

Description of a New Species of Brackish-water

Gammarus (*G. chevreuxi*, n. sp.).

By

E. W. Sexton.

With Five Figures in the Text.

THE *Gammarus* here described is found in Chelson Meadow, a large tract of reclaimed land lying near the mouth of the Plym, and protected from the tidal water by an embankment. The land is drained by ditches, which empty into the Plym at low water by means of sluice-gates. The sea-water enters in volume only at the highest tides over the top of the sluice-gates, but there is a constant slight infiltration of salt water through the embankment.

I have named the species in honour of M. Edouard Chevreux, who has always assisted me most generously with his knowledge of the group as well as with specimens from his collection.

Gammarus chevreuxi resembles *G. locusta* more nearly than any of the other species of the genus, but there are certain constant characters, e.g. in the antennae, the fourth sideplates, the third uropods, etc., which seem to me of sufficient specific value to justify its establishment as a separate species.

DESCRIPTION.

Gammarus chevreuxi is a small species, the largest male measuring 13 mm. in length, and the largest female 9 mm.

The animals are delicate in appearance, and so transparent that their internal organs show plainly through the cuticle.

The *cuticle* in both sexes has a remarkable sensory armature, that of the pleon in particular. All the pleon-segments are covered with microscopic spinules, longest and densest dorsally. Segments 1 to 4 are the most spinose; the spinules of segments 5 and 6 are shorter and finer. The cuticle of the peraeon is not produced in spinules, but has a surface like a fine file, the head and anterior segments being the smoothest. All over the body are scattered microscopic sensory cleft-tipped hairs, each hair set in a little pocket in the skin, some single, some in rows of four to six. Each peraeon-segment carries one of these rows in the median line; pleon-segments 4 to 6 each have at least three of these rows in line with the usual spine-clusters characteristic of the genus; and the telson has two rows, one on each side.

Sideplates rather small; the fourth (Fig. 1) forms one of the distinguishing specific characters. The posterior expansion is produced downwards, but not nearly as much as in *G. locusta*; it rounds into the inferior margin, and has two setae inset.

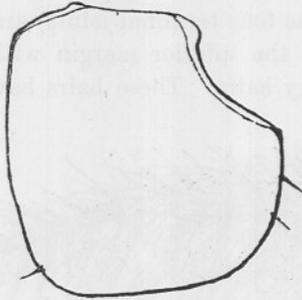


FIG. 1.—Sideplate 4. ♂ *Gammarus chevreuxi*, n. sp. ×27.

Pleon. Hind margin of segments 2 and 3 straight, with a few setules inset, postero-lateral corners produced to a short acute angle. Segments 4 to 6 rounded dorsally, 5 and 6 very short; the dorsal spine-clusters of these segments have each two divergent spines; the lateral clusters usually with two or three spines and a few hairs in each cluster.

Head. Lateral lobes not much produced, truncate, upper angle obtuse, rounded below; sinus rather deep; post-antennal angle produced, subacute.

Eyes reniform; pigment usually black coated with white, but occasionally a few individuals are found in a brood with red pigment instead of black.

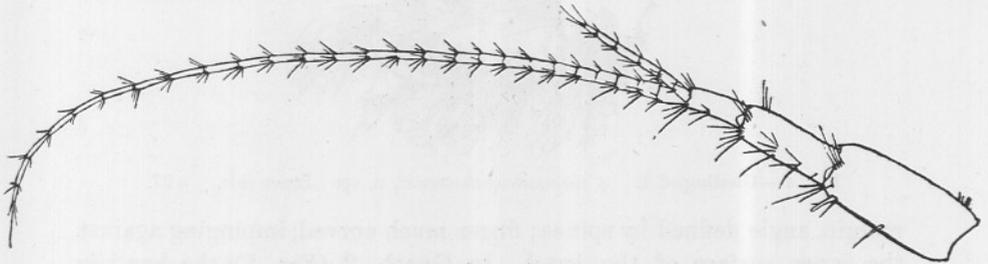


FIG. 2.—Antenna 1. ♂ *Gammarus chevreuxi*, n. sp. Inner side. ×27.

Antenna 1 (Fig. 2). The first joint of the peduncle is about equal in length to the second and third taken together. The number of joints in the flagella varies with age and sex; one of the largest males had thirty-five in the primary flagellum and seven in the accessory.

A large female had twenty in the one and four in the other, the flagella being shorter and more setose than in the male.

Antenna 2 (Fig. 3) of the male forms one of the distinguishing characters of this species, easily separating it from the other species of *Gammarus*. The fourth and fifth joints of the peduncle and the flagellum (excepting the four terminal joints) are clothed on the inner surface as well as on the inferior margin with dense tufts of long exceedingly fine sensory hairs. These hairs have very delicate coiled

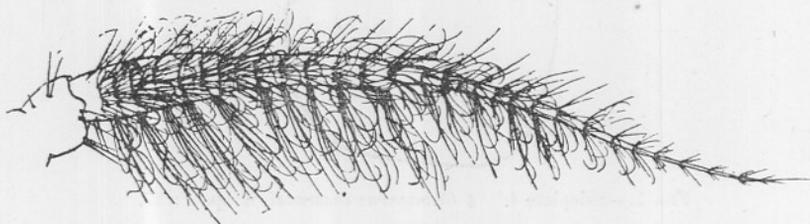


FIG. 3.—Antenna 2. ♂ *Gammarus chevreuxi*, n. sp. Inner side. $\times 27$.

tips and are found only in the male, on the second antennae, the gnathopods, the first pereopods, the third uropods, and the telson. The flagellum in the male is sixteen-jointed. The female has only a few clusters of long outstanding straight setae on the fourth and fifth joints of the peduncle, and short setae on the flagellum.

Gnathopods 1 and 2 rather small, not much difference in their size. In the male, Gnath. 1 (Fig. 4) has the sixth joint pyriform, palm oblique, indented, with one stout truncate spine midway on the palmar

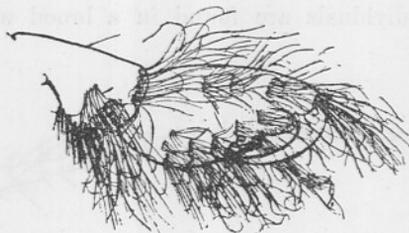


FIG. 4.—Gnathopod 1. ♂ *Gammarus chevreuxi*, n. sp. Inner side. $\times 27$.

margin, angle defined by spines; finger much curved, impinging against the inner surface of the hand. In Gnath. 2 (Fig. 5) the hand is broader, palm slightly oblique. In both gnathopods the hand, especially on the inner side, is provided with numbers of the coiled sensory hairs, the fifth joint also carrying a few.

In the female the fifth and sixth joints of Gnath. 1 are practically subequal in length, but the fifth is much wider distally than the sixth;

palm slightly oblique, palmar margin crenulate and beset with small sensory spines, palmar angle with one long and two short spines on the outer side, and one long and one short on the inner. In Gnath. 2 the fifth and sixth joints are equal in length and of equal width throughout, both provided posteriorly with clusters of straight setae, palm transverse, with the margin rounded, and spines as in Gnath. 1.

Peraeopod 1 in the male has the posterior margins of the fourth, fifth, and sixth joints beset with clusters of the sensory coiled hairs.

Peraeopod 3 elongate, the hind expansion of the basal joint lightly crenulate, hind lobe free. *Peraeopods 4* and *5* not much longer than pp. 3; the basal joint expanded above, gradually narrowing to the distal angle, where one or two strong spines are inset. In the female these joints, especially that of the fifth, differ in shape from those of the male; they are expanded above, but about two-thirds down they suddenly narrow; several long plumose hairs are inset on the inner

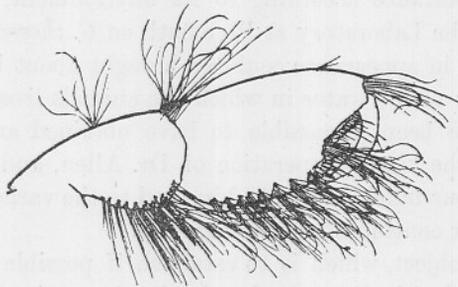


FIG. 5.—Gnathopod 2. ♂ *Gammarus chevreuxi*, n. sp. Outer side. $\times 27$.

side. All the hinder peraeopods are furnished with spines, most numerous on the fifth.

The *incubatory lamellae* occur on segments 2 to 5.

The *branchial vesicles* are on segments 2 to 7; they are borne on stalks, are ovate in form, and densely fringed with tangled hairs round the tip and along the posterior margin, especially in the male.

Uropods. The first pair extend beyond the second. In the third the inner ramus is not much more than a half the length of the outer, both thickly beset in the male with tufts of the characteristic sensory hairs, intermixed with long straight setae. This pair of uropods is shorter in the female, and is furnished with long spines and straight and feathered setae.

The *telson* has an apical group of three spines; of the two lateral groups the upper one carries two spines and one or two setae, and the other one spine and one or two setae.