

Zaddach supposes his species to be the first fossil Amphipod discovered, since, he says, the genus *Gamponyx* Jord. from the carboniferous period, which Bronn mentions in his *Lethæa geognostica*, 1856, is remote from the present Amphipods, and represents a special order of Crustaceans intermediate between Amphipods, Stomatopods and Decapods, or rather antecedent to them all and belonging to a time when their several characters were not yet separated. He is apparently unaware of the Permian fossil, called *Palæocrangon problematicus* by Schauroth in 1854, and *Prosoptoniscus problematicus* by Kirkby in 1857.

After a careful and detailed description of the fossil, Zaddach establishes for its reception a new genus, *Palæogammarus*, which he thus defines:—"Caput altius quam longius. Antennæ et superiores et inferiores validæ, scapis triarticulatis, longitudine subæqualibus, illæ flagello appendiculari ornatae. Epimera longa, duo anteriora angustissima, primo cingulo dorsali subjecta, quartum maximum, apice duplo latius quam basi. Postabdominis segmenta anteriora propriis laminis lateralibus instructa. Pedes quarti paris infirmi, ad ambulandum apti, quinti et sexti paris coxis permagnis in laminas ovales mutatis, ceteris articulis gracilibus, unguibus minimis rectis." For this genus he would find a place among the genera *Gammarus*, *Pontoporeia* and *Talitrus*. In 1878, however, he recognises that the characters on which he had relied for separating it from *Gammarus* were probably only due to the accidental condition of the specimen. He speaks of the peduncles of the lower antennæ as triarticulate, but they are from his figures clearly of the ordinary structure, though the composite basal joint is not visible. The amber being found on the coast of Samland, he names the species *Palæogammarus sambiensis*, with this definition:—"antennis superioribus inferiores longitudine superantibus, inferiorum flagello ex octo articulis composito, segmenti undecimi et duodecimi margine dorsali spinis obsito, pedibus spuriis longitudine æqualibus, appendicibus in abdominis apice nullis." The absence of the terminal appendages, as he afterwards noticed, should not have been included in the specific character, that being almost certainly due only to the defectiveness of the specimen.

To the question how this broken Amphipod got into the amber, the answer is suggested that the amber-producing woods probably came down in former ages close to the sea-shore, and that the creature with the sand attached to it may there have been introduced into a mass of resin. In 1878, he says with regard to it, "die Uebereinstimmung zwischen der tertiären Art und einer jetzt lebenden lässt sich nicht nachweisen, aber wahrscheinlich ist jene den Arten *Gammarus marinus*, *locusta*, *Edwardsii* sehr ähnlich gewesen. Der Stammbaum unseres gemeinen Flohkrebsses reicht also bis in jene längst vergangene Zeit hinauf, in der sich die oligocänen Schichten ablagerten." The fresh-water *Gammarus pulex* might well have been added to the list of species compared.

1865. BATE, C. SPENCE.

Crustacea. The Record of Zoological Literature. 1864. Volume First. London, MDCCCLXV. pp. 257-311. Amphipoda, pp. 287-289.

Grube's *Nicea istriaca* is considered identical with *Nicea prevostii*, M.-Edw. *Anonyx filiger*, Stimpson, is said to be closely allied to *Lysianassa longicornis*, Lucas, "or *L. chausica* (Spence Bate), not *Alibrotus chausicus* (Milne-Edwards)." "The female of the genus *Gammarella* approximates so nearly in form to *Crangonyx*, only having the eye coloured with black pigment, that we have little doubt," Spence Bate says, "of the near relationship of Professor Grube's *Gammarus recurvus* to *Gammarella normani*, which is probably the female of *G. brevicaudata*." *Iphimedia multispinis*, Grube, which Grube himself likens to *Iphimedia nodosa*, Dana, shows, in Spence Bate's opinion, "a closer approximation to *I. eblanæ*, the dorsal teeth being less strong (probably a sexual distinction)." The difference