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## A KEY TO THE SPECIES OF THE LOCUSTA - GROUP OF THE AMPHIPOD GENUS GAMMARUS, WITH NOTES ON THEIR NOMENCLATURE

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### ABSTRACT

A key to the seven species of the *Gammarus locusta*-group is given. Four of these have got a new name: *G. inaequicauda* (= *G. campylops* Sars non Leach), *G. insensibilis* (= *G. locusta* Della Valle non Linnaeus), *G. crnicornis* (= *G. plumicornis* Pirlot non Costa) and *G. subtypicus* (= "*Gammarus locusta* forme subtypique", of Rancurel).

The name "*Gammarus locusta* (Linnaeus, 1758)" is merely a collective noun for at least seven distinct species. An amply illustrated revision of these sibling species is in press now, but its publication will take some time. Since some of the taxa distinguished in this forthcoming publication are commonly used in ecological work, there was a certain necessity for having their names available. The present paper will serve to this purpose.

The *locusta* - group is chiefly characterized by its mandible palp and by the nature of the armature of the propodal palm of the second leg in male. The third segment of the mandible palp is ventrally armed with a row of comb-like spinules, which diminish regularly in size in proximal direction; the first segment of the palp is unarmed. The median palmar spine of the second leg of the adult male has a swollen basal portion, a narrow neck, and a truncate tip, so it assumes more or less the shape of a flask. Several other characters occur regularly in the

locusta - group, but the distribution of these characters over the various species will be discussed in detail in the final paper.

The following species, belonging to the locusta - group, have been found in European waters:

- (1) *Gammarus locusta* (Linnaeus, 1758), s.str. (for recognition of this species, see Sexton, 1942, pl. III figs. 19-24; Spooner, 1947, figs. 1, 2A, 2B, 3; Kinne, 1954, fig. 1 (top), 2 (6), 4 (top), 5 A-D, 6).

Temperate eastern Atlantic, usually purely marine (except in the Baltic).

- (2) *Gammarus inaequicauda* nom. nov. (pro *Gammarus campylops*, Sars, 1894: 500-502, pl. 176 fig. 2, non Leach, 1814).

As Sexton & Spooner, 1940, demonstrated, Leach's *G. campylops* or *G. campylops* is presumably a *Marinogammarus*. The species indicated by Sars with the name *campylops* is a true *Gammarus*. Reid, 1943, 1945, supposed that his *G. sarsi* or *G. ochlos* was identical with Sars's species, but as was shown by Segerstrale (1947: 231), *Gammarus ochlos* Reid, 1945 and *G. sarsi* Reid, 1943, were identical with *G. zaddachi* Sexton, 1912. As revision of the original material showed, Sars's *campylops* is not identical with *G. zaddachi* (= *G. sarsi*, = *G. ochlos*), nor with *G. campylops* Leach; it has, therefore, to receive a new name. European coast, brackish waters (Norway, England ?).

- (3) *Gammarus insensibilis* nom. nov. (pro *Gammarus locusta*, Della Valle, 1893, pl. 2 fig. 1, pl. 24 figs. 20-34, pl. 45 figs. 1-11, non Linnaeus, 1758). The Mediterranean marine "*G. locusta*" is not identical with the Atlantic *G. locusta*, and has to receive a new name. For the distinction from *G. locusta* (L.) s.str., see the appended key. Entire Mediterranean.

- (4) *Gammarus plumicornis* Costa, 1853. Description and illustrations: see Costa, 1856: 215-216, pl. IV figs. 1 a-c. As the name indicates already, this species is chiefly characterized by the presence of numerous plumose setae on the antennae and other appendages. Brackish waters around the western Mediterranean (Italy, France).

- (5) *Gammarus crnicornis* nom. nov. (pro *G. plumicornis*, Pirlot, 1939: 53-61, figs. 4-7, non Costa, 1853). Pirlot thought he had to do with Costa's *plumicornis*, but in fact his species is entirely different from that taxon and has to receive a new name. Marine; Atlantic coasts of Europe (The Netherlands, France, Great Britain), and of North Africa (south to the Spanish Sahara), Mediterranean and Black Seas.

- (6) *Gammarus subtypicus* nom. nov. (pro "*Gammarus locusta* forme marine subtypique", Rancurel, 1949: 3-6, 8-9, plate figs. F 9, F 10). Rancurel clearly diagnosed this characteristic species, but gave it no Latin binomen. Brun's *Gammarus massiliensis* (1963: 2934) might be this taxon, but Brun's name does not fulfil article 15 of the "International Code of Zoological Nomenclature" and, therefore, is not available. Shallow lagoons and bays with vegetation (eelgrass) of the Mediterranean and Black Seas.
- (7) *Gammarus aequicauda* (Martynov, 1931), is the common circummediterranean brackish water species. It was well characterized in the original publication (Martynov, 1931: 593-602, figs. 29-39) and in several later works. Synonyms: *G. eduardi* Vecchi, 1931; *G. locusta* auct. non Linnaeus; *G. locusta aequicauda* (cf. Schellenberg, 1940: 40-42; Margalef, 1951: 255-263, fig. 1); *G. locusta* forme saumatre, Rancurel, 1949: 4-8, figs.; *G. locusta* forme camarguaise, Guigues, 1961: 153-163, figs.; etc.. *Gammarus intermedius* Brun, 1963, and *G. camarguensis* Brun, 1963 are nomina nuda, but might be this species.

*Gammarus locusta* - group; key to the species (adult ♂ only).

- 1a) Basal segments of P5, P6, and P7 short and wide (in P7 usually 1 1/4 to 1 1/3 times as long as wide).  
 Flagellum of A2 short, segments of flagellum short. Third segment of pedunculus of A1 short. Telson with (1 to) 3 subbasal spines. Epimeres 2 and 3 with subacute hind-corners. .... 2
- b) Basal segments of P5, P6, and P7 longer and narrower (in P7 more than 1 1/2 times as long as wide). .... 3
- 2a) Posterior margin of basal segment of basal segment of P7 finely crenulate, with many spinules. P7 densely setose. Fourth and fifth peduncle segments of A2 normally armed with setae: those on the upper margin of the 5th segment being shorter than those on the lower margin. Eye very large. Urosome with strong, compressed, dorsal elevations.  
*G. subtypicus* nom. nov.
- b) Posterior margin of basal segment of P7 coarsely crenulate, with few spinules. P7 spinose (in Atlantic specimens) or slightly setose (in Mediterranean specimens). Fourth and fifth peduncle segments of A2 very richly armed with setae; those on the upper margin of segment 5 being as long as those on the lower margin. Eye of moderate size. Urosome with low dorsal elevations, not compressed.  
*G. crinicornis* nom. nov.
- 3a) Telson with long terminal setae (2 to 3 times as long as the spines). Fourth sideplate much longer than wide, inferior margin curved.  
 Accessory flagellum of A1 short, usually less than 9-segmented. .... 4

- b) Telson with short terminal setae (not overreaching the spines). Fourth sideplate about as long as wide, inferior margin straight or nearly so. .... 5
- 4a) Plumose setae on A1, A2, P1 to P7, on urosome and telson. Eyes large, lateral lobes of head obtusely rounded.  
*G. plumicornis* Costa
- b) Only simple setae on the appendages, urosome and telson (exception: on the 3rd uropod. Eyes small, lateral lobes of head usually angular.  
*G. aequicauda* (Martynov)
- 5a) Dorsal elevations of urosome not compressed. Accessory flagellum of A1 less than nine-segmented. Inner ramus of third uropod much shorter than first segment of outer ramus; lateral margin of outer ramus virtually without plumose setae. Carpus of leg 3 with straight setae.  
*G. inaequicauda* nom. nov.
- b) Dorsal elevations of urosome strongly compressed. Accessory flagellum of A1 long, usually more than 9-segmented. Inner ramus of third uropod nearly as long as first segment of outer ramus; lateral margin of outer ramus with plumose setae. Carpus of leg 3 with curved or curled setae. .... 6
- 6a) Flagellum of A2 without calceoli. Posterior margin of 3rd epimere with 1 setule. Hand of second leg dilated towards the palm. Telson with 1 subbasal spine.  
*G. insensibilis* nom. nov.
- b) Flagellum of A2 with calceoli. Posterior margin of 3rd epimere with several setules. Hand of second leg not dilated towards the palm. Telson with (1 or) 2-3 subbasal spines.  
*G. locusta* (L.)

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