peculiar. In fact they very much agree with those of the thin and delicate *Niphargus aquilex*. Both species are to all appearance unwilling swimmers, struggling often in a more or less upright position, then swimming back downwards, and soon sinking to the bottom. Section 8, on nourishment, gives reasons for the opinion that the Amphipoda principally if not exclusively feed on animal substances, whether dead or living. Section 9, on commensalism and parasitism, distinguishes the species which have been noticed as respectively inhabitants of Sponges, of Hydrozoa, of Echinoderms, of Tunicata, of Mollusca, of Crustacea, of Fishes, of Reptilia, of Cetacea; those on Reptilia probably belonging rather to the surface growth of sea-weeds than to the animals on which the sea-weed happens to grow. Section 10 discusses the good and harm which the Amphipoda are supposed to do, the good consisting in their constituting the food of various animals of more directly obvious importance, the harm inculpating only two species, *Chelura terebrans*, which bores into submarine timber, and *Gammarus locusta*, which is supposed to destroy fishing-nets. Section 11, on parasites, mentions as internal parasites *Echinorrhynchus polymorphus*, Brems., *Echinorrhynchus proteus*, Westr., *Distomum* sp., *Gregarina longissima*, Sieb., *Zygocystis puteana*, Lachmann, *Gregarina clausi*, Frenzel, *Callyntrochlamys phronimæ*, Frenzel, *Gregarina niceæ*, Frenzel, *Gregarina caprellæ*, Frenzel, and as external parasites "*Epistylis Steini*, Wrzesn., and *Carchesium* sp., on *Gammarus pulex*; *Podophrya cyclopum*, Clap., and *Dendrocometes paradoxus*, Stein, on *Gammarus puteanus*; *Vaginicola crystallina*, on *Gammarus marinus*; *Vorticella* sp. on *Darwinia compressa* and on *Lepidactylis arenaria*; *Carchesium* sp. and *Podophrya crustaceorum* on *Caprella æquilibra*."

Chapter V. is on classification, and begins by describing successively the systems of Milne-Edwards, Dana, Spence Bate (1857 and 1862), Lilljeborg, Boeck, Nebeski and (for the *Hyperina*) Claus, but without recognising the important service rendered by Axel Boeck in laying stress upon the mouth-organs in addition to other important parts of the structure. An interesting discussion follows bearing largely upon the Tanaidea, which it seems to be a point of honour with Gerstaecker to include under the Amphipoda. The order Amphipoda itself, as distinguished from the Isopoda, he characterises "als annähernd homonom segmentirte Malacostraca mit in der Regel selbstständigem, seltener (*Laemodipoda*, *Tanaidea*) mit dem ersten Mittelleibsring verschmolzenem Kopftheil, zwei übereinander eingelenkten Fühlerpaaren, nicht facettirtem Augen-Integument, im Mittelleib gelegenem Herzschlauch und lediglich der Ortsbewegung (nicht der Athmung) dienenden Hinterleibsbeinen."

He makes three suborders, thus defined:—

"Subordo I. Amphipoda genuina. Die sieben Mittelleibsringe frei, der erste nicht mit dem Kopftheil verschmolzen. Hinterleib normal ausgebildet, mit sieben (meist) selbstständigen Segmenten. Die Pedes spurii der drei hinteren Paare von denjenigen der drei vorderen formell verschieden. Lamellöse Kiemen nach innen oder hinten von mehreren Mittelleibsbeinpaaren.

"Subordo II. Laemodipoda. Der erste Mittelleibsring mit dem Kopftheil zu einem Cephalothorax verschmolzen. Hinterleib nebst den ihm entsprechenden Gliedmassen rudimentär, auf einen stummelförmigen Anhang des Mittelleibs reducirt. Dritter und vierter Mittelleibsring mit paarigen Kiemensäcken, dagegen nur ausnahmsweise mit regulär entwickelten Beinen versehen.

"Subordo III. Tanaidea. Der erste Mittelleibsring mit dem Kopftheil zu einem Cephalothorax verschmolzen. Hinterleib normal ausgebildet. Die Pedes spurii der fünf vorderen Paare gleich gebildet. Keine Kiemen im Anschluss an die Mittelleibsbeine. Die Seitentheile des Cephalothorax zu Athemhöhlen umgebildet."

A conspectus follows, which is not completed in this part, giving definitions of the divisions, tribes, families and most of the genera which Gerstaecker accepts. Division I. Hyperina, is