

DESCRIPTION OF TWO NEW SPECIES OF CRAYFISH.

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In working over the large collection of the Astacidae in the possession of the U. S. National Museum the following new species have come to my notice:

CAMBARUS PILOSUS.

Type locality.—Beloit, Mitchell County, Kansas.

Type.—No. 19761, U.S.N.M.

Male, form I, not known.

Male, form II, rostrum of medium width, long, deeply excavated, with sharp, raised, slightly converging margins; lateral teeth well developed, acute; acumen long, slender, acute, nearly straight. Post-orbital ridges grooved on their outer face; anterior spines small, acute.

Carapace smooth and lightly punctate above, very finely granulate on the sides; anterior border not angulated and with a well-developed fringe of cilia extending along the lower side of the rostrum and around beyond the minute branchiostegian spine; cervical groove deep, sinuate, broken on the sides above the small lateral spine; areola narrow. Abdomen longer than the cephalothorax, telson rounded behind,

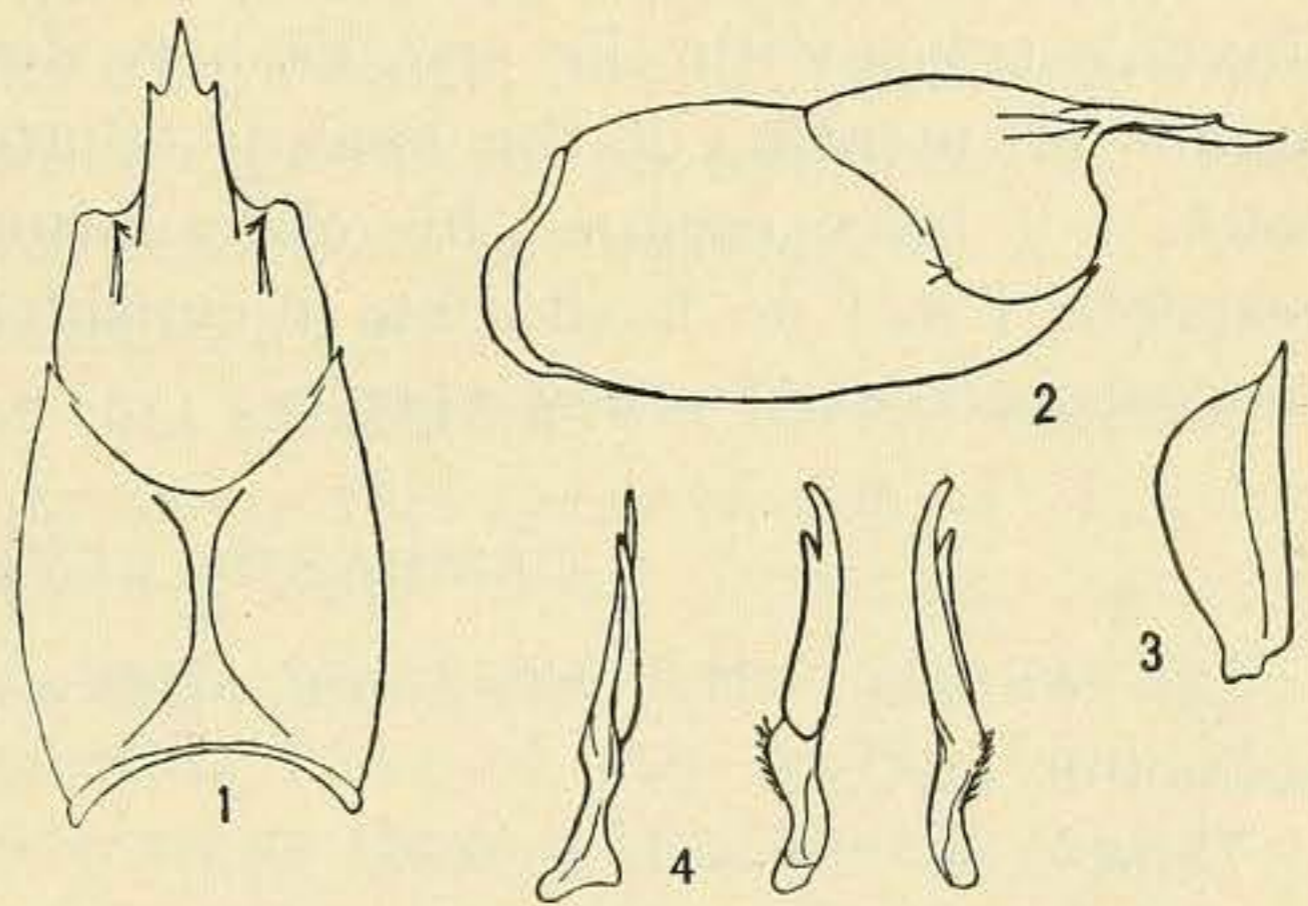


FIG. 1.—Nos. 1, 2, CARAPACE; No. 3, ANTENNAL SCALE; No. 4, FIRST ABDOMINAL APPENDAGES OF MALE, FORM II.

anterior segment with two spines on each side of the posterior border. Second and third basal segments of the antennae with well-developed, acute, external spines. Antennal scale a little longer than the rostrum, outer margin slightly concave, apical spine acute and rather long; tip concave, inner margin rounded. Epistoma subtriangular, the margins convex. Third maxillipeds hairy on their inner and outer faces. Chelipeds short; chelae of moderate width, punctate above, nearly smooth

and sparsely ciliate below; upper surface near the inner margin and both fingers thickly ciliate; inner border of hand short, serrate, the serrations hidden by the cilia; outer margin of hand ribbed; movable finger serrate and ciliate on outer margin; both fingers ribbed on upper surface and bearded at base on inner margins, the beard being most dense on the outer finger. Carpus triangular, lightly grooved above, ciliate along the distal margin; a small spine at the superior internal angle and behind it a few very minute denticles, inner surface heavily bearded along the distal margin; median spine large and curved strongly forward; distal border beneath ciliate, and with three well-developed, acute spines. Distal margin of meros bearded above and within, two small spines above at the distal end; beneath, of the usual two rows of spines, the outer row is represented by two or three strong spines, the inner by a row of small teeth; between the rows there is, in some specimens, a ciliated patch. Third pair of legs hooked. First pair of abdominal appendages of medium length, reaching forward to the middle of the basal segments of the second pair of legs, very slender and bifid for only a short distance from the tip; inner branch considerably shorter than the outer, the tip acute and turned slightly backward and outward across the outer branch, the tip of which is compressed and recurved.

Female.—Not known.

Seven specimens, the largest nearly 2 inches in length.

In some respects this species resembles quite closely *Cambarus nais* Faxon, from the same region. I have not been able to compare Dr. Faxon's types with the species here described, but as his description makes no mention of the heavily ciliate chelipeds, a character which could not have escaped his observation, and fails to agree in other respects, I feel no hesitation in considering the specimens from Beloit representatives of a new species.

CAMBARUS CLYPEATUS.

Type locality.—Bay St. Louis, Mississippi; U. S. Biological Survey, collector, 1892.

Type.—No. 22778, U.S.N.M.

Male, form I, not known.

Male, form II, not known.

Female.—Rostrum long, very broad, flat, hardly at all excavated, sides slightly raised, sharp, diverging slightly from the base to about the middle, then converging to near the tip where they abruptly turn in to the middle line; the tip of the rostrum is round, and the usual lateral teeth are not represented, even by angles. Postorbital ridges short, grooved on outer face, anterior spines wanting. Carapace smooth and polished above, lightly punctate on the sides, anterior margin hardly angulated; cervical groove sinuate, broken on the sides; lateral spine wanting; branchiostegian spine minute; areola wide.

Abdomen longer than the cephalothorax; pleuræ punctate; telson rounded behind, anterior segment with four or more spines on each side of the posterior border. Antennæ shorter than the cephalothorax; antennal scale shorter than the rostrum, broadest near the middle, tip convex, inner margin rounded. Epistoma broader than long, sides convex, anterior angle denticulate. Third maxillipeds hairy on their inner faces. Chelipeds

moderately strong; chelæ inflated, punctate above and below; inner margin of hand longer than the fingers; outer finger short, nearly straight, inner finger rather strongly incurved at tip; both fingers strongly ribbed above and provided on their cutting edges with two or three large teeth and numerous serrations. Thoracic ster-

num hairy. Annulus ventralis prominent, subcircular, the wall bituberculate and thin in front, broad and low behind. The fissure is very sharply bent to one side just within the anterior wall and is lost, but an accessory branch, separated by a thin wall from the first, bends back to the middle of the annulus and emerges at the posterior angle. The appendages of the first abdominal somite are not developed.

A single specimen about 2 inches in length.

As no specimen of the male of this species has yet been collected, it is impossible to say with certainty where this species belongs. In general appearance it is very unlike any other North American species yet discovered. In the rounded, toothless rostrum and the peculiarly shaped chelæ it resembles somewhat some of the South American Parastacinae, but the resemblance stops there. The closest relatives will probably be found to be some of the species of the second group of Faxon, and of these *Cambarus cubensis* approaches it most closely in appearance.

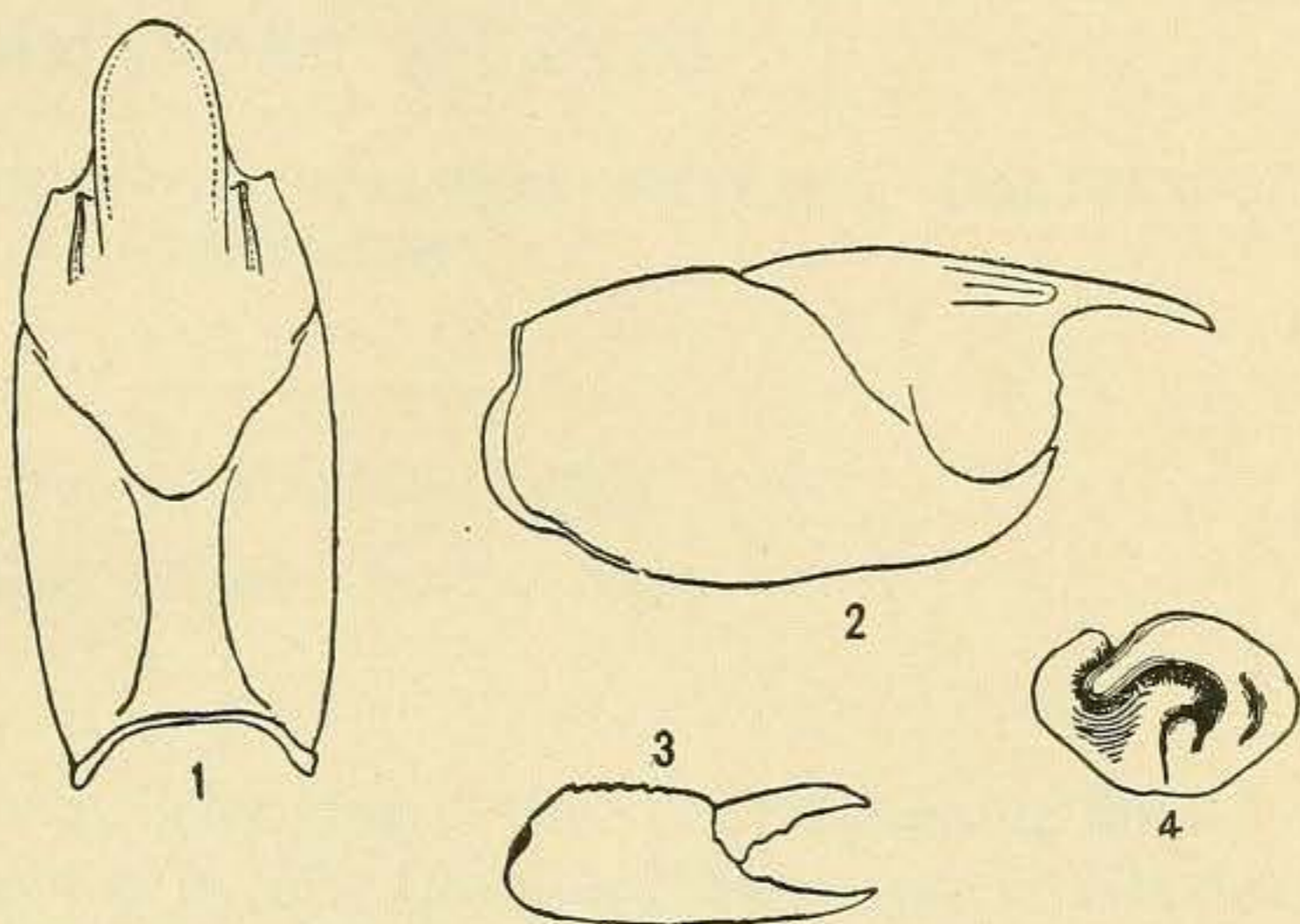


FIG. 2.—Nos. 1, 2, CARAPACE; NO. 3, CHELA; NO. 4, ANNULUS VENTRALIS.

