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*inaequicauda* Stock (Amphipoda, Gammaridae) in the Baltic Sea

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## A note on the occurrence of *Gammarus locusta* (L.) and *inaequicauda* Stock (Amphipoda, Gammaridae) in the Baltic Sea

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SEGERSTRÅLE, S.G. 1971: A note on the occurrence of *Gammarus locusta* (L.) and *G. inaequicauda* Stock (Amphipoda, Gammaridae) in the Baltic Sea. - Ann. Zool. Fennici 8: 324 - 325.

A recent note on the occurrence of *Gammarus inaequicauda* in brackish water off the coast of Poland induced the author to re-examine a collection of the closely related *G. locusta* from southwestern Finland. It is concluded that there is so far no evidence of the occurrence of *G. inaequicauda* in Finnish waters, although parts of them are within the salinity range of this species.

Up to 1970, five species of the amphipod genus *Gammarus* were known from the Baltic Sea, viz.: *G. locusta* (L.), *G. oceanicus* Segerstråle, *G. salinus* Spooner, *G. zaddachi* Sexton (sensu Spooner), and *G. duebeni* Lilljeborg. Recently, JAŻDŹEWSKI (1970) added to this list the species *G. inaequicauda* Stock (Stock 1966, cf. also Stock & Kant 1966). This new species belongs to the «*locusta* group», which, according to Stock (1966), comprises 7 species, four of which were renamed by him. Of the species concerned, only three are known outside the Mediterranean - Black Sea region: *G. locusta* from the temperate Atlantic Ocean off Western Europe and the Baltic, *G. crinicornis* from coastal waters off Holland, France, and Great Britain, and *G. inaequicauda*, known with certainty only from one locality, viz. Moss in the Oslo Fjord, Norway.

The *Gammarus* material in which JAŻDŹEWSKI (1970) found *G. inaequicauda* (determination confirmed by Stock) was collected in the Bay of Puck, which occupies the westernmost part of the Gulf of Gdańsk, inside the Hel Peninsula. According to his observations, *G. inaequicauda* occurs in the whole area of the Bay of Puck but prefers the Fuceto-Furcellarietum community and, deeper down (4 - 6 m), localities with *Zostera marina* and *Potamogeton pectinatus*. In general, in the area investigated, *G. inaequicauda* is equal in frequency and abundance to *G. salinus*,

being outnumbered only by *G. zaddachi*, but distinctly surpassing *G. locusta*, *G. oceanicus*, and *G. duebeni* in these respects. The species proved to tolerate salinities somewhat below the average for the Bay of Puck, c. 7 ‰, also occurring in parts of the Bay under freshwater influence, where salinities as low as ca. 5 - 6 ‰ are met with. East of the border of the study area, i.e. east of the Ryf Mew shoal, which separates it from the rest of the Gulf of Gdańsk, *G. inaequicauda* is gradually outnumbered by other *Gammarus* species (in 8 samples, containing 450 gammarids, only 10 specimens of *G. inaequicauda* were found, against 60 specimens of *G. locusta*, 90 of *G. oceanicus*, 121 of *G. zaddachi*, and 169 of *G. salinus*).

The above observations made in Polish waters prompted re-examination of the Finnish material of *Gammarus*, identified by me as *G. locusta* (SEGERSTRÅLE 1947, 1950, 1955).

According to the description of *G. inaequicauda*, the main difference between this species and *G. locusta* refers to the relative length of the inner ramus of the third uropod, which in the former is much shorter than the first segment of the outer ramus (Fig. 2f in Stock & Kant 1966) but in *G. locusta* nearly as long as the segment in question. Recent inspection of the material identified by me as *G. locusta* and stored in the *Gammarus* collection of the Zoological Museum of Helsinki University has shown that the uropods are throughout of the *locusta* type (in one case the inner ramus of the third uropod

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even extended beyond the tip of the first segment of the outer ramus). In the following additional respects agreement with Stock's *G. locusta* was found (males): presence of curved or curled setae on the carpus of pereopod 3 and of calceoli on the flagellum of the second antenna (length of the specimens, measured from base of telson to tip of rostrum, 10.5 – 13 mm). On the other hand, when Stock says that in *G. locusta* the accessory flagellum of the first antenna is usually more than 9-segmented, this does not apply to the Finnish specimens examined, which exhibit 8 – 9 segments only; furthermore, the

lateral margin of the outer ramus of uropod 3 is not, as given for *locusta*, furnished with plumose setae or, if such setae are present, they are few in number.

Summing up, so far there is no evidence that *G. inaequicauda* occurs in Finnish waters. The re-examined material originated from the region adjacent to the Zoological Station at Tvärminne and was collected in the *Fucus* belt. In Finland, *G. locusta* is confined to the southwestern coastal area, with a comparatively high salinity (the species seems to require at least ca. 6 ‰).

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