

opinion, and *D. dilatata* (Richardson) must, judging from the aberrant shape of the antennulæ, probably be established as the type for a new genus.

(2) *Næsicopea* (Stebb.).—The type is *Cymodocea abyssorum* (Bedd.).

(3) *Dynamenella* (n. gen.).—As the type I take *Dynamene perforata* (Moore), of which I have examined an adult male and an immature male from the U. S. National Museum. Besides, I have seen specimens of two undescribed species, respectively from St. Thomas and Valparaiso. On other forms perhaps belonging to this genus see my notes on *Dynamene*. Above (p. 117) it is stated that *Sphæroma perforatum* (M.—Edw.) and *Sph. globicauda* (Dana) are not probably species of *Dynamenella*.

(4) *Cymodocella* (Pfeff.).—The genus has been established on *C. tubicauda* (Pfeff.). I have examined specimens from Dr. Chilton of his *Sphæroma? egregium*. The two species are identical, and the type must, therefore, be named *C. egregia* (Chilt.). According to description and figures *Sphæroma algoense* (Stebb.) belongs to the same genus.

(5) *Scutuloidea* (Chilt.).—Only the typical species, *S. maculata* (Chilt.), is known.

(6) *Amphoroidea* (M. Edw.).—This beautiful and easily recognisable genus was established on *A. typa* (M. Edw.). Two other species have been described, viz. *A. australiensis* (Dana) and *A. falcifer* (Thoms.).

(7) *Paracerceis* (n. gen.).—The type is *P. caudata* (Say), referred by Say, Milne-Edwards, and White to the genus *Næsa* (Leach), by Ives to *Cymodocea* (Leach), by Moore and Harriet Richardson to *Cilicæa* (Leach). According to examination of a typical specimen from Say in the British Museum, material from Cuba in the Copenhagen Museum, and specimens from Florida sent me by U. S. National Museum, at least some of the specimens referred by American authors to *P. caudata* (Say) belong to an unnamed and closely allied species. *Dynamene bermudensis* (Ives) is (see my notes on *Dynamene*) a female of that new species.

*Cilicæa cordata* (Richardson) and *Cil. caudata* Gilliana (Rich.) are certainly males of species of *Paracerceis*; on some forms established by H. Richardson as species of *Dynamene* I refer to the notes on this genus.

(8) *Cerceis* (M.-Edw.).—*C. tridentata* (M.-Edw.) is the type; according to my study of a rich material of this genus the species named is a male, while *C. bidentata* (M.-Edw.) is the female, either of the same or of a closely allied species. To this genus belong besides *C. trispinosa* (Hasw.) (I have examined specimens from Dr. Chilton) and *C. acuticauda* (Hasw.), but the reference of *C. nasuta* (Whitelegge) is doubtful, the basal joint of the antennulæ, the abdominal notch, and the pleopoda being imperfectly known. *Sphæroma orientale* (Dana) is a young specimen of *Cerceis*. This genus is closely allied to *Paracerceis* and *Haswellia*; at least at present I am not able to point out reliable difference in the structure between the females of *Paracerceis* and *Cerceis*, but, as already mentioned, *Paracerceis* has the brood in internal pouches, *Cerceis* in the marsupium itself; the females of *Haswellia* are unknown. It may be mentioned that the outer margin of exp. of plp.<sup>2</sup> is coarsely serrate in *Paracerceis caudata* (Say) and at least in some species of *Cerceis*, but in *C. trispinosa* (Hasw.)—which besides in the shape of the abdominal notch occupies a rather isolated position—serration is visible only at the end of the margin and even feebly developed.

(9) *Haswellia* (Miers) (*Calyptura* (Hasw.)).—The type is *H. carnea* (Hasw.), of which only the male is known. According to the examination of a male (forwarded me by Dr. Chilton) of *Zuzara emarginata* (Hasw.), this species must be transferred to *Haswellia*; in *H. carnea* the long plate from seventh thoracic segment is broad in the whole length, while in *H. emarginata* only the proximal third of the process is plate-shaped, the long distal part narrow. Of *H. carnea* I have examined two adult and two immature males (all from Dr. Chilton); the adult males measure respectively 10.4 and 8.5 mm., the immature speci-

mens 8.0 and 6.4 mm. in length; in these two young specimens the processes at seventh thoracic sternite are very short, but yet distinct, while no trace of appendix masculina on endp. of plp.<sup>2</sup> could be perceived in any of them. These immature specimens resemble *Cymodoce* in general aspect; in both seventh thoracic tergite has a broad but very short protuberance as a rudiment of the plate in the adult male; in the larger of these two specimens the mesial process of the abdominal notch is broadly triangular and reaches beyond the lateral angles of the notch, but in the smaller specimen the notch is almost rectangular, with the basal margin a little convex, the mesial lobe being very low. Judging from these features, I suppose that the notch in the adult female be rounded as in the two preceding genera.

10. *Cassidinopsis* (n. gen.).—The type is *Cassidina emarginata* (Guér.), which in many important points—structure of plp.<sup>4</sup> and plp.<sup>5</sup>, shape of epistome, mandibles, fifth joint of maxillipeds, end of abdomen—differs strongly from the type for the genus *Cassidina*, *C. typa* (M.-Edw.). *C. latistylis* (Dana) has generally been referred to *C. emarginata* as a synonym, but Dana's figure of the end of abdomen does not agree well with the shape observed in *C. emarginata*; a detailed account of this species is given by Pfeffer (1887). No other species referred to *Cassidina* belongs to *Cassidinopsis*.

### C. Sphærominæ platybranchiatæ.

1. *Parasphæroma* (Stebb.).—The type is *P. prominens* (Stebb.). I have examined two females with brood in internal pouches; they are co-types kindly forwarded me by Mr. Stebbing, who describes and figures a male specimen. The two abdominal protuberances are scarcely as high in the female as in the male; the exp. of urp. has the outer margin convex in almost more than three quarters of its length, but its distal fourth is more concave than on Mr. Stebbing's figure, so that the apex of the ramus is less produced, but directed

more outwards than in the male. In the female third thoracic legs are about as slender as fourth legs, and without brushes on any joint, while in the male third to sixth, and especially third to fifth, joints are conspicuously thicker than in the female, and third to fifth densely clothed with brushes of short hairs on their lower surface. Second legs are in the female only a little shorter and thicker than third, and their fifth and sixth joints have a few scattered spines; in the male (according to Stebbing's figure) fourth to sixth joints are much thicker, fifth and sixth with a peculiar armament. First legs are similar in both sexes. No other species is known.

(2) *Campecopea* (Leach).—The type is *C. hirsuta* (Mont.); *C. Cranchii* (Leach) is the female of the same species. In certain features, viz., the shape of epistome and uropods, the marginal part of abdomen being bent inwards, etc., it constitutes to a certain degree a transition to *Monolistra*. White referred *Næsa ovalis* (Say) to this genus, but I take *N. ovalis* as the type for *Cassidinidea* (n. gen.). *Camp. bicolor* (Rathke) (referred incorrectly by Milne-Edwards to *Næsa*) and *C. versicolor* (Rathke) (referred by Milne-Edwards to *Cymodoce*) cannot remain in *Campecopea*, but I have no opinion on their real relationship.

(3) *Monolistra* (Gerst.).—The type is *M. cæca* (Gerst.). From the Berlin Museum I received an adult male of this species and besides an immature male of an undescribed form. According to kind information from Dr. Joh. Thiele the female of *M. cæca* has second thoracic legs simple, without prehensile hand.

(4) *Cæcosphæroma* (Dollf.).—The type is *C. Virei* (Dollf.), of which I have seen a single specimen, kindly presented me by Mr. A. Viré. As to this form and the two species of the following genus the reader is referred to a future paper by Mr. A. Dollfus.

(5) *Vireia* (Dollf.).—To this genus Mr. Dollfus refers two species, *V. burgunda* (Dollf.) and *V. berica* (Fabiani). (See the future paper by Mr. Dollfus).

(6) *Cassidina* (M.-Edw.).—The type is *C. typa* (M.-Edw.),

apparently not recognised by any zoologist since it was established in 1840. Among numerous marine animals from Akaroa Harbour, New Zealand, I found several specimens of a species of *Cassidina*, determined it as *C. neo-zealanica* (Thoms.), examined its structure, and worked out a set of analytical figures. When I, more than a year after, studied the literature on Sphæromidæ and looked on the figures given by Milne-Edwards in 1840, I was struck by the similarity as to certain points between these and my own drawings. I was speedily convinced that *C. neo-zealanica* must be either a species closely allied to *C. typa* or only a synonym. Professor E. L. Bouvier kindly lent me a specimen of *C. typa* marked "Type, Ouoy and Gaimard, Nouv. Zélande"; it agrees completely with my specimens of *C. neo-zealanica*, and the latter name must therefore be considered a synonym. It may be added that the mandibles are unusually short and peculiarly bent. Besides *C. typa* and *C. neo-zealanica* five other species have been referred to *Cassidina*. *C. emarginata* (Guér.) differs strongly from *C. typa* in epistome, antennulæ, mandibles, maxillipeds, and pleopods; it is established above as the type for *Cassidinopsis* (n. gen.) belonging to the eubranchiata Sphærominæ. *C. latistylis* (Dana) is with a little doubt considered a synonym to *C. emarginata*. *C. maculata* (Studer) cannot remain in *Cassidina* if Studer's figure, showing the proximal joints of the antennulæ as invisible from above, be tolerably correct, but as to the real relationship of this species I have no opinion. *C. lunifrons* (Richardson) must probably be referred to *Cassidinidea* (n. gen.) (see below). *C. laticauda* (Whitelegge) differs, according to description and figures published by that author, in shape of epistome, palps of maxillipeds, and rami of plp.<sup>1</sup> strongly from *C. typa*; it must therefore be removed from *Cassidina* and is very remote from *Cassidinidea* (n. gen.), but in spite of the lengthy description with five figures—occupying three pages—it is impossible for me to refer this species, not only to any genus, but to any section or group of the Sphærominæ.

The result is that of seven species referred to the genus *Cassidina* (M.-Edw.) at least one, and probably two, must be cancelled as synonyms, while the five others, having only a broad body and a reduced exopod of the uropods in common, must be referred to at least four genera, and two of these, established respectively in 1887 and 1901, have been so imperfectly described that reference to genus or to group of genera is impossible. This state of things illustrates excellently the confusion arising from extreme want of guiding principles of investigation, etc., in the study of the family.

(7) *Chitinopsis* (Whitelegge).—The type is *C. spatulifrons* (Whitel.), of which I have not seen any specimen. No other species has been established, but I have inspected a new form allied to the type. The two species have a curious aspect, but the genus is in reality so closely allied to *Cassidina* that it can only be considered a sub-genus, and ought perhaps to be cancelled. It seems to be impossible to find any character of some importance; the characters used in the conspectus are, I hope, tolerably practical.

(8) *Cassidinidea* (n. gen.).—This genus is established on *Næsa ovalis* (Say). In the British Museum I saw three specimens presented by Thomas Say; the Copenhagen Museum possesses a few specimens from Grenada, and one specimen from Cincinnati. *Cassidina lunifrons* (Richardson) belongs probably to the same genus; according to a figure published by Miss Richardson, it is very closely allied to *N. ovalis*, if it may be assumed that a portion of the basal joint of both antennulæ in reality is the front end of the broad epistome. It may be useful to add a few notes on *C. ovalis*, as nothing has been published on this species since the description of Say in 1878. An adult female measures 6 mm. in length and 3.3 mm. in breadth; judging from Miss Richardson's figure, *C. lunifrons* is proportionately a little broader, and its head somewhat broader than in our species. The body is very depressed, its upper surface grey-mottled with brown and dark brown. The epistome is a little more than twice as broad as long at the mesial line,

its anterior part is broad, cut off transversely, and protrudes as a narrow transverse band in front of the head. The two proximal joints of the antennulæ somewhat depressed, oblong, with the margins sub-parallel; third joint slender, as long as the first; flagellum five-jointed. Uropods about as in *C. lunifrons* (compare Miss Richardson's figure). The single male seen is adult, a little smaller than the female, but the uropods are proportionately a little broader. In both sexes the end of abdomen is cut off transversely.

(9) *Leptosphæroma* (Hilgendorf).—The type is *L. Gottschei* (Hilg.), of which I received three typical specimens from the Berlin Museum. No other species referable to this interesting genus has been described, but I have seen specimens of a new, very small form from Singapore. The genus shows in aspect a certain similarity to *Plakarthurium* (Chilt.), but the agreement is, however, only superficial, which is easily seen by a perusal of the diagnoses of the sub-families *Sphærominæ* and *Plakarthurinæ*.

(10) *Ancinus* (M.—Edw.).—The type is *A. depressus* (Say), referred by Say to the genus *Næsa* (Leach). The British Museum possesses a single exsiccated specimen presented by Thomas Say; in 1902 I examined its external structure. The figures (Pl. XXXII, figs. 17–20) in H. Milne-Edwards' 'Hist. Nat. Crust.' convey a rather good idea of the outline of the animal and of the shape of the hands of first and second legs of the male. The specimen named seems to be the only one existing in any zoological Museum; at least, I have asked for material of this form in Paris and in American Museums, but with negative result. No other species is known.

(11) *Ancinella* (n. gen.).—This interesting genus I establish on a new species, *A. profunda* (n. sp.), of which a large number of specimens were found in bottom material secured by Dr. Joh. Schmidt in 1904 during the cruise of "Thor," the Danish ship in the service of the International Commission for marine investigations. The locality is lat. 61° 15' N., long. 9° 35' W., 900 meter. As supplement to the diagnosis of the genus a short description of the species may be inserted here.