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intermediate that no reliance can be placed on this colouring as a specific character.

28. *PHLOGENAS JOBIENSIS* (*Meyer*); *Gould, B. New Guinea*, part vii.—*Chalcophaps margarithæ, D'Alb. & Salvad. Ann. Mus. Civic. Genov.* vii. p. 836 (1875).—*Phlogœnas margarithæ, Salvad. op. cit.* viii. p. 495 (1878).

A somewhat immature specimen in Mr. Broadbent's collection in brown plumage, glossed with purplish violet on the sides of the neck and shoulders; the head dark grey, with a few rufous feathers remaining; the throat and chest whitish, obscured by rusty brown or greyish edges to the feathers; rest of under surface ashy brown, with obscure fulvous edges to the feathers. The specimen is not unlike Dr. Meyer's typical bird figured by Mr. Gould (*l. c.*).

29. *TALEGALLUS FUSCIROSTRIS, Salvad.; Sharpe, Journ. Linn. Soc.* xiii. p. 504.

The specimens sent by Mr. Broadbent and Mr. Goldie bear out the character of the dusky bill, on which Count Salvadori separated the species.

On the Classification of the Maioid Crustacea or Oxyrhyncha, with a Synopsis of the Families, Subfamilies, and Genera. By EDWARD J. MIERS, F.L.S., F.Z.S., Assistant in the Zoological Department, British Museum.

[Read March 6, 1879.]

(PLATES XII. and XIII.)

INTRODUCTORY REMARKS.

THE Oxyrhyncha, or Maioid Crabs, have been placed by nearly all carcinologists at the head of the Brachyura, on account of the high degree of concentration exhibited both in the sensory organs and nervous system. There is perhaps no one of the great divisions of the higher Crustacea more numerous in genera and species, or more interesting on account of the great variety both of form and structure exhibited in the different types, nor any in which a thorough revision of the classification is more urgently needed.

No comprehensive account of the group has appeared since the

publication, in 1834, of Milne-Edwards's first volume of the 'Histoire naturelle des Crustacés,' wherein 36 genera of this group are enumerated.

Dana, in 1852, in his account of the Crustacea of the U.S. Exploring Expedition, gives a synopsis of the then known genera, the number of which had considerably increased. Since that time, however, no further revision has appeared; but during the twenty-six years that have elapsed, a very considerable number of new forms have been made known to science, through the labours of modern carcinologists, among whom the late Dr. Stimpson and M. Alphonse Milne-Edwards must be particularly mentioned. The total number of well-established genera included in the present revision is 106; but not a few of those previously described are reduced to the rank of subgenera or are regarded as synonyma, and others, which are insufficiently known to me, are referred to parenthetically.

The Oxyrhyncha, as defined by M. Milne-Edwards, constitute as a whole a natural group; but no single character can be mentioned which will serve to distinguish them universally from the other Brachyura. Externally they are distinguished by their more or less elongated carapace (which is usually provided with a rostrum and narrows anteriorly), large epistoma, longitudinal antennules, and the position of the basal antennal joint, which in the typical Maiidæ is situated beneath the eyes. The buccal cavity is quadrate, with its anterior margin straight. The branchiæ are nine on each side, the afferent canal opens behind the pterygostomial regions in front of the anterior legs, and the efferent canal at the sides of the buccal cavity. The male genital appendages arise from the bases of the fifth ambulatory legs.

From the Oxystomata, which are closely related to the Oxyrhyncha in the narrowness of the frontal region and the concentration of the organs of sense, the latter are distinguished by the triangulate buccal cavity and the position of the afferent branchial channel; but the genus *Mesorhæa*, recently described by Stimpson, evinces a remarkable approximation on the part of the Parthenopidæ to the Oxystomatous type. From the Cyclometopa (Canceroid Crabs) the typical Maiidæ are distinguished by the longitudinal antennules and the position of the basal antennal joint; but the Parthenopidæ, again, occupy in this respect a position almost intermediate between the rest of the Oxyrhyncha and

certain Cancroidea. They may indeed be regarded as not so much true Oxyrhyncha as a group osculant between these latter and the Cancroidea and Oxystomata.

Nearly all subsequent authors have retained the Oxyrhyncha as defined by Milne-Edwards. Dr. Strahl, however, in a system of classification of the Brachyura* based mainly upon characters afforded by the structure of the basal joint (*basicerite*) of the antennæ, separates the Parthenopinæ from the Oxyrhyncha, and unites them with the Calappidæ and Matutidæ, which he removes from the other Oxystomata, and places *Oncinopus* in the vicinity of the Grapsoid genus *Hymenosoma*. His views were shortly afterwards adversely criticised by Stimpson †, who demonstrated the inconvenience of a classification founded upon the modifications of a single organ, and necessitating the dismemberment of the older natural groups, and instanced several genera which would thereby be removed from the place in the system to which their real affinities would assign them; nor do I believe Dr. Strahl's views have been adopted by any later carcinologist.

As regards the primary subdivisions of the Oxyrhyncha, the following are the principal classifications that have been proposed.

Milne-Edwards in 1834 ‡, divided the Oxyrhinques (Oxyrhyncha) into three tribes or primary groups of equal value. The first two of these, his Macropodiens and Maiens, are distinguished merely by the greater length of the ambulatory legs of the former group, in which are placed all those forms in which the first and second ambulatory legs are longer than the anterior legs and more than twice as long as the postfrontal portion of the carapace. If this distinction were rigidly applied, it would be necessary to place not only nearly-allied genera, but species of the same genus (e. g. *Doclea*) in different families. Yet it is not to be denied that the greater length of the ambulatory legs is often correlated with important modifications of the structure of the orbits and antennæ.

M.-Edwards's third group, Parthéniopiens, is a perfectly natural

* Monatsber. Akad. Wissensch. Berlin, pp. 713 and 1004 (1861).

† Amer. Journ. Sci. and Arts, vol. xxv. p. 139 (1863).

‡ Histoire naturelle des Crustacés, vol. i. p. 272 (1834).

one, and has been adopted by nearly all later authors, and constitutes the fourth family, Parthenopidæ, of the present revision. The genera included in his Macropodiens are, with a few exceptions (*Latreillia*, *Egeria*, *Doclea*), included in my subfamilies Leptopodiinæ and Inachiinæ. The primary sections of his Maiens (*M. cryptophthalmes* and *M. phanérophthalmes*) although somewhat differently characterized, correspond, the former (with the exception of *Libinia*, *Lissa*, *Mithrax*, and *Chorinus*) to my family Maiidæ; the latter, except *Pericera*, *Paramiccippa*, and *Stenocionops*, to the subfamily Acanthonychinæ of my family Inachidæ.

De Haan, in the fourth decade of his great work *, divides his family Majacea into five primary groups, or "genera," i. e. *Parthenope*, *Maja*, *Pisa*, *Doclea*, and *Inachus*. The first of these corresponds to my family Parthenopidæ, *Æthra* being rightly included and *Eurynome* omitted from the group. The three following are characterized only by the form of the merus joint of the outer maxillipedes (a most variable character); and the genera (or "subgenera" as they are designated by De Haan) are grouped together in each without reference to the orbital and antennal characters: consequently these groups are in no degree conterminous with those adopted in the present revision. The fifth, or *Inachus* group of De Haan, includes those genera which are characterized by the articulation of the merus joint of the outer maxillipedes with the next at its summit instead of its antero-internal angle. This is a far more natural section; yet the rigid application of this character would now necessitate the separation of genera very closely allied in other respects, as Dana has shown in the case of *Eurypodius* and *Oregonia*; and other instances might be given.

In Dana's arrangement of the Maiioidea †, three legions or primary sections are established. The first (Maiinea) corresponds to the Macropodiens and Maiens of M.-Edwards, and is divided into five families; the second (Parthenopinea) corresponds to M.-Edwards's Parthénopiens; and the third (Oncininea) is established for the single genus *Oncinopus* of De Haan.

The characters of the families of the Maiinea are tabulated as follows:—

* Crustacea of the 'Fauna Japonica' of V. Siebold, p. 77 (1839).

† Amer. Journ. of Sci. and Arts (ser. 2), xi. p. 425 (1851), and U.S. Explor. Exped. xiii. Crust. i. p. 77 (1852).

- Fam. i. MAIIDÆ. Eyes retractile into orbits.
 Fam. ii. TYCHIDÆ. Eyes retractile beneath carapace; no orbits.
 Fam. iii. EURYPODIDÆ. Eyes retractile to sides of carapace.
 Fam. iv. LEPTOPODIDÆ. Eyes not retractile. Legs very long.
 Fam. v. PERICERIDÆ. Eyes not retractile. Legs of moderate length.

With respect to this arrangement I may observe, in the first place, that the retractility or non-retractility of the eyes is scarcely a character that can be used for separating the families; for in many of the Leptopodiidæ the eyes are capable of a certain degree of mobility, and in many Periceridæ they are, as Stimpson has pointed out, completely retractile within the orbital cavity. It is somewhat remarkable that Dana did not observe the characters that are afforded by the structure of the orbital region itself, taken in conjunction with the concurrent modification of the form of the basal antennal joint, to which attention had already been drawn by Milne-Edwards, and which, I am convinced, offer far better distinctions for a natural arrangement of the various groups. Within his first family (Maiidæ) Dana includes most of the genera referred by me to the Maiidæ and Periceridæ; his second family (Tychidæ) contains but three genera, whereof the last, *Camposcia*, has but little affinity with the two preceding; the third (Eurypodidæ) also includes but three genera, all referable to my family Inachidæ; the fourth (Leptopodidæ) corresponds, with the exception of *Inachoides*, to my subfamily Leptopodiinæ. The fifth (Periceridæ) is a somewhat heterogeneous group; but the majority of the genera included in it belong to my subfamily Acanthonychinæ of the family Inachidæ.

The subfamilies of the Maiinea instituted by Dana appear to me to be unnecessarily numerous, and are for the most part founded upon characters of minor importance, *i. e.* the form of the carapace and rostrum. His minor subdivisions, indeed, are less natural than those of Milne-Edwards; but to him belongs the merit of having recognized that the Parthenopinea form a group equal in value to the remainder of the Oxyrhyncha (with the single exception of *Oncinopus*).

M. Alphonse Milne-Edwards, by whose finely illustrated memoirs our knowledge of the genera of Oxyrhyncha has been so greatly increased, has not, I believe, published any classification of the group; but in his classification of the Brachyura set forth in the introductory portion of his 'Histoire naturelle des Crustacés

fossiles '*, establishes two families, Inachoidiens and Maiens, apparently corresponding to Dana's *Mainea* and *Parthenopinea*.

The late Dr. Stimpson, in his Preliminary Report of the Crustacea *Brachyura* dredged in the Gulf Stream †, points out several errors in Dana's classification, and proposes or amends the characters of several subfamilies and families. Of these the *Pericerinæ*, *Othoninæ*, *Eurypodiidæ* and *Acanthonychidæ* would seem to correspond respectively to my *Periceridæ*, *Othoninæ*, *Inachidæ* and *Acanthonychinæ*; but as often only a single character is mentioned by which to distinguish the groups, and no lists of the genera included are given, the limits he would have assigned to them had he lived to publish a complete system must remain uncertain. His subfamilies *Leptopinæ* and *Collodinæ* are not retained in the present classification.

It may be useful in conclusion to refer to the arrangement adopted by Dr. Claus in his lately-published Treatise on Zoology (*Grundzüge der Zoologie*, 3te Aufl. p. 558, 1876), as, although this author does not do more than indicate the leading generic types of the *Oxyrhyncha*, his views are of special interest as emanating from a carcinologist of the highest reputation. In his system the *Oxyrhyncha* are divided into two families—*Majidæ*, *Parthenopidæ*—corresponding to the first and second of Dana's legions; and the *Majidæ* are further subdivided into three subfamilies:—(1) *Majinæ*, in which the eyes are retractile into orbits; (2) *Eurypodinæ*, in which the eyes are retractile but without orbits; and (3) *Leptopodiinæ*, with non-retractile eyes.

In the present revision the first and second of Dana's primary groups (*Mainea*, *Parthenopinea*) are retained. The remarkable genus *Oncinopus*, for which Dana established a section (*Oncininea*) equal in value to the two above mentioned, must, I believe, be included in my family *Inachidæ*. The abbreviated character of the basal antennal joint is not peculiar to it, but exists also in *Macrocheira*; the genus, however, exhibits a certain degradation from the *Brachyura* in its subdorsally raised fifth ambulatory legs. In its antennal characters, no less than in the flattened triangulate form of the carapace, it approaches the Grapsoid genus *Elamene* and its allies.

* *Ann. Sci. Nat.* tome xiv. Zool. p. 185 (1830).

† *Bulletin of Museum of Comparative Zoology*, ii. p. 109 (1870).

Within the *Maiinea*, a regular gradation of characters may be traced from the forms (*Leptopodia* and *Stenorhynchus*) with non-retractile and laterally projecting eyes and narrow basal* antennal joint and elongated epistoma, at one end of the series, to those (exemplified in *Pericera* and *Mithrax*) with deep circular and well-defined orbits, transverse epistoma, and greatly developed basal antennal joint, at the other; and I accordingly distinguish among the *Maiinea* three principal groups, founded upon the orbital and antennal characters, as will be seen in the following tabular arrangement.

Legion I. MAINEA. (*Maiinea*, Dana; *Inachoidiens*, A. M.-Edwards.)

Basal antennal joint well developed, inserted beneath the eyes, and occupying a great part of the infraocular space.

Family I. INACHIDÆ. Eyes non-retractile, or retractile against the sides of the carapace. No defined orbits exist; but there is often a well-developed præocular or postocular spine. Basal joint of antennæ usually very slender, sometimes moderately enlarged.

Family II. MAIIDÆ. Eyes retractile within the projecting orbits, which are more or less incomplete below the eyes, or marked with open fissures in their upper or lower margins. Basal antennal joint always more or less enlarged.

Family III. PERICERIDÆ. Eyes usually retractile within the orbits, which are small, deep, and circular, never incomplete. Basal antennal joint well-developed, and usually very considerably enlarged.

As a rule, there can be no difficulty in assigning to any genus its place in one or other of the three families characterized above; yet, as the *Maiidæ* constitute a group intermediate between the *Inachidæ* and *Periceridæ*, there are certain genera which lie on the border line separating the *Inachidæ* and *Maiidæ*, which might be referred with almost equal justice to either family unless some artificial limit were imposed. In *Loxorhynchus*, for example, the præocular and postocular spines and basal antennal joint are largely developed, and this genus approximates closely in its orbital and antennal characters to *Pisa* and its allies among the *Maiinæ*; and, to take another instance, *Tyche* has its upper orbital margin as much developed as *Acanthephyrys* among the *Maiidæ*, yet cannot be separated from its natural allies *Stenocionops* and *Stilbognathus*, which belong to the *Inachidæ*. Again, among the *Maiinea* with deflexed front, it will be shown that a regular transi-

* I use this term, in the sense commonly employed by authors, for the large joint which is apparently the first of the basal portion of the antennæ, but is in reality the second joint ("basicerite").

tion may be traced from *Micippa* with well defined orbits, to the remarkable genus *Picrocerus*, in which the true orbits are as little developed as in many *Inachinæ*.

In cases such as these, I believe it is often better to preserve the natural sequence of the genera, though in so doing one must slightly overstep the literal definition, than, by too strict an adherence to the definition of the group, to separate forms which in all characters save one may be nearly allied. Nature imposes no artificial limits; and not even an arbitrary distinction will in all cases avail to separate kindred forms*.

Legion II. PARTHENOPINEA. (*Parthenopinea*, Dana et auctorum).

Basal antennal joint very small, and embedded with the next joint in the narrow hiatus between the front and inner suborbital angle; the infraocular space being mainly occupied by the lower wall of the orbit.

Family IV. PARTHENOPIDÆ. Characters of the section:—This group corresponds in the main with M.-Edwards's *Parthénopiens*; but the characters are modified to include several genera which agree with those known to Milne-Edwards in the structure of the orbits and antennæ, but differ in the carapace and anterior legs. Moreover I follow De Haan in excluding *Eurynome* (which really belongs to the *Maiidæ*) and including *Eithra* (which is placed by Milne-Edwards in a separate section of the *Cancériens*—*Cancériens cryptopodes*).

As already stated, the *Parthenopinea* are very distinct as a group from the rest of the *Oxyrhyncha*. Perhaps their nearest affinities in that direction are with *Inachus* through *Inachoides*. The triangulate form of the carapace, with its strongly marked depressions separating the different regions, is the same, and the slender basal antennal joint. In *Inachoides* the rostrum is simple, as in *Parthenope* and *Lambrus*.

In the plates that accompany this paper I have figured what may be regarded as typical examples of the principal modifications in the structure of the orbital and antennal region throughout the *Oxyrhyncha*, wherein may be traced the gradual

* Dana, for example, separated the *Canceroidea* into two parallel groups (*Cancridæ* and *Eriphiidæ*), characterized respectively by the presence or absence of a ridge on the endostome defining the efferent branchial channel; but in *Xanthodius*, a genus since described by Stimpson, this ridge is rudimentary, and this genus may be referred either to the vicinity of *Chlorodius* in the former, or *Ozius* in the latter group. Similar intermediate forms occur between *Actæa* and *Actæodes*, genera belonging respectively to the parallel series *Xanthinæ* and *Chlorodiinæ* in the family *Cancridæ*.

approximation of the Maioid to the Cancroid type through the development of the orbits and of the basal portion of the antennæ, the increase in width of the interocular portion of the carapace, the shortening of the epistome, and the obsolescence of the rostrum.

In the synoptical arrangement of the families, subfamilies, and genera which follows, I have omitted all references to the literature, as these will, it is hoped, be given on a future occasion, and the characters themselves are to be regarded as merely diagnostic. Those genera which are unknown to me from examination of specimens are distinguished by an asterisk; and it may be, as the descriptions are often short and insufficient, that I have referred one or two to a wrong position in the system. Synonyma are placed in brackets and printed in *italics*. In every case I have cited what I regard as the typical species of the genus. Many of the genera are distinguished by characters of very trivial importance; and it is impossible in any linear arrangement to express adequately their very complex affinities; but is hoped that the present arrangement, while on the whole a natural one, will serve as a practical guide to the determination and classification of the numerous types of this interesting group.

SYNOPTICAL ARRANGEMENT OF THE FAMILIES, SUBFAMILIES, AND GENERA.

Family I. INACHIDÆ.

Eyes non-retractile, or retractile against the sides of the carapace. No defined orbits exist; but there is often a well-developed præocular and postocular spine. Basal joint of antennæ usually slender, sometimes moderately enlarged.

The carapace varies in shape, being subtriangular, or oblong-triangular, or subpyriform. Rostrum simple or bifid, sometimes very short. Anterior legs with the fingers never excavated at the tips. Ambulatory legs sometimes very long. Postabdomen of male and female 4- to 7-jointed, two or three of the joints often coalescent.

Subfamily 1. LEPTOPODIINÆ. (See Plate XII. figs. 1, 2.) (*Macropodiens*, M.-Edwards, part.; *Leptopodidæ*, Dana, part., Stimpson.)

Eyes slender, non-retractile, and laterally projecting. Præocular and postocular spines minute or wanting. Basal antennal joint very slender throughout its length.

The carapace is subtriangular. Rostrum usually simple (bifid in *Stenorhynchus*). The merus joint of the outer maxillipedes is truncated, or elongated and rounded at its distal end, and articulated with the next joint at its summit or at its antero-external or antero-internal angle. The anterior legs have the palm cylindrical or inflated, fingers acute. Ambulatory legs slender and very long.

The genera included in this subfamily are placed at the head of the Maiioidea on account of the close approximation of the eyes and antennæ and their separation from the rest of the body by the constriction of the postocular portion of the cephalothorax; the epistome is very long, and generally two or three of the post-abdominal segments coalescent.

§ *Rostrum extremely long, simple. A postocular spine. Anterior legs with the palm elongated, cylindrical. Ambulatory legs extremely long.*

LEPTOPODIA, *Leach* (*Macropus*, Latr., part.; *Pactolus*, Leach). Carapace smooth, even above. Antennæ concealed beneath the rostrum. Type *Leptopodia sagittaria* (Fabr.).

* METOPORAPHIS, *Stimpson*. Carapace uneven above. Antennæ long, flagellum exposed. Type *Metoporphis calcarata* (Say).

§§ *Rostrum composed of two spines, or very short and simple. No postocular spine. Anterior legs with the palm shorter, inflated.*

STENORHYNCHUS, *Lamarck* (*Macropus*, Latr., part.; *Macropodia*, Leach). (Plate XII. figs. 1, 2.) Rostrum elongated, of two slender contiguous spines. Type *Stenorhynchus rostratus* (Linn.).

ACHEUS, *Leach*. Rostrum very short, emarginate. Type *Achæus Cranchii*, Leach.

The characters derived from the form of the merus joint of the outer maxillipedes and dactyli of the ambulatory legs are subject to much variation in the exotic species.

* PODOCHELA, *Stimpson*. Rostrum simple, acute. Pterygostomial regions naked. Type *Podocheila grossipes*, Stimp.

PODONEMA, *Stimpson*. Rostrum simple, rounded, excavate beneath, and hood-shaped. Pterygostomial regions with lamelli-

form ridges defining the afferent branchial channels. Type *Podonema Riisei*, Stimpson.

Subfamily 2. INACHINÆ. (See Plate XII. figs. 3, 4.) (*Macropodiens*, M.-Edwards, part.; *Eurypodiidae*, Stimpson.)

Eyes slender and retractile. Præocular spine usually wanting, post-ocular usually distinct. Basal antennal joint usually very slender throughout its length, not narrowing distally.

The carapace is subtriangular or subpyriform; its margin is often slightly produced over the base of the eye-peduncles. Rostrum simple, bifid, or two-spined. The merus joint of the outer maxillipedes is either truncated and articulated with the next joint at its antero-internal angle, or elongated and rounded at its distal end. The anterior legs in the male are small, or have the palm inflated and the fingers acute. The ambulatory legs are usually slender, and often very long. Postabdomen 5- to 7-jointed.

In this subfamily are included what may be considered the typical Inachidæ. The form of the merus joint of the outer maxillipedes would probably afford excellent sectional characters; but as many of the genera are unknown to me, I prefer to group them according to the form of the rostrum.

§ *Rostrum very short, emarginate.*

* *Basal antennal joint reaching to front.*

EUCINETOPS, Stimpson. Carapace suboblong. Rostrum short, bifid, slightly deflexed. Eyes extremely long and mobile. Outer maxillipedes with the merus joint short, truncated at distal end. Ambulatory legs of moderate length. Type *Eucinetops Lucasii*, Stimpson.

CAMPOSCIA, Latreille. Carapace elongated, subpyriform. Rostrum very short, emarginate. Eyes long and slender. Outer maxillipedes with the merus joint elongated, obovate, and rounded at its distal end. Ambulatory legs very long. Type *Camposcia retusa*, Latreille.

The genus *Eucinetops* in the form of the carapace, eyes, and maxillipedes has some affinity with *Micippa* and its allies; *Camposcia*, in the form of the merus joint of the outer maxillipedes, approaches *Inachus*.

The four following genera (of none of which I have seen specimens) are constituted a distinct subfamily (Collodinæ) by Stimpson, on account of the shortness of the rostrum. This character is of scarcely sufficient importance for such a purpose; and it

appears to me that these genera must certainly be arranged in the same subdivision with *Camposcia* and *Eucinetops*.

*COLLODES, *Stimpson*. Carapace subtriangular. Rostrum bifid, with the spines approximated. Merus joint of outer maxillipedes produced internally. Eyes of moderate length. Ambulatory legs all subprehensile, tarsi slender. Type *Collodes granosus*, Stimpson.

*ARACHNOPSIS, *Stimpson*. Carapace narrow, suboblong. Rostrum bifid. Eyes long. Merus joint of the outer maxillipedes broader than long. Ambulatory legs filiform, tarsi straight. Type *Arachnopsis filipes*, Stimpson.

*BATRACHONOTUS, *Stimpson*. Carapace subtriangular. Rostrum emarginate. Merus joint of the outer maxillipedes broad. Ambulatory legs of the first pair extremely long, those of the posterior pairs very short. Type *Batrachonotus fragosus*, Stimpson.

*EUPROGNATHA, *Stimpson*. Carapace subpyriform. Rostrum apparently trifold (the median lobe being the interantennular spine). A præocular spine. Eye large, peduncle short. Merus joint of the outer maxillipedes somewhat L-shaped. Type *Euprognatha rastellifera*, Stimpson.

ACHÆOPSIS, *Stimpson*. Carapace triangular, with the regions well defined. Rostrum short, bifid; postocular spine small; a præocular spine present. Outer maxillipedes with the merus joint elongated. Ambulatory legs slender; three last pairs with the dactyli falciform. Type *Achæopsis spinulosus*, Stimpson.

INACHUS, *Fabr.* Carapace triangular, with the regions well defined. Rostrum very short, bifid; no præocular spine; postocular spine large. Outer maxillipedes with the merus joint elongated. Ambulatory legs elongated, with the terminal joints usually straight. Type *Inachus dorsettensis* (Pennant).

** *Basal antennal joint very short, not reaching to front.*

ONCINOPUS, *De Haan*. Carapace elongate-triangular. Front emarginate. Basal antennal joint very short, the next longer. Merus joint of outer maxillipedes elongated and articulated with the next at its summit. Ambulatory legs slender, the penultimate joints of the first and second pairs more or less dilated and

compressed, the fifth somewhat raised upon the dorsal surface. Type *Oncinopus aranea*, De Haan.

This curious genus in the form of the basal antennal joint comes nearest *Macrocheira*, and also has some affinity with the Grapsoid genus *Elamene* and its allies. In the subdorsally elevated fifth ambulatory legs it approaches the Maioid Anomura.

§§ *Rostrum simple.*

**INACHOIDES*, Milne-Edwards (*Xiphus*, Eydoux & Souleyet). Carapace triangular, with the regions well defined. No præocular spine. Postocular well developed. Anterior legs with the palm inflated. Ambulatory legs very slender, with the dactyli straight. Type *Inachoides microrhynchus*, M.-Edw. & Lucas.

§§§ *Rostrum long, two-spined.*

* *Spines of rostrum contiguous with one another.*

EURYPODIUS, Guérin-Méneville. Spines of rostrum rather stout, narrowing to distal extremity. Ambulatory legs very long, with the penultimate joint dilated and compressed. Type *Eurypodius Latreillei*, Guérin.

OREGONIA, Dana. (Plate XII. figs. 3, 4.) Carapace flattened, not spinose. Spines of rostrum very slender. Ambulatory legs of moderate length, very slender, with the penultimate joint similar to the preceding, not dilated and compressed. Type *Oregonia gracilis*, Dana.

PLEISTACANTHA, Miers. Carapace convex, spinose. Spines of rostrum long, divergent at their tips. Anterior legs in male elongated. Ambulatory legs very slender and very long, penultimate joint not dilated and compressed. Type *Pleistacantha sancti-johannis*, Miers.

** *Spines of rostrum divergent.*

1. *Third joint of outer maxillipedes not emarginate at its distal end.*

HALIMUS, Latreille. Carapace subtriangular, with lateral marginal spines. Three spines above the eye. Merus joint of the outer maxillipedes somewhat auriculated and produced at its antero-external angle. Anterior legs in male enlarged, palm slightly compressed. Ambulatory legs with the penultimate

joint more or less flattened, and dilated toward its distal end. Type *Halimus auritus*, Latreille.

This genus establishes a transition to the Maiidæ.

AMATHIA, Roux. Carapace subtriangular, spinose. No spines above the eye. Anterior legs of moderate size. Ambulatory legs slender and cylindrical, penultimate joint not dilated. Type *Amathia Rissoana*, Roux.

CHORINUS, Leach. Carapace elongated, convex, without lateral marginal spines. A prominent præocular spine. Eyes very small. Merus joint of the outer maxillipedes not auriculated. Anterior legs in the male greatly elongated. Ambulatory legs of the first pair much elongated, of the last three pairs short. Type *Chorinus heros* (Herbst).

MACROCHEIRA, De Haan. Carapace triangular. Præocular spine small. Basal antennal joint very small, not reaching the front. Merus joint of the outer maxillipedes elongated, and rounded at its distal end (as in *Camposcia* and *Inachus*). Legs very long. Type *Macrocheira Kämpferi*, De Haan.

2. *Third joint of the outer maxillipedes notched at its distal end.*

ERICHOPLATŪS, A. M.-Edwards. Carapace subtriangular. Rostrum bifid, its spines divergent. Basal joint of antennæ rather robust. Anterior legs in male long and slender. Ambulatory legs with the penultimate joint dilated and square-truncated as in *Acanthonyx*. Type *Erichoplatus Huttoni*, A. M.-Edwards.

This genus establishes the transition from the present subfamily to the Acanthonychinae. The single species was contemporaneously described by me as *Halimus Hectori*, from an imperfect specimen.

Subfamily 3. **ACANTHONYCHINÆ**. (See Plate XII, figs. 5, 6.) (*Maiens phanèrophthalmes*, M.-Edw., part.; *Acanthonychidæ*, Stimpson.)

Eyes small and immobile or partially retractile, and concealed beneath the prominent præocular spine. Basal antennal joint usually enlarged at base and narrowing distally. Postocular spine small or absent.

The carapace is usually more or less oblong and flattened, more rarely elongated and subcylindrical or subtriangular. Rostrum simple or bifid. The merus joint of the outer maxillipedes is truncated at its distal end, and articulated with the next joint at its antero-internal angle. The anterior legs in the male usually have the palm compressed. The ambulatory legs are of moderate length. Postabdomen 4- to 7-jointed.

Some of the genera in the first and second sections of this sub-family approach the Leptopodiinae in the length of their epistoma, narrow interocular space, and coalescent postabdominal segments. Consequently the Acanthonychinae are to be regarded as a series parallel with, rather than inferior to, the Leptopodiinae in a natural arrangement.

§ *Carapace elongated, ovate-cylindrical. Rostrum elongated, emarginate or bifurcated. Præocular minute, or wanting. Eyes immobile. Last two pairs of legs very short.*

This section would appear to correspond with Stimpson's sub-family Anomalopinae.

XENOCARCINUS, *White (Huenioides, A. Milne-Edwards)*. (Plate XII. fig. 5.) Carapace ovate-cylindrical. Præocular spine wanting. Antennæ concealed beneath the rostrum. Type *Xenocarcinus tuberculatus*, White.

*ANOMALOTHIR (*Anomalopus*, Stimpson, nom. præoc.). Carapace almost subcylindrical. Præocular minute. Antennæ visible from above. Type *Anomalothir furcillatus* (Stimpson).

§§ *Carapace in the male subtriangular. Rostrum simple, acute. Ambulatory legs regularly decreasing in length.*

* *Eyes immobile. Sexes (where known) dissimilar.*

*MOCOSOA, *Stimpson*. Carapace subpentagonal. Rostrum subtriangular, entire, obtuse, excavated below. Præocular? Outer maxillipedes with the merus joint short, broad, and produced at its antero-external angle. Anterior legs? Type *Mocoso crebrepunctata*, Stimpson.

TRIGONOTHIR, *Miers*. Carapace subtriangular. Rostrum entire, obtuse, flattened below, and produced into lateral carinae. Præocular wanting. Outer maxillipedes with merus joint not produced at its antero-external angle. Anterior legs rather small, palm compressed. Type *Trigonothir obtusirostris*, sp. n.

A single specimen, locality unknown, is in the Museum collection.

HUENIA, *De Haan*. Rostrum slender, deep, and laterally compressed, acute; præocular spine small. Sexes dissimilar (the carapace in the female being produced into large lateral lobes or expansions). Hands compressed, cristate above. Ambulatory

legs more or less dilated and compressed. Type *Huenia proteus*, De Haan.

SIMOCARCINUS, *Miers*. Rostrum as in *Huenia*, but shorter. Præocular spine wanting. Sexes dissimilar. Hands in adult male turgid, not cristate above. Ambulatory legs not compressed. Type *Simocarcinus simplex* (Dana).

The type of this genus is the *Huenia simplex* of Dana: this species and his *H. brevirostrata* are obviously male and female of the same form. Specimens are in the British Museum of both sexes.

CYCLONYX, *Miers*. Rostrum laminate, flattened, very broad, and transversely oval in shape. Eyes situated in the narrow angle between the base of the rostrum and front of the carapace, the sides of which are produced into dilated wing-like expansions as in *Huenia*. Type *Cyclonyx frontalis* (White). Only known from a single female in bad condition.

** *Eyes mobile. Sexes similar.*

MENÆTHIUS, *M.-Edw.* Rostrum slender, acute. Præocular spine well developed. Carapace subtriangular. Anterior legs with the palm slightly compressed, fingers arcuate. Ambulatory legs not compressed. Type *Menæthius monoceros*, Latr.

§§§ *Carapace usually more or less oblong or orbiculate in outline. Rostrum flattened, emarginate, bifid, or two-spined. Præocular usually well developed. Eyes mobile. Basal antennal joint dilated at base, narrowing distally. Ambulatory legs of moderate length.*

* *Flagellum of antennæ concealed beneath the rostrum and not visible from above.*

*LEUCIPPE, *M.-Edwards*. Rostrum laminate, divided by a narrow median fissure. Carapace subtriangular or subpentagonal. Præocular spine wanting. Basal antennal joint not much enlarged at the base. Type *Leucippe pentagona*, M.-Edwards.

This genus marks the transition from the preceding section to the present one.

MIMULUS, *Stimpson*. Rostrum laminate, bifid. Carapace flattened, subpentagonal, with the lateral margins in both sexes produced into bilobate laminate expansions, Præocular

spine present. Basal antennal joint not much enlarged at base. Type *Mimulus foliatus*, Stimpson.

EPIALTUS, *M.-Edwards*. Rostrum lamellate, emarginate. Præocular spine present. Basal antennal joint considerably enlarged at base. Ambulatory legs with the penultimate joint not dilated and compressed.

Subgenus 1. EPIALTUS. Carapace suboblong. Second tooth of the antero-lateral margins greatly developed. Type *Epialtus bituberculatus*, *M.-Edwards*.

Subgenus 2. ANTILIBINIA, *M'Leay*. Carapace suboval, smooth, or uneven. Second tooth of the antero-lateral margins small. Type *Antilibinia Smithii*, *M'Leay*.

I place in this subgenus the W.-American species with smooth oval carapace. *M'Leay's* type species is from S. Africa. In the American species (*E. dentatus*, *E. emarginatus*) the orbital margin, although not prominent, is so well defined and circular that they might almost be separated as a distinct genus, and placed near *Scyra* in the Periceridæ. *A. Smithii* externally resembles the species of *Libinia*.

*EUPLEURODON, *Stimpson*. Carapace depressed and uneven; antero-lateral angles strongly prominent. Ambulatory legs strongly prehensile, penultimate joints dentigerous. Type *Eupleurodon trifurcatus*, *Stimpson*.

This genus seems to be in some degree intermediate between the subgenera *Epialtus* and *Antilibinia*.

** *Flagellæ of antennæ exposed and visible from above at side of rostrum (basal joint of antennæ not much enlarged at base).*

PUGETTIA, *Dana (Peltinia, Dana)*. Carapace somewhat constricted behind the second lateral spine. Ambulatory legs slender, with the penultimate joint not dilated or compressed. Type *Pugettia gracilis*, *Dana*.

ACANTHONYX, *Latreille*. (Plate XII. fig. 6.) Carapace usually suboblong, not constricted behind the second lateral spine. Ambulatory legs with the penultimate joint more or less flattened, dilated, and compressed. Type *Acanthonyx lunulatus*, *Risso*.

(The genus *Dehaanius* of *M'Leay*, *Annulosa* in *Smith's* S. Africa,

p. 57, pl. iii. fig. *a*, would seem, from the figure and the position assigned to it by its author, to have the eyes retractile within well-defined orbits, and hence to be referable to the family Maiidæ. Except as regards the orbital characters, the species figured (*Dehaanius acanthopus*) altogether resembles the S.-African *Acanthonyx dentatus*, M.-Edw. Perhaps there is some error in M'Leay's delineation of the species in question.)

Subfamily 4. MICRORHYNCHINÆ.

Eyes short and completely retractile; the postocular spine or lobe largely developed. Basal antennal joint considerably enlarged throughout its length (except in some *Doclea*). Præocular spine short or absent.

The rostrum is simple or more or less bifurcated. Carapace more or less triangular and convex. The merus joint of the outer maxillipedes cordiform, or truncated at its distal extremity. Legs usually rather slender. Postabdomen of male and female 6- to 7-jointed.

This group is altogether intermediate in the structure of the orbital and antennal region between the Inachidæ and the Maiidæ. The genus *Loxorhynchus*, for example, closely approaches in these respects *Pisa* and its allies; but the upper orbital margin is not developed as in the genera of that section of Maiidæ. Of most of the genera I have seen no specimens.

§ *Rostrum simple. No præocular spine.*

* *MICRORHYNCHUS*, *Bell* (? *Salacia*, M.-Edwards & Lucas). Carapace broadly triangular. Rostrum very short. Merus joint of outer maxillipedes somewhat cordiform. Anterior legs in male small. Ambulatory legs of moderate length. Type *Microrhynchus gibbosus*, *Bell*.

* *APIOMAIA*, *v. Martens* (*Pyromaia*, *Stimpson*). Carapace somewhat pyriform. Merus joint of outer maxillipedes with the antero-internal lobe strongly projecting. The rest nearly as in *Microrhynchus*. Type *Apiomaia cuspidata* (*Stimpson*).

* *ESOPUS*, *A. Milne-Edwards*. Carapace elongate-oval, convex. Front rounded at its distal end. Outer maxillipedes with the merus joint slightly produced at its antero-lateral angle. Type *Esopus crassus*, *A. M.-Edwards*.

§§ *Rostrum bifid or emarginate. A præocular spine usually present.*

LOXORHYNCHUS, *Stimpson*. Rostrum slightly deflexed, bifid;

the spines coalescent at base, and then divergent. A prominent præocular and postocular spine. Basal joint of antennæ considerably enlarged. Merus joint of outer maxillipedes entire at its distal end. Ambulatory legs of moderate length. Type *Loxorhynchus grandis*, Stimpson.

*LIBIDOCLEA, *M.-Edwards*. Rostrum prominent, not deflexed and emarginate at its distal end. Merus joint of outer maxillipedes notched at its distal margin. Legs rather long. Type *Libidoclea granaria*, M.-Edw. & Lucas.

This genus is closely allied to *Libinia* in the family Periceridæ.

DOCLEA, *Leach*. Carapace orbiculate-triangular, or orbiculate. Rostrum usually very short, emarginate. No præocular spine. Basal antennal joint but moderately enlarged at base. Legs very long and slender. Type *Doclea Rissonii*, Leach.

This genus is closely allied to *Egeria*, and marks the transition to that genus of Maiidæ.

Subfamily 5. STENOCIONOPINÆ.

Eyes elongated and retractile, partly concealed by the præocular spine, which is very greatly elongated. Basal antennal joint considerably enlarged throughout its length.

The rostrum is composed of two spines. Carapace somewhat oblong and posteriorly prolonged. The articulation of the merus joint of the outer maxillipedes with the preceding joint is often very peculiar.

The enlarged basal antennal joint marks the approach of this subfamily to the Maiidæ. Were the upper orbital margin as well developed in all the genera as in *Tyche*, it would be better to constitute it a subfamily of that group.

*STENOCIONOPS, *Latreille*. Upper orbital margin behind præocular spine not developed. Posterior lobe of the carapace simple. Merus joint of outer maxillipedes greatly produced and acute at its antero-external angle, and with a notch on its inner margin for the insertion of the fourth joint. Type *Stenocionops cervicornis* (Herbst).

*STILBOGNATHUS, *v. Martens*. Facies of *Stenocionops*. Ischium joint of the outer maxillipedes with a longitudinal pit on its outer surface which is covered with bristles; merus joint convex and

shining, with a flat rounded lobe at its antero-external angle. Type *Stilbognathus erythræus*, v. Martens.

TYCHE, Bell (*Platyrhynchus*, Desb. & Schramm*). Upper orbital margin behind the præocular spine well developed, laterally produced, and concealing the eyes, with a deep fissure. Ischium and merus joints of outer maxillipedes flat and smooth; the third or merus joint dovetailed into the second, not produced, or with a small lobe at its antero-external angle. Type *Tyche lamellifrons*, Bell.

Family II. MAIIDÆ.

Eyes retractile within the orbits, which are distinctly defined; but often more or less incomplete below, or marked with open fissures in their upper and lower margins. Basal antennal joint always more or less enlarged.

Subfamily 1. MAIINÆ. (See Plate XII. figs. 7-10.)

(*Maiens cryptophthalmes*, M.-Edwards, part.).

Carapace usually subtriangular. Rostrum well developed. Anterior legs in male enlarged; fingers not excavate at tips.

This subfamily includes most of those typical forms which group themselves around the common *Maia*, in which the carapace is usually triangular or elongate-triangular, the rostrum emarginate or two-spined, the orbits large, well defined and yet incomplete, eyes completely retractile, anterior legs with fingers acute, and ambulatory legs usually of moderate length.

Stimpson proposed to separate as a distinct subfamily (*Leptopinæ*) the group typified by *Egeria* (*Leptopus*, Latr.), on account of the broad and somewhat cordiform merus joint of the outer maxillipedes. *Egeria* could not in any case be taken as typical of the group, as in it the merus joint of the outer maxillipedes is not cordiform, but truncated at its distal end. A certain affinity undoubtedly exists between the genera in which the merus joint is cordiform, as also between those (typified by *Camposcia*) which have the merus joint elongated, often rounded at the distal end, and articulated with the next at the summit; but these characters cannot be employed as a basis for a general classification, and do

* I have not had an opportunity of consulting Dr. Schramm's work, 'Crustacés de la Guadeloupe d'après un manuscrit du docteur Desbonne, 1re partie, *Brachyura*. Basse-Terre, 8vo, 1867.' In referring to it I have followed M. A. Milne-Edwards's citations.

not always harmonize with the characters derived from the structure of the orbits and antennæ.

§ *Rostrum vertically compressed and laminated, bifid, or notched at the extremity. Orbits shallow and very open above, so that the eyes, when retracted, are more or less visible from above, the eyes themselves short and thick.*

* *Ambulatory legs extremely long and slender.*

EGERIA, *Latr. (Leptopus, Lamk., pt.)*. Carapace broadly triangular, spinose. Rostrum prominent, notched. Orbits with two wide fissures below. Basal antennal joint rather narrow. Anterior legs of male rather small. Type *Egeria longipes* (Herbst).

CHORILIBINIA, *Lockington*. Carapace triangular. Rostrum long, the spines coalescent at base and divergent at tip. Basal antennal joint moderately enlarged. Upper orbital margin very prominent. Eye-peduncles short. Type *Chorilibinia angusta*, Lockington.

** *Ambulatory legs of moderate length.*

a. *Carapace not spinose.*

*HEMUS, *A. Milne-Edwards*. Rostrum deflexed, notched at the extremity. Basal joint of antennæ enlarged; the second and third joints also dilated and visible from above, with lateral wing-like expansions. Merus joints of the ambulatory legs considerably dilated. Type *Hemus cristulipes*, A. Milne-Edwards.

HYAS, *Leach*. Rostrum bifid; the median fissure narrow. Basal joint of antennæ not much enlarged, the second joint moderately dilated, the third joint narrow. Ambulatory legs not dilated or compressed. Type *Hyas araneus* (Linn.).

CHIONÆCETES, *Kröyer (Peloplastus, Gerstäcker)*. Rostrum notched, not deflexed. Basal joint of antennæ very narrow, second and third not dilated. Ambulatory legs in the adult with the joints somewhat compressed and flattened. Type *Chionæcetes opilio*, Kröyer.

b. *Carapace spinose.*

HERBSTIA, *Milne-Edwards (Rhodia, Bell, Micropisa, Stimpson)*. Rostrum notched. Carapace broadly triangular, with the regions

well defined. Second and third joints of antennæ slender. Ambulatory legs slender, cylindrical.

Subgenus 1. *HERBSTIA*. Inferior margin of orbit without a tooth. Ambulatory legs not spinose. Type *Herbstia condyliata* (Herbst).

Subgenus 2. **HERBSTIELLA*, *Stm.* Inferior margin of orbit toothed. Merus joint of ambulatory legs spinose. Type *Herbstiella depressa*, *Stm.*

This genus establishes a relationship to *Mithrax*.

**CÆLOCERUS*, *A. Milne-Edwards*. Carapace suborbiculate. Rostrum prominent, with a shallow notch at its distal end, and its lateral margins involuted. Second and third joints of antennæ slender. Legs short. Type *Cælocerus spinosus*, *A. M.-Edwards*.

Is nearly allied to *Libinia*; and it may be desirable so to modify its characters as to include any species of that genus which may have the orbital margin incomplete or notched. The involution of the margins of the rostrum is of minor importance, as the same character occurs in a lesser degree in the typical species of *Libinia* (*L. emarginata*).

§§ *Rostrum composed of two more or less distinct divergent spine*
Orbits deep, so that the eyes, when retracted, are concealed; the eyes themselves small, the eye-peduncles slender.

† *Orbits large, with a forward aspect, usually very incomplete below, the upper orbital margin usually prominent, with two deep fissures and long spines.*

**Flagellum of the antennæ arising within the orbital cavity.*

MAIA, *Lamarck*. (Plate XII. figs. 7, 8.) Spines of rostrum divergent from their base. Carapace triangulate-oblong, the interorbital space broad. Basal joint of antennæ very much enlarged. Anterior legs in male rather slender; wrist elongated, not carinated. Type *Maia squinado* (Linn.).

***Flagellum of the antennæ arising within the orb. margin, and separated from the cavity of the orbit by a narrow process of the basal joint.*

PARAMITHRAX, *M.-Edwards*. Carapace subtriangular. Spines of rostrum divergent from their base. Anterior margin of buccal cavity straight, or nearly so. Basal joint of antennæ very much

enlarged. Merus joint of outer maxillipedes notched at its antero-internal angle.

Subgenus 1. *LEPTOMITHRAX*, *Miers*. Anterior legs in male elongated, slender; hand and wrist subcylindrical; wrist not ridged, fingers meeting along their inner edges when closed. (Carapace not spinose above.) Type *Leptomithrax longimanus*, *Miers*.

Subgenus 2. *PARAMITHRAX*, *M.-Edw.* Anterior legs in the male enlarged; hand compressed, fingers with a vacant space between them when closed, wrist with two ridges, the outer usually oblique. (Carapace usually spinose above.) Type *Paramithrax Peronii*, *M.-Edw.*

As regards external form, every gradation appears to be established between the typical *Paramithrax* and *Acanthophrys*, in which the carapace and legs are more or less spinose, the upper orbital margin produced above; but the spine at the antero-external angle of the basal joint of the antennæ projects laterally instead of forward, as in that genus; and the form of the merus joint of the outer maxillipedes is different.

(The genus **Phycodes*, established by A. Milne-Edwards on a species, *P. antennarius*, from St. Vincent, has, I believe, never been figured, but should perhaps be referred to the vicinity of *Paramithrax*. The carapace is pyriform. Spines of rostrum short, acute. Orbits large, ill-defined, emarginate above; eyes partially retractile; postocular spine large. Basal antennal joint long, enlarging distally, ending in two spines, of which the outer is very prominent; flagellum inserted outside rostrum. Third joint of outer maxillipedes much larger on its outer than its inner side. Ambulatory legs long; dactyli curved. There appears to be some inconsistency in the generic and specific descriptions of the frontal and orbital region.)

**OPLOPISA*, *A. Milne-Edwards*. Carapace pyriform. Spines of rostrum straight, divergent. Anterior margin of buccal cavity much more prominent on the sides than in the median portion. Merus joint of outer maxillipedes much dilated at its antero-external angle. Ambulatory legs short, and regularly spinose. Type *Oplopisa inipes*, *A. Milne-Edwards*.

ACANTHOPHRYS, *A. Milne-Edwards*. Carapace subtriangular. Spines of rostrum divergent. Upper orbital margin prominent. Supraocular spine produced above the eye. Basal antennal joint

with a spine at its antero-external angle, which projects forward. Anterior margin of buccal cavity straight, or nearly so. Merus joint of outer maxillipedes dilated at its distal margin, rounded and entire, without any notch for the insertion of the next joint. Type *Acanthophrys cristimanus*, A. Milne-Edwards.

I propose to restrict this genus to species characterized by the entire merus joint of the outer maxillipedes, as there appears to be no other certain distinction between it and *Paramithrax*, and accordingly cite *A. cristimanus* as the type, because (if the figure be correct) it presents this peculiarity. Two species of the genus are in the British-Museum collection.

†† *Orbits small, with a lateral aspect; orbital margin not prominent, with a hiatus above and below (rarely in Pisa there are two hiatus above).*

PISA, *Leach*. (Plate XII. figs. 9, 10.) Carapace triangular, rounded behind. Præocular spine usually large. Spines of rostrum long, parallel, or in contact, to near their extremities. Epistome transverse, rather narrow. Basal joint of antennæ much enlarged, and terminating at its distal extremity in one or two spines or tubercles.

Subgenus 1. PISA, *Leach* (*Blastus*, *Leach*). Anterior legs in the male with the palm dilated; fingers curved, and meeting only at the ends. Carapace ovate-triangular. Type *Pisa tetraodon* (*Pennant*).

Subgenus 2. ARCTOPSIS, *Lamarck*. Carapace subtriangular. Anterior legs in the male with the palms elongated and rather slender; fingers straight, and meeting along their inner edges. Type *Arctopsis lanata*, *Lamarck*.

*PISOIDES, *Milne-Edwards & Lucas*. Carapace subtriangular. Spines of rostrum short, subparallel. No præocular spine. Epistome very narrow, nearly linear. Basal antennal joint with a tubercle at its distal end. Type *Pisoides Edwardsii* (*Bell*).

NOTOLOPAS, *Stimpson*. Carapace with the back flattened, and bounded posteriorly by a broad concave lamella. Rostrum with the spines divaricate. A præocular spine. Basal joint of antennæ with a lobe at its distal end. Type *Notolopas lamellatus*, *Stimpson*.

HYASTENUS, *White (Lahaina, Dana)*. Carapace triangular, rounded behind. Spines of rostrum long, straight, divergent from their base. Præocular spine small or obsolete. Orbits small, with a hiatus above and one below. Basal joint of antennæ not much enlarged. First ambulatory legs greatly elongated.

Subgenus 1. HYASTENUS. Carapace smooth and even above, with none or with few long spines. Basal joint of antennæ without a spine at its distal end. Anterior legs in male small and slender. Type *Hyastenus Sebæ, White*.

Subgenus 2. CHORILIA, *Dana*. Carapace uneven and tubercular above. Basal joint of antennæ usually with a spine at its distal end. Anterior legs in male usually enlarged, with the palm compressed. Type *Chorilia longipes, Dana*.

(The genus *Lahaina, Dana*, is intermediate between *Hyastenus* and *Chorilia*. In the form of the carapace and rostrum and anterior legs it resembles the first; in the presence of a præocular spine, and the existence of a spine on the basal joint of the antennæ, the second. Nevertheless, as the subgenera *Hyastenus* and *Chorilia* represent two types of the genus differing much in external appearance, it seems better to retain them as distinct.)

NAXIA, *M.-Edw. (Naxioides, A. Milne-Edwards; Podopisa, Hilgendorf)*. Carapace subtriangular. Spines of rostrum parallel, and bearing near their extremities an accessory spinule. Præocular spine usually present. Orbits as in *Hyastenus**. Basal joint of antennæ longer than broad; its antero-external angle tuberculiform. First ambulatory legs very long. Type *Naxia serpulifera, M.-Edwards*.

Scarcely distinct, perhaps, as a genus, from *Hyastenus*.

MICIPPOIDES, *A. Milne-Edwards*. Carapace subtriangular. Spines of rostrum rather short, deflexed, acute. No præocular spine. Basal joint of antennæ enlarged, without spine or tubercle at its distal end. Anterior legs in male with the palm dilated. Ambulatory legs of moderate length. Type *Micippoides angustifrons, A. M.-Edwards*.

Marks a transition to *Prionorhynchus* among the Periceridæ.

* In young specimens of *N. serpulifera* the fissures of the orbits are wider, and constitute a veritable hiatus. It appears, therefore, necessary to unite *Naxioides, A. M.-Edwards*, with this genus, as it is only distinguished by the absence of a præocular spine, a character which by itself cannot be considered of generic importance.

EURYNOME, Leach. Carapace subtriangular, tuberculated, and spinose. Spines of rostrum laminate at base, acute at ends, slightly divergent. No præocular spine. Basal antennal joint enlarged at base, longitudinally sulcated, without a spine at its distal end. Anterior legs in male elongated, much longer than the ambulatory legs, which are all of moderate length. Type *Eurynome aspera* (Pennant).

This genus has been placed by Milne-Edwards and other authors in the Parthenopidæ; but in all structural characters it is obviously allied to *Pisa* and *Hystenus*.

PELIA, Bell. Carapace subpyriform. Rostrum with the spines united at base, afterwards divergent. No præocular spine. Basal antennal joint elongated; its distal half visible from above at the side of the rostrum. Legs all of moderate length. Type *Pelia pulchella*, Bell.

Subfamily 2. SCHIZOPHRYSINÆ.

Carapace very broadly triangular, or oval, or nearly circular. Rostrum very short or obsolete. Anterior legs in male small, slender; the fingers usually excavated at the tips.

This subfamily establishes the transition of the Maiidæ to the subfamily Mithracinæ in the Periceridæ, and includes those Maioids in which the rostrum is reduced, until in *Cyclax* its spines are represented only by two small tubercles, the orbits often nearly complete, or marked with very narrow fissures, the carapace broadly triangular or nearly circular, the epistome short, the basal antennal joint very largely developed, and the anterior legs with the fingers more or less excavated.

§ *Anterior legs with the fingers acute at the tips.*

***TEMNONOTUS, A. Milne-Edwards.** Carapace ovate-elliptical, convex and tuberculated above, with a horseshoe-shaped pit on the dorsal surface. A præocular spine present. Spines of rostrum simple, well developed. Orbital fissures narrow; eyes short, thick. Basal joint of antennæ much enlarged. Type *Temnonotus granulosis*, A. M.-Edwards.

Only females of this genus are known; and it is possible that in adult males the fingers may be excavated as in other genera of the same group.

§§ *Anterior legs with the fingers excavated at the tips.*

SCHIZOPHRYS, *White* (*Dione*, De Haan, nom. præoc.). Carapace orbiculate-triangular or rarely elongated. Spines of rostrum distinct, with one or more accessory spines upon their outer margins. Orbits large. Basal joint of antennæ rather slender, with two spines at its distal end. Type *Schizophrys aspera* (Milne-Edwards).

The fingers are acute and not excavated in *S. dama* (Herbst), a species which differs from others of the genus in its more elongated form, and approaches the *Maiidæ*.

CYCLAX, *Dana*. Carapace orbiculate or oblong-orbiculate. Spines of rostrum simple, very short or rudimentary. Orbits large. Basal joint of antennæ usually much enlarged.

The accessory spines of the rostrum of *Schizophrys* constitute the only positive distinction (although an arbitrary one) that can be employed to separate the species of that genus from *Cyclax* and *Nemausa*.

Subgenus 1. CYCLAX, *Dana*. Spines of rostrum longer. Eye-peduncles longer. Basal joint of antennæ slenderer, with two spines at its distal end. Type *Cyclax Perryi*, *Dana*.

Subgenus 2. CYCLOMAIA, *Stimpson*. Spines of rostrum rudimentary. Eyes large. Basal joint of antennæ very broad, with three spines at its distal end. Type *Cyclomaia suborbicularis*, *Stimpson*.

(The genus **Pleurophricus* of Alphonse Milne-Edwards, founded upon a species, *P. cristatipes*, from Australia (Journ. Mus. Godeffroy, iv. p. 84, pl. xii. fig. 6, 1873), is placed by that distinguished carcinologist among the Oxyostomata; but judging from the description and figure of the third maxillipede, I should certainly suppose its true position to be in this subfamily of the Oxyrhyncha. It is distinguished from *Cyclax*, *Schizophrys*, and *Temnonotus* by the anterior legs, which are short and somewhat enlarged, and by the front, which is quadridentate.)

Subfamily 3. MICIPPINÆ. (See Plate XIII. figs. 1, 2, 3.)

Carapace suboblong. Rostrum vertically, or nearly vertically, deflexed, usually broad, lamellate. Anterior legs with the fingers acute at tips. Basal antennal joint very much enlarged. Eye-peduncles very long, geniculated, and laterally projecting.

Notwithstanding the great dissimilarity of *Micippa* and *Picrocerus*, which stand at opposite extremes of the series, a regular gradation may be traced between the genera of this group. In *Picrocerus* the broad and lamellate rostrum of *Micippa* and *Paramicippa* is reduced to a single vertically deflexed spine, the præocular spines are enormously developed, and constitute the apparent rostrum; the anterior part only of the upper wall of the orbit is developed, the posterior part, which is complete in *Micippa*, being represented only by two or three spines: hence the carapace behind the eyes appears constricted; the basal antennal joint, moreover, is narrower and elongated. *Criocarcinus* occupies an intermediate position between *Micippa* and *Picrocerus*.

§ *Orbits very incomplete, the anterior portion partially surrounding the eye-peduncle, and usually of the form of a tube open below, the posterior portion often represented only by one or two spines.*

CRIOCARCINUS, *M.-Edwards*. (Plate XIII. fig. 3.) Orbits tubular, open below; præocular spines small. Rostrum lamellate at base, and terminating in two divergent spines. Legs of moderate length. Type *Criocarcinus superciliosus* (Herbst).

PICROCERUS, *Alphonse Milne-Edwards*. Orbits tubular, open below. Rostrum rudimentary, composed of a single vertically deflexed spine. Præocular spines enormously developed, horizontal, and slightly divergent; constituting the apparent rostrum. Legs long and slender. Type *Picrocerus armatus*, A. M.-Edwards.

PSEUDOMICIPPE, *Heller*. Orbits not tubular, covering the eye-peduncles above, not defined below, with a hiatus above. Rostrum obliquely deflexed, composed of two divergent spines. Præocular spines small. Legs of moderate length. Type *Pseudomicippe nodosa*, Heller.

Establishing the transition to *Tyche* and its allies.

§§ *Orbits of a narrow oval form, well defined; basal antennal joint much enlarged.*

MICIPPA, *Leach*. (Plate XIII. figs. 1, 2.) Rostrum nearly vertically deflexed. Anterior legs in male with the palm elongated and rather slender; fingers meeting along their inner edges when closed. Type *Micippa cristata* (Linn.).

PARAMICIPPA, *M.-Edwards*. Rostrum less vertically deflexed. Anterior legs in the male with the palm enlarged, shorter, smooth; fingers, when closed, meeting only at the ends. Type *Paramicippa platipes* (Rüppell).

The eyes are, I believe, retractile in both genera; and the characters derived from the orbital and antennal region are subject to variation.

Family III. PERICERIDÆ. (*Maiens cryptophthalmes*, *M.-Edwards*, part.)

Eyes retractile within the small circular and well-defined orbits, which are never incomplete as in the Maiidæ. Basal antennal joint well developed, and constituting the greater portion of the inferior wall of the orbit; this joint is usually very considerably enlarged.

Subfamily 1. PERICERINÆ. (See Plate XIII. figs. 4, 5.) (*Pericerine*, Stimpson.)

Carapace more or less subtriangular in shape. Rostrum well developed. Second joint of antennæ not dilated. Anterior legs with the fingers acute at the tips.

In this subfamily are included those which may be regarded as the typical genera of this family, in which the spines of the rostrum are well developed, and often in contact with one another. The interorbital space is very broad, and the orbits tubular; the basal joint of the antennæ very much enlarged, the epistoma short, the legs of moderate length, and the fingers acute at tips. One or two of the genera (*Scyra*, *Sphenocarcinus*), in which the basal antennal joint is least developed, are related to the Epialtinæ.

§ *Rostrum emarginate at apex only.*

LIBINIA, *Leach*. Carapace orbiculate-triangular, convex, spinose. Præocular spine distinct. Basal joint of antennæ moderately enlarged. Legs of moderate length. Type *Libinia emarginata*, *Leach*.

PRIONORHYNCHUS, *Jacquinet & Lucas*. Carapace subtriangular. Præocular spine absent. Rostrum broad, lamellate, deflexed and emarginate at its distal end. Basal joint of antennæ greatly enlarged. Type *Prionorhynchus Edwardsii*, *Jacq. & Lucas*.

§§ *Rostrum composed of two distinct spines.*

* *Basal joint of antennæ without a spine at its distal extremity.*

SCYRA, Dana. Præocular spine present. Spines of rostrum lamellate at base, acute at distal end. Basal joint of antennæ narrow. Anterior legs rather long, palm carinated. Ambulatory legs not compressed. Type *Scyra acutifrons*, Dana.

*PYRIA, Dana. Præocular spine absent. Spines of rostrum lamellate. Anterior legs slender. Ambulatory legs much compressed. Type *Pyria pubescens*, Dana.

Nothing is said respecting the orbits and basal antennal joint; if the orbits are incomplete, this genus would probably be placed near *Chionæcetes*.

LISSA, Leach. Carapace very convex. Præocular spine present. Spines of rostrum flattened, contiguous, and produced at their extremities into a lateral lobe. Basal joint of antennæ much enlarged. Anterior legs with the palm compressed but not carinated. Ambulatory legs of moderate length. Type *Lissa chivra* (Fabr.).

*RACHINIA, A. Milne-Edwards. Præocular spine present. Spines of rostrum slender and divergent. Anterior legs with the palm compressed but not carinated. Ambulatory legs very slender. Type *Rachinia gracilipes*, A. Milne-Edwards.

The description of this genus is taken from the figure in the 'Mission Scient. Mexique, Crustacés Podophthalmaires,' pl. xviii. fig. 1. The species is noticed, but not described, in a footnote on p. 86. Of this fine work, which contains descriptions and figures of many new genera and species, only a portion, referring to the Crustacea Xiphosura and a part of the Oxyrhyncha, has yet appeared (5me partie, livraisons 1-3. Paris, 4to, 1873 & 1875).

*LEPTOPISA, Stimpson. Carapace narrow, with perpendicular sides. Spines of rostrum very slender and contiguous. Anterior legs in the male large; fingers widely gaping. Ambulatory legs long and slender. Type *Leptopisa setirostris*, Stimpson.

*SPHENOCARCINUS, A. M.-Edwards. Carapace triangular. Rostrum elongated, its spines contiguous to within a very short distance of their extremities, which are acute. Anterior legs small. Ambulatory legs of moderate length. Type *Sphenocarcinus corrosus*, A. M.-Edwards.

This genus is only known to me from M. A. Milne-Edwards's figure in the 'Mission Scientif. Mexique' (pl. xvii. fig. 5), from which the diagnosis is taken. Its nearest ally among the Pericerinæ seems to be *Seyra*, Dana. If the orbits are incomplete, it would probably be placed among the Epialtinæ. It agrees, however, with most of the Periceridæ in having a short epistome.

** *Basal joint of antennæ often very much enlarged, with one or more spines at its distal extremity.*

† *Carapace narrow and elongated, nearly vertically deflexed in front of gastric region.*

CYPHOCARCINUS, *A. M.-Edwards*. Spines of rostrum slender and divergent. Spine of basal antennal joint small. Type *Cyphocarcinus minutus*, *A. M.-Edwards*.

†† *Carapace subtriangular, not deflexed in front.*

1. *Spine at antero-external angle of antennal joint very short, and not visible from above.*

TIARINIA, *Dana*. Carapace tuberculated, without a distinct series of lateral spines. Spines of rostrum very slender and contiguous. Interorbital space broad. Anterior legs in male with the palm short; fingers gaping. Ambulatory legs nodose or spinose. Type *Tiarinia cornigera* (*Latreille*).

TYLOCARCINUS, *Miers* (τύλος, a knob). Carapace tuberculated, without lateral spines. Spines of rostrum slender, divergent. Interorbital space narrow. Basal antennal joint not much enlarged. Anterior legs in male with the fingers nearly meeting when closed. Ambulatory legs spinose or nodose. Type *Tylocarcinus styx* (*Herbst*).

PERICERA, *Latreille*. (Plate XIII. figs. 4, 5.) Carapace with a series of lateral spines. Spines of rostrum long and divergent. Interorbital space broad. Basal joint of antennæ very much enlarged, with two small distant spines at its distal end. Anterior legs long, palm slender and elongated, fingers not gaping. Ambulatory legs smooth. Type *Pericera cornuta*, *Latreille*.

2. *Spine at antero-external angle of basal antennal joint very long, and visible from above.*

MICROPHRYX, *Milne-Edwards* (*Milnia*, *Stimpson*; *Perinea*,

Dana; *Fisheria*, Lockington). Carapace broadly triangular. Spines of rostrum slender and more or less divergent. Branchial spine small. Orbits not tubular. Anterior legs in male enlarged; fingers arcuate, and meeting only at the tips. Antennæ visible from above at sides of rostrum. Type *Microphrys bicornuta* (Latreille).

(The genus *Omalaecantha* of Hale Streets, of which I have seen no specimen, is very closely allied to this genus, and ought perhaps to be united with it, as M. A. Milne-Edwards has pointed out. It is, however, stated by its author to be sufficiently distinguished by the flattened club-shaped joints of the antennæ; and I prefer, for the present, to regard it as distinct. In the genus *Perinea*, Dana, which establishes the transition from *Microphrys* to the next genus, the carapace is convex and the rostrum very short.)

MACROCELOMA, *Miers*. Carapace very convex. Branchial spine very large. Spines of rostrum parallel, or nearly so. Orbits tubular and laterally projecting; interorbital space very broad. Anterior legs in male with the palm elongated, and fingers meeting, or nearly meeting, when closed. Type *Macroceloma trispinosa* (Latreille).

This genus is proposed for that section of the old genus *Pericera* in which is included *P. trispinosa* and its allies.

*ANAPTYCHUS, *Stimpson* (*Ala*, Lockington). Carapace broadly triangulate, with the lateral margins laminated, produced over the bases of the ambulatory legs, and regularly dentated. Spines of rostrum short. Anterior legs in male rather slender; fingers nearly meeting throughout when closed. Type *Anaptychus cornutus*, Stimpson.

Subfamily 2. OTHONINÆ. (See Plate XIII. fig. 6.) (*Othonina*, Dana, Stimpson.)

Carapace suboblong; interorbital space very broad. Rostrum almost obsolete. Second joint of antennæ enlarged. Anterior legs with the fingers slightly excavated at the tips.

This subfamily is restricted to the single genus

OTHONIA, *Bell* (*Pitho*, Bell). (Plate XIII. fig. 6.) Carapace with the margins regularly dentated. Type *Othonia sexdentata*, Bell.

Subfamily 3. MITHRACINÆ. (See Plate XIII. figs. 7, 8.)
(*Mithracinæ*, Stimpson.)

Carapace broadly triangular, sometimes transverse, with the sides slightly arcuate; interorbital space narrow. Rostrum short or obsolete. Second joint of antennæ not dilated. Anterior legs with the fingers excavated at the tips.

In this subfamily are included those Periceridæ which most nearly approach the Cancroids of the subfamily Chlorodiinæ in the form of the carapace, the obsolescence of the rostral spines, the small and completely defined orbits (which do not project laterally as in the Pericerinæ), the extremely short epistoma, and the form and development of the anterior and ambulatory legs. *Mithraculus*, which stands at the end of the series, is indeed hardly to be distinguished in external form from the Cancroid *Phymodius* or *Chlorodius*, from which, however, it is in reality separated by the position and great development of the basal antennal joint. *Nemausa*, on the other hand, marks the transition to the Maiidæ.

NEMAUSA, *Alphonse Milne-Edwards*. Carapace longer than broad; spines of rostrum well developed. Basal joint of antennæ with a long spine at its distal end. Anterior legs in male not much enlarged; palm slender. Ambulatory legs not compressed. Type *Nemausa spinipes* (Bell).

This genus presents affinities with *Microphrys*, and also with *Herbstia* and *Schizophrys* among the Maiidæ.

PARATHOË, *Miers*. Carapace triangular, rounded behind. Front very small and narrow, truncated or notched. Basal antennal joint narrow as in *Scyra*, longer than broad, and without any spine at its distal end. Anterior legs with the palm dilated, and fingers arcuate, meeting at the tips. Ambulatory legs not dilated, and compressed. Type *Parathoë rotundata*, *Miers*.

Its habitats (the Gulf of Suez and Fiji Islands) are of great interest, as the subfamily is almost exclusively American. The examples before me have nearly the aspect of *Thoë*; hence the generic name.

(The genus *Paramaya* of De Haan was founded upon a species which he subsequently referred (rightly I believe) to *Maia*. The name may, however, have to be retained for the *Paramaya Dehaani* of White, referred to in his 'List of Crustacea in the British Museum,' p. 7 (1847). This species is founded upon a single female specimen, bleached and probably immature, which closely resembles *Mithrax*, but differs from the species of that genus in

there being no tubercles or spines on the lateral margins of the carapace and very obscurely marked tubercles on the branchial regions. The orbital margins, also, are smooth. The much dilated basal antennal joint has a single spine at its extero-distal angle; the legs are smooth.)

THOË, *Bell* (*Platypes*, Lockington). Carapace triangular, narrowed anteriorly. Rostrum very short, its spines reduced to tubercles. Basal antennal joint with a very short spine at its distal end. Anterior legs in male enlarged, palms short, dilated, fingers meeting only at tips. Ambulatory legs compressed and dilated. Type *Thoë erosa*, Bell.

MITHRAX, *Leach*. (Plate XIII. figs. 7, 8.) Carapace broadly triangular, usually transverse. Spines of rostrum short or obsolete. Basal antennal joint dilated, with short spines at its distal end. Anterior legs in male usually enlarged. Ambulatory legs not dilated and compressed.

Subgenus *MITHRAX*, *Leach* (*Telephrys*, Stimpson). Carapace with the branchial regions not sulcated, sides usually spinose.

Subgenus *MITHRACULUS*, *White*. Carapace depressed, with shallow smooth interspaces or sulci between the tubercles on the branchial regions, antero-lateral margins tuberculate (anterior legs greatly enlarged). Type *Mithraculus sculptus* (Lamarck).

Scarcely distinct even as a subgenus from *Mithrax*, although of very different external aspect; the characters of the orbital and antennal region are not constant. *Telephrys* of Stimpson marks the transition from *Mithrax* to *Mithraculus*.

Family IV. PARTHENOPIDÆ. (*Parthénopiens* and *Cancériens cryptopodes*, M.-Edwards).

Eyes usually retractile within the small circular and well-defined orbits; the inferior wall of the orbit is continued to within a very short distance of the front. The antennæ are very slender, the basal joint does not, as in the Periceridæ, constitute a great part of the interior orbital margin, but is very small, and usually does not reach to the front, and with the next joint occupies the narrow hiatus intervening between the front and inner orbital angle.

The structural relationship of this family with the Oxystomata, best evidenced in the genus *Mesorhæa*, has been already adverted to; and there are resemblances also in external characters, such as the lateral extension of the carapace over the ambulatory legs

in *Cryptopodia*, and the form of the anterior legs in certain forms (e. g. *Ethra*), in which they are capable of being closely applied to the body. On the other hand, the structure of the orbits and position of the basilar portion of the antennæ very nearly resembles that of certain Cancroid genera, as *Pilumnus* and *Trapezia*. The Parthenopidæ are related, as already stated, with the typical Oxyrhyncha through *Inachoides* and *Inachus*.

Subfamily 1. PARTHENOPINÆ. (See Plate XIII. figs. 9, 10, 11.)

Carapace equilaterally or transversely triangular or elliptical. Rostrum simple. A strongly marked depression separating the branchial from the cardiac and gastric regions. Anterior legs greatly developed, with the palm trigonous, fingers acute.

§ *Carapace not laterally expanded.*

LAMBRUS, *Leach*. (Plate XIII. fig. 9.) Carapace equilaterally triangular, with the regions convex, tuberculate. Basal antennal joint short and not reaching to the front, the inner orbital hiatus usually occupied by the second joint, which is longer than or as long as the first. Anterior legs* with a tuberculated or spinose crest along the upper margin of the palm. Anterior legs usually very long. Ambulatory legs very short, smooth or minutely spinose. Type *Lambrus longimanus* (Linn.).

PARTHENOPE, *Fabricius*. Carapace equilaterally triangular. Basal antennal joint longer than the second, but not reaching the inner orbital hiatus. Anterior legs rather compressed, tuberculated, but not cristated. Ambulatory legs longer, with long spines. Type *Parthenope horrida* (Linn.).

Scarcely distinct as a genus; but it appears better to retain it as a designation for the single species *P. horrida*, than to unite it with *Lambrus*, when the rule of priority would compel the adoption of the generic term *Parthenope* for all the numerous species of the former genus, which have been universally designated as species of *Lambrus*.

* SOLENOLAMBRUS, *Stimpson*. Carapace pentagonal, smooth, convex, with the margins acute. Rostrum short and blunt, or faintly tridentate. Basal joint of antennæ about as long as the second. Pterygostomian regions ridged as in *Heterocrypta*. Anterior legs nearly as in *Lambrus*. Ambulatory legs slender, compressed. Type *Solenolambrus typicus*, Stimpson.

* **MESORHŒA**, *Stimpson*. Resembles *Solenolambrus* in the carapace, legs, pterygostomian and hepatic channels; but the efferent branchial channels meet in the middle of the endostome or buccal cavity, which has a triangular projection and a deep notch in its vertical laminiform wall. The third joint of the outer maxillipedes is produced forward at its internal angle and conceals the palpus. Type *Mesorhœa sexspinosa*, Stimpson.

This remarkable genus indicates an approach on the part of the Maiioidea to the Oxystomatous crabs, as has already been stated.

§§ *Carapace more or less laterally expanded.*

CRYPTOPODIA, *Milne-Edwards*. Carapace transversely triangular, with the lateral margins greatly produced, and concealing the ambulatory legs, the posterior margin also prolonged backward. Front very prominent. No ridges on the pterygostomian regions. Type *Cryptopodia fornicata* (Fabr.).

HETEROCRYPTA, *Stimpson*. Carapace as in *Cryptopodia*, but without the posterior expansion. A strongly-marked ridge on the pterygostomian region, defining the afferent channel. Type *Heterocrypta granulata* (Gibbes).

ÆTHRA, *Leach*. (Plate XIII. fig. 10.) Carapace transversely oval or elliptical, with the lateral margins produced as in *Cryptopodia*, and dentated. No posterior expansion. No ridge on the pterygostomian region. Type *Æthra scruposa* (Linn.).

This genus, although somewhat resembling *Cancer* and *Etisus* in external form, is much more nearly allied to *Cryptopodia* in the characters of the cephalothorax and antennæ, and must be arranged with that genus, as has been done by Stimpson and S. I. Smith.

(The genus *Eurynolambrus*, which is placed by MM. Milne-Edwards and Lucas and by Dana with the Parthenopidæ, and which in the triangular and expanded carapace has certainly much resemblance to *Cryptopodia*, has really far more affinity with *Cancer* in the form of the orbital and antennal region. The basal joint of the antennæ, as in that genus, is much enlarged, and excludes the flagellum from the orbital hiatus. The front is bilobate; and the anterior legs have not the trigonous form characteristic of *Cryptopodia* and its allies. The lateral expansions of the carapace are far smaller, and do not conceal the ambulatory

legs. I propose, then, to refer this genus to the Cancerinæ, where it marks the transition of that group to the Parthenopidæ.

The genus *Telmessus* of White, which was originally placed by its author among the Plagusiinæ and subsequently assigned to the Maiidæ (Voy. Samarang, Crust. p. 14) has externally some resemblance to *Anaptychus*. In the characters of the orbital and antennal regions, however, it has more affinity with the Cancroid than the Maioid crabs; and its most natural position is perhaps among the Corystoidea, where Dana placed it.)

Subfamily 2. EUMEDONINÆ.

Carapace usually rhomboidal or subpentagonal, with a spine at the junction of the antero-lateral and postero-lateral angles. Rostrum usually bifid or emarginate. Depressions separating the regions of the carapace obscure or non-existent. Anterior legs of moderate length, not trigonous.

§ *Carapace flat and smooth above. Ambulatory legs with all the joints greatly dilated and compressed.*

ZEBRIDA, *White*. Spines of rostrum and lateral spines of carapace large, laminate. Basal antennal joint large and filling the orbital hiatus. Type *Zebrida Adamsii*, *White*.

§§ *Carapace uneven or convex. Ambulatory legs slender.*

*EUMEDONUS, *Milne-Edwards*. Carapace depressed. Rostrum long and emarginate at its extremity, where the spines are divergent. Anterior legs rather large. Ambulatory legs slightly compressed, with the third joint somewhat cristated. Type *Eumedonus niger*, *Milne-Edwards*.

GONATONOTUS, *Adams and White*. Carapace uneven above. Rostrum broad, lamellate, rounded, and very slightly emarginate or entire at its distal extremity. Anterior legs of moderate size. Ambulatory legs slender, not dilated and compressed. Type *Gonatonotus pentagonus*, *Adams and White*.

CERATOCARCINUS, *Adams and White*. Carapace tuberculated above. Rostrum composed of two slender widely separated spines. Anterior legs of moderate size. Ambulatory legs slender. Type *Ceratocarcinus longimanus*, *Adams and White*.

In this remarkable genus, the inner orbital hiatus is completely

closed and the slender antennæ consequently excluded from the orbit.

HARROVIA, *Adams & White*. (Plate XIII. fig. 11.) Carapace slightly tuberculate, lateral spine small. Front broad, truncated, and divided by three fissures into four lobes, of which the median are truncated and the lateral acute. Anterior legs elongated, ambulatory legs slender. Type *Harrovia albo-lineata*, Adams and White.

This genus was wrongly placed by Adams and White with the Leucosiidæ. By Stimpson it was considered synonymous with *Ceratocarcinus*; but it is as distinct as any other of the group. With the preceding, it appears to constitute almost a connecting link between the Parthenopinæ and the Eriphiidæ (*Trapezia*). As the specimens are dried and almost unique, I have not been able to examine the buccal cavity; but in the allied genus *Gonatonotus* there are clearly-marked longitudinal ridges on the endostome, as in the Eriphiidæ.

APPENDIX.

**GONIOTHORAX*, *A. M.-Edwards*. This genus, which has been described since my paper was read, is allied, according to its author, to *Epialtus* and *Acanthonyx*, but differs in the length of the non-prehensile ambulatory legs and in the structure of the antennal region. The antennæ define the orbits below; their basal joint is small, not reaching to the summit of the antennular fossæ; the two following joints are nearly as thick as the first, the third being remarkably long. Type *Goniothorax ruber*, A. M.-Edwards.

**LEPIDONAXIA*, *Targioni-Tozzetti*. I have not been able to consult the author's recently published 'Report on the Brachyurous and Anomourous Crustacea collected during the voyage of the corvette 'Magenta;'' but, to judge from the description of this genus, quoted by V. Martens in the 'Zoological Record' for 1877, it would seem to be allied to *Hyastenus*, differing, however, in the form of the basal antennal joint, which is dilated and unarmed externally, unidentate posteriorly and in the middle. Type *Lepidonaxia Deflippii*, Targ.-Tozzetti.

PLATYLAMBRUS, *Stimpson*. This generic name was suggested by Stimpson in case it should be found practicable to separate from *Lambrus* the *L. crenulatus*, Saussure, and such allied species

as are characterized by a depressed carapace and excavated pterygostomial and subhepatic regions, this excavation forming, when the chelipedes are retracted, passages to the efferent branchial apertures.

This excavation, however, varies not only in direction and depth, but is traceable in species not otherwise very nearly allied; and I would suggest the following as more convenient subgeneric divisions:—

Subgenus 1. *LAMBRUS*. Carapace subrhomboidal, not produced at its postero-lateral angles over the bases of the ambulatory legs. Anterior legs greatly elongated and spinose (usually more than three times as long as the carapace). Type *Lambrus crenulatus*, Sauss.

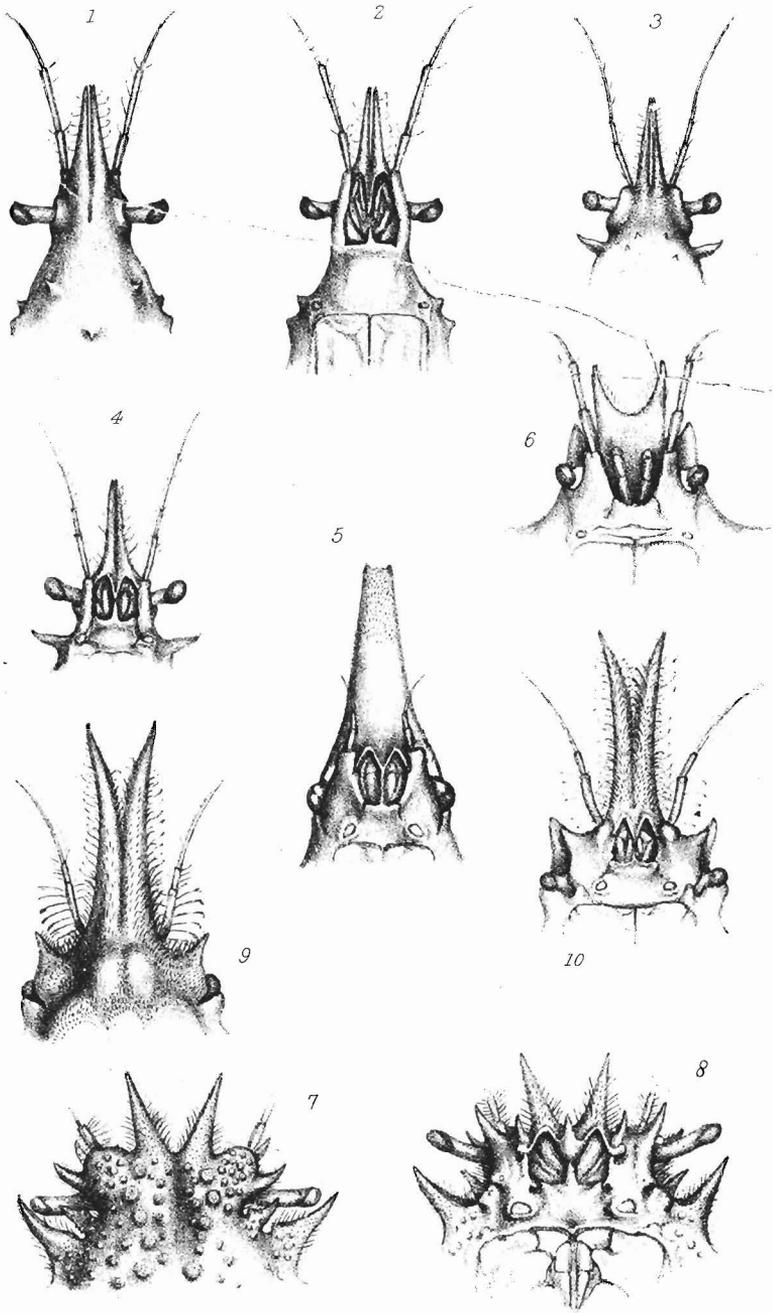
Subgenus 2. *PARTHENOPOIDES*, *Miers*. Carapace subtriangular with the posterior margin nearly straight, and produced at the postero-lateral angles over the bases of the ambulatory legs. Anterior legs rarely spinose and of moderate length (rarely exceeding $2\frac{1}{2}$ times the length of the carapace). Type *Parthenopoides massena* (Roux).

This subgenus includes those *Lambri* which approach *Parthenope* in the lesser development of the anterior legs, and includes several species which have been described as members of that genus.

DESCRIPTION OF THE PLATES.

PLATE XII.

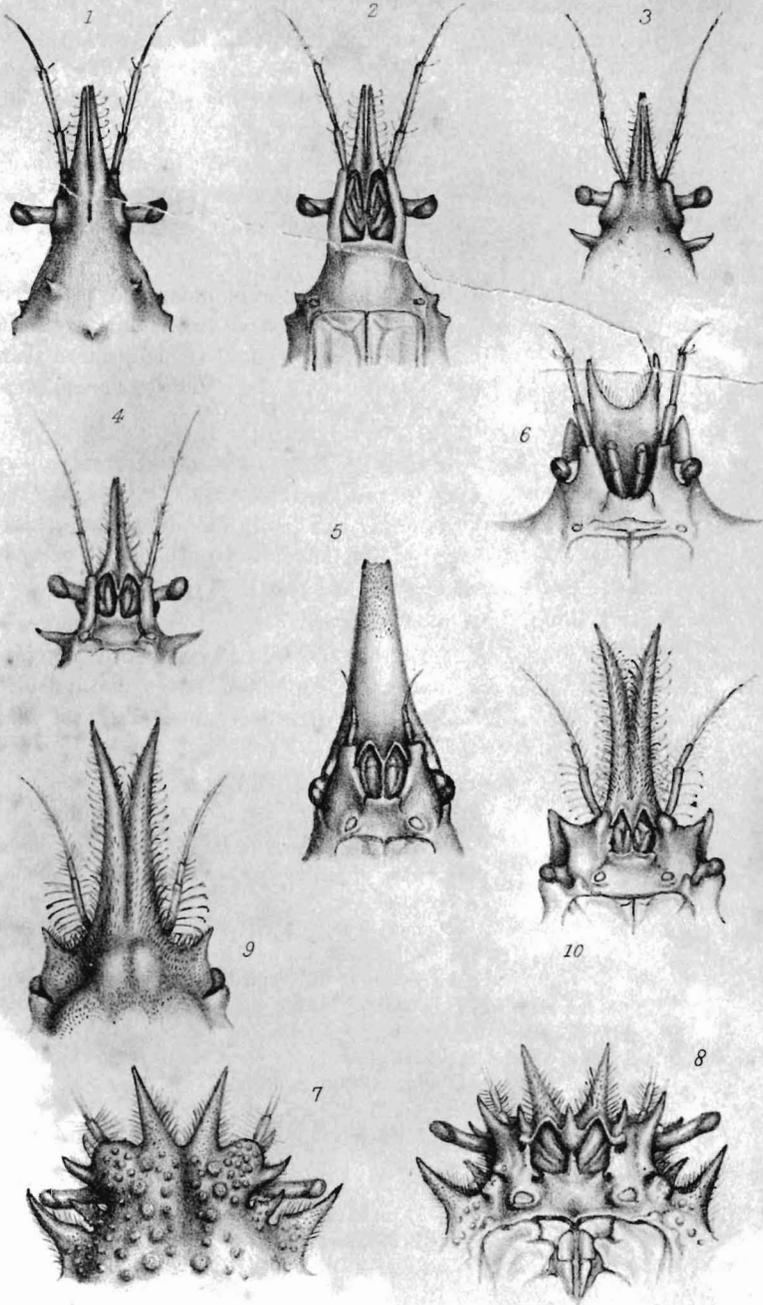
- Fig. 1. *Stenorhynchus rostratus* (Linn.). Front of the cephalothorax, dorsal view, showing the laterally projecting eyes and the absence of orbits; \times nearly 3 diameters.
2. Inferior view of the same, showing the slender basal antennal joint and large epistome; \times nearly 3 diam.
3. *Oregonia hirta*, Dana. Front of the cephalothorax, showing the projecting rim which covers the base of the ocular peduncle and the prominent postocular spine; \times 3 diam.
4. Inferior view of the same, showing the form of the narrow basal antennal joint and of the epistome; \times 3 diam.
5. *Xenocarcinus tuberculatus*, White. Inferior view of the front of the cephalothorax, showing the immobile eyes and the form of the basal antennal joint; \times 3 diam.
6. *Acanthonyx lunulatus*, Risso. Inferior view of the front of the cephalothorax, showing the form of the basal antennal joint and the partial concealment of the eyes beneath the prominent præocular spine; \times 3 diam.



STRUCTURE OF ORBITAL AND ANTENNAL REGIONS
OF THE MAOID CRABS. (OXYRHYNCHA)

C. Berjeau lith.

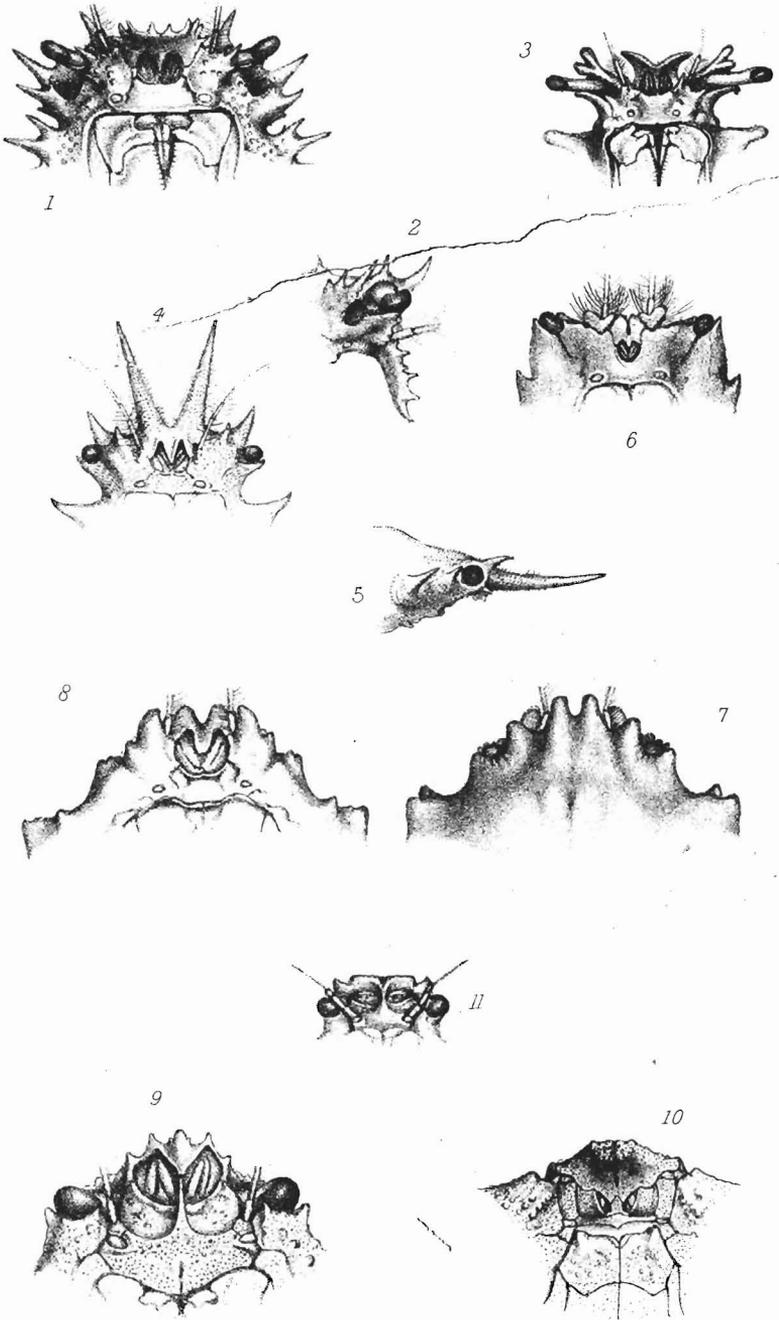
Hanhart imp.



STRUCTURE OF ORBITAL AND ANTENNAL REGIONS
OF THE MAIROID CRABS. (OXYRHYNCHA).

C. Berjeau lith.

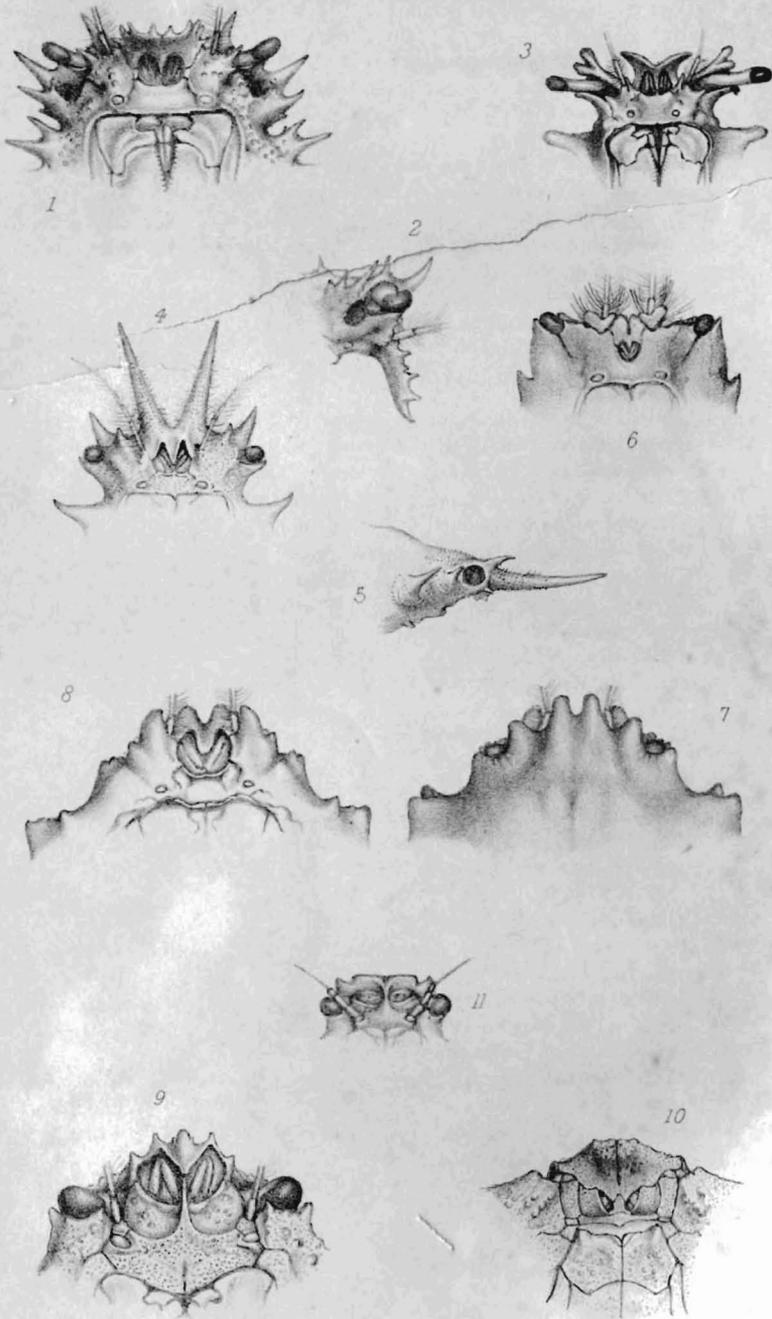
Hanhart imp.



STRUCTURE OF ORBITAL AND ANTENNAL REGIONS
OF THE MAOID CRABS. (OXYRHYNCHA).

C. Berjean lith.

Hanhart imp.



STRUCTURE OF ORBITAL AND ANTENNAL REGIONS
OF THE MAIROID CRABS. (OXYRHYNCHA).

C. Berjean lith.

Hanhart imp.

- Fig. 7. *Maia squinado*, Linn. Dorsal view of the front of the cephalothorax, showing the form of the upper orbital wall, which is formed of long spines, beneath which the long and slender eye-peduncles are retractile; natural size.
8. Inferior view of the same, showing the form of the inferior margin of the orbit and of the enlarged basal antennal joint; natural size.
9. *Pisa (Arctopsis) lanata*, Lamk. Dorsal view of the front of the cephalothorax, showing the narrow hiatus in the upper orbital margin and the short eye-peduncle; $\times 2$ diam.
10. Inferior view of the same, showing the hiatus in the lower orbital margin and the basal antennal joint; $\times 2$ diam.

PLATE XIII.

- Fig. 1. *Micippa cristata*, Leach. Inferior view of the front of the cephalothorax, showing the deflexed rostrum, greatly dilated basal antennal joint, and nearly complete orbits; natural size.
2. Lateral view of the orbit and deflexed rostrum; natural size.
3. *Criocarcinus superciliosus* (Herbst). Inferior view of the front of the cephalothorax, wherein the posterior part of the orbit is represented only by the postocular spine, and the anterior part surrounds the laterally projecting eye-peduncle in the form of a tube open below; natural size.
4. *Pericera cornuta*, Latreille. Inferior view of the front of the cephalothorax, showing the short epistome and greatly-developed basal antennal joint; natural size.
5. Lateral view of the orbital cavity (the eye-peduncle being removed) showing its circular form and complete margin; natural size.
6. *Othonia aculeata* (Gibbes). Inferior view of front of cephalothorax, showing the extreme development of the basal antennal joint (which has coalesced with the surrounding parts), the dilated second antennal joint, and obsolescent rostrum; $\times 1\frac{1}{2}$ diam.
7. *Mithrax hispidus*, Herbst. Dorsal view of the front of the cephalothorax, showing the form of the rostrum and orbits; natural size.
8. Inferior view of the same, showing the form of the epistome⁶ and basal antennal joint; natural size.
9. *Lambrus macrochelos*, Herbst. Inferior view of the front of the cephalothorax, showing the small antennae inserted in the hiatus between the inner orbital angle and the front; $\times 2$ diam.
10. *Æthra scruposa* (Linn.). Similar view of the front of the cephalothorax; natural size.
11. *Harrovia albolineata*, Ad. & White. Similar view of the front of the cephalothorax; $\times 3$ diam.