near the center of the half tergite; total setae for tergites 1 through 10 as follows: 16-18:18-20:18-22:20:20:20:18-20:18-20:18:14-16 (variation results from an unequal number of setae in the two halves of the same tergite); each half tergite with five or six slightly curved, rod-like lyrifissures dispersed along the posterior margin and as many as 20 minute discoidal lyrifissures scattered over the face; eleventh tergite subtriangular with eight relatively long, multidenticulate setae and on each side a single acuminate, pseudotactile seta. Sternites 4 through 10 divided; sculpturing slightly weaker but color as in the tergites; setae simple and acuminate, confined chiefly to a somewhat irregular marginal row; total setae for sternites 4 to 10 as follows: 14:22:22:20-24:20-22:16:14; six to eight longer acuminate setae on the eleventh sternite, including a pair of long pseudotactile setae; some sternal scuta with as many as 18 or more microlyrifissures and three or four rod-like, sometimes slightly curved lyrifissures near the posterior margin. Pleural membranes strongly wrinkled, subpapillate, with but slight indication of longitudinal plications. Each anterior stigmatic plate with three setae; right posterior stigmatic plate with two setae, left apparently with only one.

Chelicera: Length 0.26 mm., width of base 0.145 mm., basal and subbasal setae shorter than the interior and laminal setae; subbasal seta with a few subterminal denticulations; flagellum with four blades, the distal one serrate along the anterior

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² Quincy College, Quincy, Illinois;



Hesperoernes canadensis, new species

Fig. 1. Apical portion of chelicera, male holotype. Serrula interior omitted. Scale equals 0.05 mm.

Fig. 2. Dorsal view of palp of male holotype. Scale equals 0.5 mm.

Fig. 3. External view of chela, male holotype. Scale equals 0.5 mm. IB, interior basal seta; ISB, interior subbasal seta; IT, interior terminal seta; IST, interior subterminal seta.

Fig. 4. Galea of female allotype. Scale as in figure 1.

Fig. 5. Dorsal view of chela and tibia of palp, female allotype. Scale as in figure 2.

Fig. 6. Portion of fourth pedal tarsus to show types of setae, female allotype. Scale equals 0.05 mm. M, multidenticulate seta; P, pseudotactile seta; A, acuminate seta.

Fig. 7. Chaetotaxy of the genital complex, female allotype. Scale equals 0.1 mm. A, anterior operculum; P, posterior operculum.

edge. Fixed finger with lamina exterior; inner surface of apical tooth bearing three small denticles; inner margin of finger with two well-developed teeth followed proximally by three or four smaller teeth; serrula interior with the four distal plates free and serrate, posterior plates fused to form a velum. Movable finger 0.22 mm. long, serrula exterior composed of 18 ligulate plates; subapical lobe moderately developed; galeal seta not reaching nearly to the tip of the galea; base of galea stout, six well-developed but simple lateral and terminal branches.

Palp: Moderately stout to stout; reddish brown except for the lighter maxilla; coarsely granulate; setae chiefly multidenticulate. Maxilla 0.43 mm. long, 0.29 mm. wide; surface moderately to coarsely granular; numerous scattered acuminate setae. Trochanter coarsely granulate, numerous multidenticulate setae on the interior surface; two weak protuberances; length 0.37 mm., width 0.255 mm. Femur with sculpturing as in the trochanter; setae multidenticulate; pedicle about as long as wide; outer surface greatly swollen, margin weakly convex; inner margin with

a concavity in the distal fourth; length 0.685 mm., width 0.255 mm., length 2.7 times the width. Tibia pediculate; outer margin forming an unbroken arc; inner margin medially bulging; sculpturing and chaetotaxy as in the femur except that the setae of the extensor surface are more slender and relatively longer; length 0.64 mm., width 0.29 mm., length 2.2 times the width. Chela stout; weakly granular on inner surface of hand; setae of inner and dorsal surfaces of hand multidenticulate, those of the outer and ventral surfaces longer and paucidenticulate; length of chela 1.17 mm., width 0.505 mm., length 2.3 times the width; length of hand including pedicle 0.67 mm.; depth of chela 0.55 mm.; chela swollen dorsally; fixed finger stout and straight in lateral view, with vestigial venedens and duct; movable finger subequal to the hand without the pedicle, length 0.61 mm., gently curved, functional venedens present. Fixed finger with about 42 marginal teeth, contiguous along almost the entire finger length; three median accessory teeth, separated from one another by little more than the width of the base of the teeth, placed slightly distal to the midpoint of the finger; five lateral accessory teeth (possibly a sixth broken off) dispersed more or less regularly along a little less than the distal one-half of the finger margin. Movable finger with marginal teeth nearly equal in size, number, and position to those of the opposing finger; median accessory teeth three in number and placed as in the fixed finger; lateral accessory teeth six in number and confined to the distal half of the finger. Movable finger with four tactile setae: *t* about one-third (variable) of finger length from tip; *b* and *sb* paired, located in basal one-fourth of finger and separated by less than three areole diameters; *st* near midpoint of finger and closer to *t* than to *sb*. Fixed finger with eight tactile setae: external series with *et* about one-sixth of finger length from tip, *est* proximal to the midpoint of the finger and approximately twice as far from *et* as from *esb*, *esb* about twice as far from *est* as from *eb*; internal series with *it* twice as far from finger tip as *et* is from finger tip, *ist* somewhat more than

one-half as far from *it* as the latter is from the finger tip, *ist* somewhat proximal to the midpoint of the finger, *isb* and *ib* paired and slightly distal to the level of the corresponding pair of the external series.

Legs: Moderately stout, yellowish brown, setae varying from multidenticulate to simple acuminate; sculpturing from finely granular on the extensor surface of the trochanter to smooth on the tarsus; heterofemorate; metatarsus wanting; terminal claws entire; subterminal setae simple. Trochanter of first leg 0.15 mm. long, length 1.1 times the depth, several long acuminate setae on flexor surface; pars basalis with numerous slender but variable setae on the convex flexor margin, extensor margin length 0.145 mm., depth 0.15 mm.; pars tibialis with both flexor and extensor margins gently convex, setae multidenticulate, length of extensor margin 0.32 mm., depth 0.13 mm.; tibia weakly S-shaped, flexor margin with acuminate setae, extensor margin with multidenticulate setae, length 0.35 mm., depth 0.1 mm.; tarsus subcylindrical, setae as in the tibia, length 0.35 mm., depth 0.075 mm., length 4.7 times the depth. Fourth leg with chaetotaxy and sculpturing much as in the first leg; trochanter 0.275 mm. long, length 1.85 times the depth; pars basalis 0.23 mm. long, 0.165 mm. deep; pars tibialis 0.45 mm. long, 0.18 mm. deep; entire femur with a convex extensor margin centrally flattened, flexor margin straight, suture between pars basalis and pars tibialis forming an oblique angle with the longitudinal axis of the podomere, length 0.61 mm., depth 0.18 mm., length 3.4 times the depth; tibia weakly S-shaped, length 0.515 mm., depth 0.115 mm., length 4.5 times the depth; tarsus subcylindrical, setae acuminate except along the basal two-thirds of the extensor margin, several long acuminate setae including a pseudotactile seta on extensor margin near the distal end, true tactile seta wanting, length 0.4 mm., depth 0.09 mm., length 4.4 times the depth.

Genital complex: Both posterior and anterior opercula each with about 25 acuminate setae.

FEMALE: In general as in the male;

length 3.1 mm. Posterior disc of carapace with 24, median disc with at least 36, and anterior disc with more than 45 setae; carapace length 0.96 mm., width 0.8 mm. Abdomen with length 2.2 mm., width about 1.5 mm. (abdomen somewhat distorted in preparation); total number of setae in tergites 1 through 10 as follows: 18:18-22:22:24:22:22-24:22-24:20-24:18-20:16-18; total number of setae for each sternite from 4 to 11 as follows: 6-8:12-16:26-28:28:22-24:22-24:18-20:10. Each anterior stigmatic plate with three setae, each posterior plate with one.

Chelicera: Length 0.305 mm., width 0.165 mm., length of movable finger 0.24 mm., serrula exterior with 18 or 19 ligulate plates, otherwise much as in the male.

Palps: Similar to the palp of the male; podomeres except chela with almost the same length:width ratios but slightly larger; maxilla 0.48 mm. long, 0.32 mm. wide; trochanter 0.4 mm. long, 0.29 mm. wide; femur length 0.8 mm., width 0.29 mm.; tibia 0.74 mm. long, 0.32 mm. wide; chela length 1.29 mm., width 0.515 mm., length 2.5 times the width; depth of hand equal to width; length of hand with pedicle 0.79 mm.; movable finger 0.64 mm. long, subequal to hand without the base. Marginal teeth of fixed and movable finger much as in the male. Fixed finger with seven lateral accessory teeth evenly spaced along about the distal half of the finger; medial teeth three in number, with one subterminal in position and the other two removed almost one-fourth of the finger length from the first. Movable finger with nine lateral accessory teeth irregularly placed along somewhat more than the distal one-half of the inner margin of the finger; two medial accessory teeth (possibly a third broken) well separated and placed about one-third of the finger length

from the tip. Tactile setae much as in the male except for individual variation.

Legs: Much like those of the male, most podomeres larger but except for tarsi with about the same length:width ratio. First leg with extensor margin of pars basalis of femur with length 0.16 mm., depth 0.175 mm.; pars tibialis 0.35 mm. long, 0.15 mm. deep; tibia 0.385 mm. long, 0.105 mm. deep; tarsus 0.39 mm. long, 0.075 mm. deep, length 5.2 times the depth. Fourth leg with trochanter 0.32 mm. long, 0.19 mm. deep; pars basalis 0.29 mm. long, 0.19 mm. deep; pars tibialis 0.53 mm. long, 0.2 mm. deep; entire femur 0.73 mm. long, 0.2 mm. deep, length 3.65 times the depth; tibia 0.59 mm. long, 0.13 mm. deep; tarsus 0.48 mm. long, 0.09 mm. deep, length 5.3 times the depth, pseudotactile seta with a few subterminal and terminal denticulations.

Genital complex: Anterior operculum with 23 scattered acuminate setae; posterior operculum with 15 acuminate setae arranged in a single row.

TYPE LOCALITY: The male holotype and the female allotype are from a collection bearing the label: "Medicine Hat, Alta.; June, 1930; Carr."

Of all the species assigned by various writers to the genus *Hesperochnes*, *H. montanus* Chamberlin, 1935, described from a bird's nest in Montana seems most closely related to *H. canadensis*. The relationship is shown by the non-denticulate condition of the basal seta of the chelicera, the chaetotaxy of body and palps, the presence of microlyrifissures on the sternites, as well as other characteristics. The two forms differ in many characters including the number of marginal and accessory teeth on the palpal fingers, the branching of the galea, and the length:width ratio of the chela and the fourth pedal tibia.