Smith, Andrew. *Illustrations of the Zoology of South Africa*,
London, 1838

These illustrations consist chiefly of figures and descriptions of the objects of natural history collected during an expedition into the interior of South Africa in the years 1834, 1835, and 1836, fitted out by “The Cape of Good Hope Association for Exploring Central Africa” together with a summary of African zoology and an inquiry into the geographical ranges of species in that quarter of the globe.
The Cape of Good Hope is now acknowledged to be one of the greatest avenues as yet opened for the researches of the Naturalist. Our Colony in that part of Southern Africa is the key to a large portion of an extensive continent which is still but very partially explored; and the field to which it admits the scientific traveller is rich to exuberance in the variety and novelty, both of animal and vegetable life.

Stimulated by the prospect of Discovery in a quarter so fertile in interest, "The Cape of Good Hope Association for Exploring Central Africa" was established in 1833; and in 1836, an Expedition fitted out by that body, consisting of thirty-four persons, and directed by Dr. Smith, after an absence of nineteen months, and penetrating as far as 29° 28' South latitude, returned to Cape Town laden with a variety of curious and important specimens in Natural History, &c.

Previously to this period little information has been furnished, in a shape calculated to enable the public to form accurate ideas of the various animated beings by which these regions are inhabited. The splendid publication of Le Vaillant, no doubt, should be mentioned as forming an exception, pro tanto; but this includes only a portion of the Birds of the most southern extremity of the country, and a work therefore extensive enough to comprehend the various departments of Zoology is still a desideratum.

The Members of The Cape of Good Hope Association for Exploring Central Africa found themselves, on the return of the recent Expedition, in a situation to supply at least some portion of the existing deficiencies; but their funds, even if it had been possible to divert them to such an object, were altogether inadequate to defray the expense of laying the result of their labours before the world. Under such circumstances, it was decided that Dr. Smith, the director of the Expedition, should be authorised, on his arrival in England, to wait upon Lord Glenelg, for the purpose of making him acquainted with the position and views of the Society, in the hope that Government might be induced to assist in the publication of their materials.

This hope has not been disappointed. At the recommendation of the Secretary of State for the Colonial Department, the Lords Commissioners of Her Majesty's Treasury have been pleased, by a pecuniary grant, to enable the Society to publish the result of its labours, without infringing upon the funds raised solely for the purposes of discovery; and in a form which, while it places the work within reach of most of the friends and promoters of science, will not, it is hoped, be found inconsistent with the interest and importance of the subject.

The materials for the work now offered, under such patronage, to the public, will consist of pictorial illustrations of between three and four hundred subjects of the animal kingdom, all of which have been collected to the south of 29° 28' South latitude; and will comprise,

First, and principally, unknown animals;
Secondly, animals known, but not yet figured; and
Lastly, such as have been imperfectly figured; but of which the Society is in possession of accurate drawings.

The Entomological portion of the work will be from the pen of W. S. Macleay, Esq., who has kindly undertaken that department. The rest of the descriptions will be furnished by Dr. Smith, who will add a summary of African Zoology, and an inquiry into the Geographical ranges of species in that quarter of the Globe.

Conditions of Publication.

The Work will appear in periodical parts, price ten shillings each; and it is estimated that it will be completed in about thirty-four parts. As it will be necessary that the plates be published promiscuously, they will be arranged in five divisions, viz. Mammalia, Aves, Pisces, Reptilia, and Invertebrata. The plates of each of these divisions will be numbered independently, and the letter-press descriptions left unpaged, so that on the work being completed, they may be arranged either agreeably to the general classified order which will accompany the last number, or according to the particular views of the purchasers.

The whole of the Plates will be engraved in the highest style of Art, from Drawings taken expressly for this Work, and beautifully coloured after Nature.

THE FIRST PART, CONTAINING TEN ENGRAVINGS, WAS PUBLISHED ON THE 1ST JULY, 1838,

Price Ten Shillings.
ILLUSTRATIONS

OF THE

ZOOLOGY OF SOUTH AFRICA;

CONSISTING CHIEFLY OF

FIGURES AND DESCRIPTIONS OF THE OBJECTS OF NATURAL HISTORY

COLLECTED DURING

AN EXPEDITION INTO THE INTERIOR OF SOUTH AFRICA,

IN THE YEARS 1834, 1835, AND 1836;

FITTED OUT BY

"THE CAPE OF GOOD HOPE ASSOCIATION FOR EXPLORING CENTRAL AFRICA;"

TOGETHER WITH

A SUMMARY OF AFRICAN ZOOLOGY,

AND AN INQUIRY INTO THE GEOGRAPHICAL RANGES OF SPECIES

IN THAT QUARTER OF THE GLOBE.

BY ANDREW SMITH, M.D.,

SURGEON TO THE FORCES, AND DIRECTOR OF THE EXPEDITION.

Published under the Authority of the Lords Commissioners of Her Majesty's Treasury.

ANNULOSA.

BY W. S. MACLEAY, ESQ. M.A., F.L.S.,

HIS LATE MAJESTY'S COMMISSIONER AND JUDGE IN THE MIXED COURT OF JUSTICE

ESTABLISHED AT THE HAVANA.

LONDON:

SMITH, ELDER AND CO. CORNHILL.

MDCCCXXXVIII.

LONDON: PRINTED BY STEWART AND MURRAY, OLD BAILEY.
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LONDON:
SMITH, ELDER AND CO. CORNHILL.
MDCCXXXVIII.
To Zoologists.

At the request of my friend Dr. Smith, I have undertaken to lay before the public such Annulose forms collected by him in South Africa, as appear to be most worthy of notice. It may be well that I should mention here my having lately acquired, by purchase, the very extensive collection of Annulosa made by M. Verreaux during his long residence at the Cape, and also his manuscript notes on the species collected. Perhaps therefore no naturalist is better provided than I am with those materials which are necessary to enable us to form accurate notions of South African entomology. Upon this subject also, my personal acquaintance with the habits of many exotic genera, may to a certain degree be brought to bear.

In his descriptions of the vertebrated animals of the Cape, Dr. Smith has adopted a plan of publication, which is at once convenient for himself and for his readers. The subjects which he brings under the notice of naturalists, are by reason of their size and importance in the economy of nature, sufficiently interesting to entitle each species to a distinct plate and a long description. He can, therefore, publish each animal in the order that best suits his convenience, reserving for the conclusion his general arrangement, when his readers can either adopt it or bind up the work according to that system which may most please their fancy. I need scarcely say that the expense which would inevitably result from the adoption of any such mode of publication in the description of insects, renders it impossible for me to follow Dr. Smith's example. A whole plate devoted to a single species of annulose animal, would be obviously inconvenient for all parties, and to none more than to the purchasers of this work. It becomes therefore necessary to place several figures in one plate; the only valid objection to which plan is the difficulty of finally arranging the plates according to system, since each of them must necessarily contain figures of species that belong to very different groupes. This evil, however, I shall endeavour to avoid, by describing as far as
convenient, my species in small natural groupes, and by confining each plate as much as possible to the representation of species that are nearly allied to each other. Such a mode of proceeding, like that of Dr. Smith, will allow of the work, when concluded, being bound up according to that system of arrangement which may appear to the reader most advisable to follow.

I could wish that it had been in my power to describe these insects according to the general plan commenced in the *Annulosa Javanica*. Several circumstances, however, prevent such a scheme being followed, among which is the necessity in a work of this kind of each number possessing considerable variety. But although I am about to describe the *Annulosa* of South Africa in a miscellaneous order, I trust no one will detect symptoms of my being tormented by that morbid thirst for naming new species which makes so many modern works in entomology, rather magazines of undigested and insulated facts than harmonious histories of nature. It is really distressing to see the philosophy of our science lost sight of in a puling passion for that miserable immortality which is made to depend on the invention of some barbarous technical names. We cannot even say that the best entomologists are free from it, when we find the laborious author of the "*Genera Curculionidum*," whose fame has arisen from his study of nomenclature, shewing utter contempt of its laws. The preservation of the earliest name is a duty not so much to the name as to the science; yet M. Schönherr has in 1833, attempted to alter the names of many genera published in 1825 in the appendix to Captain King's voyage. I shall not follow so mischievous an example; but as far as my humble means will allow, I shall endeavour to be rigorously observant of that leading principle of nomenclature which is the right of priority. This right, in my opinion, is so necessary to be sustained, if we have any regard for the interests of natural history, that I shall never for one moment wait to consider whether the first namer of a species be an author of reputation or not.

W. S. M'L.
ON THE BRACHYUROUS DECAPOD CRUSTACEA.

BROUGHT FROM THE CAPE BY DR. SMITH.

The most interesting observations on Crustaceous animals which have of late years been given to the public are those of Dr. Vaughan Thompson, relating to their metamorphosis. It had been long recorded that many Entomostraca undergo metamorphosis; but no naturalist before Thompson ever ventured to affirm that crabs, lobsters, and the higher Crustacea generally, pass through certain changes of form after leaving the egg. It is true, that in consequence of the publications of Professor Rathke, some persons disputed the truth of Dr. Thompson's assertions; but so far as my own observations allowed me to form an opinion on the subject, I was ever inclined to think that this gentleman merited well of science, which is far more than could be said of any of those persons who by crude inferences, but never by direct observation, ventured to attack him.* I have never myself lived sufficiently near the sea-side to enable me conveniently to repeat Dr. Thompson's experiments; but looking merely to what I have seen with my own eyes, I think it will eventually be found that the Piilota of Aristotle may be characterized by their change of form taking place during their last two or three stages of ecdysis; while the metamorphosis of all other Annulosa only occurs during the first or second moulth after leaving the egg. When I come to treat of the Macrourous Decapods, I shall return to this subject. At present my attention must be more particularly confined to the classification of the Brachyura, as being the best known groupe of all Crustacea.

M. Latreille and Dr. Leach left systems behind them for the arrangement of Crustacea, which were professedly artificial, although the former naturalist made several praiseworthy attempts to arrange these animals naturally. Since the death of these eminent naturalists, two authors have appeared with higher pretensions to acquaintance with the class. The first of these, M. Milne Edwards, having previously made some ingenious observations on the economy and internal anatomy of Crustacea, has lately, in the "Suites de Buffon," produced a classification, of which I can only say, that it makes an approach to be a rare exception to the well-known fact, that professed comparative anatomists are the persons, of all others, who in general are the most incapable of using their own observations for purposes of natural arrangement. And indeed this very arrangement of Edwards is not natural, since he unfortunately conceives that every groupe he can invent, provided he can furnish it with a character, must be therefore a good one. As, on the contrary, the true definition of a complete natural groupe is, that it must be a series returning into itself, many of the groupes of Milne Edwards, when weighed by this scale, will be found wanting. For instance, of his four grand groupes, Oxynychques, Cyclometopes, Catométopes, and Oxyostomes, perhaps only his Cyclométopes form a

* The credit of confirming Thompson's observations belongs to my friend Captain Ducane, R.N., who has made at Southampton most interesting observations on the Metamorphosis of Crustacea, which I trust he will soon give to the Public.
complete natural groupe. Still the "Histoire Naturelle des Crustacés" is a book full of facts, which ought to be in the hands of every carcinologist. The second naturalist, above alluded to, is Professor Dehaan of Leyden. He has treated the subject in another manner, and deserves to be considered of a more philosophic stamp. What he has published on Crustacea in the Fauna Japonica is a magnificent tribute to science. Milne Edwards rarely takes notice of any of the maxille, except the external or fifth pair; and if any objection can be made to Dehaan's arrangement, it is that he likewise is not sufficiently eclectic, and appears to make too much use of the organs of manducation. Nevertheless, as he rigorously follows the mode in which these organs vary, and not that by which they might arbitrarily be combined, it is satisfactory to find that the result, generally arrived at, very nearly approaches to the plan of nature. Nothing further has been published on Crustacea of late years, unless we except some interesting descriptions of new species by MM. Say, Guerin, Bell and others. As for M. Dehaan's system, it is not completely worked out; so that I am obliged to offer the following arrangement, provisionally, as being that by which I have been able to express the affinities which exist among the Decapods of my own collection. It will at least serve to unite all those relations, whether of affinity or analogy, which have been recorded by Latreille, Milne Edwards, and Dehaan, and will prove that, by means of a moderate exercise of patience, order may sometimes be made to arise out of an apparent chaos.

1. The modern art of describing is too often insufferably long, while human life remains short as ever. I shall endeavour, therefore, as in the former paper, to condense my descriptions as much as possible.

Order DECAPODA, Lat.

**Tribes.**

- Normal Groupe.
  - Brachyura, Lat.
    - Abdomen having no appendages attached to the penultimate segment. Internal antennae lodged in fossula.
    - 1. Tetragonostoma.
    - Oral orifice broad in front. The afferent canals of the branchial cavity opening behind the mouth. Epistome distinct.
  - 2. Trigonostoma.
    - Oral orifice triangular and narrow in front. The afferent canals of the branchial cavity opening in front of the mouth. Epistome in general rudimentary.

- Aberrant Groupe.
  - Macroura, Lat.
    - Abdomen having appendages attached to the penultimate segment. No fossula for the reception of the internal antennae.
    - 3. Anomura, M.E.
    - Abdomen not furnished with false natatory feet. Abdominal appendages not forming a natatorial tail. Branchial lamellate. Peduncle of external antennae not covered by any moveable scale.
    - 4. Sarobranchia.
      - Abdomen furnished with false natatory feet. Abdominal appendages forming a natatorial tail. Branchial pinneciform. Peduncle of external antennae with its scale null or rudimentary.
    - 5. Caridea, Lat.
      - Abdomen furnished with false natatory feet. Abdominal appendages forming a natatorial tail. Branchial lamellate. Peduncle of external antennae covered by a large moveable scale.

2. It is only with the normal groupe that we for the present have to concern ourselves. I shall therefore proceed provisionally to arrange the Brachyura into Stirpes, merely observing, that in
the following descriptions I shall rarely allude to colour, since experience has taught me that in this respect dried specimens of Crustacea are not to be trusted. I would also observe, that as the groups of degree next inferior to families—namely, genera—have never been worked out in this class, I have for the present considered almost all the various groups under families to be sub-genera, although some of them, such as Plagusia, may possibly be a true genus, and others again may prove to be only sections of some sub-genus. I do not think that our collections, as yet, possess a sufficient quantity of species to allow us to decide what are the genera and what are the sub-genera of Decapod Crustacea. Professor Dehaan, however, has offered some valuable hints on the subject, and to those I refer the reader. We appear to enter among the Brachyura by the genus Mycteris, and to leave it by means of the genus Ranina. There are ten Brachyuran stipites, which may be placed in two columns, so as to shew those analogies which by Milne Edwards and others have too often been taken for affinities.

### TETRAGONOSTOMA.

<table>
<thead>
<tr>
<th>Mycteris</th>
<th>Pinnotherina</th>
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<tbody>
<tr>
<td>Grapsina</td>
<td></td>
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<tr>
<td>Cancrina</td>
<td></td>
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<tr>
<td>Parthenopina</td>
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<tr>
<td>Inachina</td>
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### Analogies.

- **Mycteris**
  - Shell orbicular.
- **Pinnotherina**
  - Shell quadrirateral.
- **Grapsina**
  - Shell armoured with feet often natatory.
- **Cancrina**
  - Shell uneven with crested feet.
- **Parthenopina**
  - Shell sub-triangular and generally spined.
- **Inachina**
  - Shell orbicular and generally spined.

### TRIGONOSTOMA.

<table>
<thead>
<tr>
<th>Dromina</th>
<th>Ranina</th>
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<tr>
<td>Dorippina</td>
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<tr>
<td>Convithina</td>
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<tr>
<td>Calappina</td>
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<td>Leucosina</td>
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3. The analogy between certain Inachina, such as Acanthonyx, and certain Lencosina, such as Nursia, is so great as to have induced M. Latreille to imagine that a direct affinity existed between the two groups. In general, the above analogies appear reversed; but the Tetragonostomous stipites may be characterized as follows:

### Tribe TETRAGONOSTOMA.

#### Stipes.

<table>
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<tr>
<td><strong>Oxyrhyncha, M.E.</strong></td>
<td><strong>Brachyrhyncha</strong></td>
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</table>

- 1 **Inachina**
  - Triangular Crabs.
- 2 **Parthenopina**
  - Rocky Crabs.
- 3 **Cancrina**
  - Arched Crabs.
- 4 **Grapsina**
  - Square Crabs.
- 5 **Pinnotherina**
  - Parasitical Crabs.

- First joint of external antennae very large, forming the greater part of the lower side of the orbit, and always soldered to the clypeus.
- First joint of external antennae small, not soldered to the clypeus and not aiding to form the lower side of the orbit of the eye.
- Tigillus of external pedipalps always inserted at the inner angle of their third joint. The scapes of the palpi unidentated on the inside. Shell arched in front.
- Tigillus of external pedipalps inserted at the outer angle, or at the middle of the third joint. The scapes of palpi not dentated. Shell quadrirateral.
- Tigillus of external pedipalps always inserted at the summit, or at the outer angle of their third joint. The scapes of the palpi not dentated. Shell orbicular.

4. By Eurynome we pass from the Inachina to the Parthenopina; by means of Aethra we pass from the Parthenopina to the Cancrina; from these to the Grapsina by Thelphusa; from the Grapsina to the Pinnotherina by means of Doto; and from the Pinnotherina we return to the Inachina by means of Elamene. The following appear to be the families of Ina-
ON THE BRACHYUROUS DECAPODS OF THE CAPE.

china, which, as well as the Parthenopine, have the genital organs of the male hollowed out in the first joint of the hind feet.

Stirps INACHINA, or Triangular Crabs.

Families.

| Normal Groupe.                  | 1 INACHINA, M'L. | Tigelles of external pedipalps inserted at the outer angle of their third joint. |
| Macropodæ, M. E.               | 2 EURYPODÆ, M'L. | Tigelles of external pedipalps inserted at the inner angle of their third joint. |
| Feet long and slender.          |                | Eyes not concealable; no orbitary groove. |
| ABerrent Groupe.                | 3 EPIALTIDÆ, M'L. | Eyes concealable in an orbitary groove. Clypeus bifurcate in the middle. |
| Male, M. E.                     | 4 MITHRACIDÆ, M'L. | Eyes concealable in an orbitary groove. Clypeus pointed in the middle. |
| Feet of the ordinary size.      | 5 HUENIDÆ, M'L. | |

5. Of the two first families I have no species from the Cape to describe. I proceed therefore to the third

Fam. EPIALTIDÆ, Mihi.

Sub-genus. ANTILIBINIA, M'L.

Cephalothorax short, convex, pear-shaped, as broad almost as long, with the sides dentated in front, and the clypeus short, triangular, with a bidentated apex, having a smaller tooth on each side. Orbis without any distinct fossula. Eyes minute, somewhat prominent, but scarcely moveable, and having a very short peduncle. Exterior antennæ longer than the clypeus, with their first joint reaching its middle, and being three-sided at the apex, while the second and third joints are cylindrical, and the rest are short and setaceous. Internal antennæ inserted at the base of the rostrum, and having their basilar joint obconical and rather three-sided, while their second joint is shorter and cylindrical. External pedipalpi, or fifth pair of maxillæ, with their outer palpus semifusiform, and the inner palpus having the second joint elongated with parallel sides, the third joint subquadrate, and the tigellus very small, inserted at its inner angle. Feet, first pair twice as long as body, with the chelae thick, having subacute digits, which are serrulated on the inside. The hinder pairs of feet are more slender. Abdomen wanting in my specimen, which is a male.

This groupe I have called Antilibinia, because it is in the family Epialtidæ exactly what Libinia is in the family Mithracide. It is only analogous to Libinia, for it has no grooves or orbit for the concealment of the eyes, which besides are neither moveable nor retractile. Libinia is a groupe peculiar to the New World; but whether it and Antilibinia are sub-genera, or only sections of sub-genera, remains to be proved.
ON THE BRACHYUROUS DECAPODS OF THE CAPE.

Sp. 1. (-----) Antilibinia Smithii, n. s.
Descr. Antilibinia testae margine laterali antice tridentata, clypeo bifurcato cornibus intius pilosis.

Note. The shell of this species is without hairs, almost circular, and has the regions in general distinct. The clypeus is bifurcated with a tooth on each side of the base. The anterior lateral margin of the shell has three teeth, of which the foremost is situated behind the eyes; the second or middle tooth is the greatest, and directed forwards, while the last is little more than a tubercle. The digestive region has an eminence marked on each side. The branchial region has five or more tubercles on each side. The cardial region has a tubercle in the middle behind, and on each side of it there is an oblique portion of the shell scabrose. The horns of the clypeus are pilose on the inside. The digits of the chela have seven or more teeth on the inside. The four pair of hind feet have their third joints thick, and are armed with long curved claws. This crab resembles the Libinia spinosa of Milne Edwards so closely, that at first sight it might be taken for it.

Sub-genus. Acanthonyx, Lat.

Sp. 2. (-----) Acanthonyx dentatus, M. E.

Sp. 3. (-----) Acanthonyx scalpellatus, n. s.
Descr. Acanthonyx fere duplo longior quam latus, orbitæ angulo externo unidentato, clypeo ad basin tuberculis duobus setiferis suprâ instructo, testæ margine laterali bidentato dente posteriori minus apice subsetiferō.

Note. The shell of this fine species, which is more than an inch long, is shaped like an heraldic shield. It is depressed. The two horns of the clypeus are pilose at their apex, and have two setiferous tubercles at their base. On each side of these horns, and at the external angle of the orbits, there is a triangular tooth also pilose at the apex. The anterior lateral margins of the shell are bidentated. The fore teeth on each side are large, triangular, and blunt. From their points the sides of the carapace proceed towards the posterior margin, nearly parallel to each other, until they arrive at the second tooth, which is rudimentary, and reduced to a setiferous tubercle. The posterior margin of the thorax is rounded.

Fam. Mithracidæ, Mihi.

Sub-genus. Dehaanius, Mihi.

Cephalothorax subtriangular, with the lateral margins in front dentated, and behind rounded; the clypeus being quadridentate.

Orbit simple, with globose moveable eyes, thicker than their peduncles.

Exterior antennæ with the basilar joint broad at the base, then narrower and reaching the middle of the clypeus; while the second joint is shorter and obconical.

Internal antennæ with the basilar joint subcylinrical, and the second subtriangular.

External pedipalpi with the outer palpus falciform, and the inner palpus having its second joint with subparallel sides, the third joint sub-quadrate, emarginate at the apex, with the tigellus conspicuous, inserted at its inner angle.
Feet, first pair thicker than the rest, and having the digits serrated on the inside; the second pair longer than the first, and, as well as the three posterior pair, it is furnished with a subcheliform penultimate joint, which is truncated at the apex, and unidentate.

Abdomen of male has seven segments.

This group is in the family Mithracidae exactly what Acanthonyx is in the family Epialtidae. Both are analogous groups in contiguous families; but whether they ought to be considered as sub-genera, or only sections of sub-genera, remains yet to be discovered.

Sp. 4. (———) Delaunius acanthopus, n. s.
Descr. Delaunius testa glabra, margine laterali antie tridentata, dente medio majore, clypeo fossula inter dentes duos medios majores longitudinali.

Note. Carapace pyriform and without hair, having the digestive, cardiac, and branchial regions distinct. Anterior lateral margin tridentate, the middle tooth being much the largest. Clypeus short, with four triangular divergent teeth, the two in the middle being the largest and farthest advanced. From the middle bifurcation of the clypeus there is a deep groove continued about half its length backwards. The feet are without hairs. The chela of fore-foot are thick, and serrated on the inside. The other four pair of feet have thick knees, and subcheliform claws. The only specimen brought home by Dr. Smith has lost of the external antennae all but the two first joints.

Sub-genus Mithrax, Leach.

Sp. 5. (———) Mithrax quadridentatus, n. s.
Descr. Mithrax cornibus rostri divergentibus ad apicem arenatis, extrus bidentatis dente apicali belto major; testa trianguli supra granulos, haud spinosa, marginibus lateralibus antieis quinquidentatis.

Note. Carapace and feet exactly like those of Mithrax dichotomus, Lat., to which this species comes exceedingly close. The anterior lateral edges of the shell are armed on each side, as in M. dichotomus, with seven spiniform teeth; but the hinder two of these teeth are evanescent, and are placed more on the back. There are, moreover, no points on the hinder edge of the carapace, as in M. dichotomus. The eyes are globular, and larger than the base of the pedicles. The antennary fossa has no tubercle at the posterior edge. The anterior feet are long, having the third and fourth joints covered with short spines: the fifth joint or hand is slender and smooth, as is also the movable finger without teeth. The other feet have no tooth at the extremity of the third joint. The size is 1½ inch.

6. By means of Eurynome we proceed to the Parthenopina; but of this group no species has been brought from the Cape; so we avail ourselves of Cryptopoda to pass on to Aethra, and so among the Cancrina, of which the families appear to be as follow. All these families are distinguished by having the scapes of the palpi of the fifth maxille unidentate on the outside; and their males have the genital orifices hollowed out in the first joints of the hind feet.
Stirps. CANCRINA, or Arched Crabs.

Families.

\underline{Atergatis} Groupe.

1. \textit{Xanthidae}, Miln.


\underline{Normal Groupe}.


I proceed to enumerate the following Cape species, which belong to this Stirps:

\textbf{Fam. XANTHIDÆ, }Mihi.

\textbf{Sub-genus. Atergatis, }Dehaan.

\textbf{Sp. 6. }(- - - ) Atergatis compressipes, \textit{n. s.}

\textbf{Descr.} Atergatis testa rubra laevi fulvo-maculata clypeo vix quadrilobo; chelis intus compressis, digitis supra carcinatis extus lineis elevatis duabus instructis, pedibus brevibus latis compressis fulvo-maculatis.

\textbf{Note.} The shell of this crab is about two inches long, and about twice as wide as long, of an oval form, very convex, and having only the branchial regions distinctly marked. The surface is quite smooth, of a dirty orange hue, marked with brick-red spots. Of these, one large spot, of an irregular form, reaches over the genital region almost the whole width of the shell. Another smaller spot marks the cardiac region, and the remainder of the shell is covered with small round spots of the same hue, which are also found on the feet. The seven-jointed abdomen of the female is also marked with small fulvous spots.

The margin of the clypeus is sinuated so as almost to show four rudimentary lobes. The chela at their points are blackish; on the fixed joint there are two elevated lines on the outside. The other feet are very much compressed and dilated. In other respects the characters are those common to all the species of the group named \textit{Atergatis} by Professor Dehaan. This species is two inches long.

\textbf{Sub-genus. Chlorodius, }Leach.

\textbf{Sp. 7. }(- - - ) Chlorodius perlatus, \textit{n. s.}

\textbf{Descr.} Chlorodius testa rugis divisæ, supræ granuloæ granulis albis, marginibus lateralisibus anticus quadrilobis; clypeo quadrilobo manibus pedibusque crassis rugosis verrucosis, chelis apice translucentibus, pedibus brevissimis.

\textbf{Note.} This species comes very near the \textit{Chlorodius areolatus} of Milne Edwards, but may be
distinguished from it by the anterior lateral margin being in this crab scoloped, instead of having four triangular teeth. The whole of the feet also are granulose, which is not the case in *C. areolatus*. The length is about eight lines. This is not the *Chlorodius* of Dehaan.

**Sub-genus. Halimede, Dehaan.**

Sp. 8. (——- ) *Halimede pisifer*, n. s.

Descr. *Halimede* testâ villosâ antice tuberculatâ postice scabrosâ, clypeo subacuminato, manibus pedibusque infra glaberrimis, hirsutie tuberculatis pisiformibus extus opertis, chelis nigris.

Note. This species is only seven lines long. The thorax is convex in the middle, having the anterior lateral margins scoloped by four blunt tubercles. The front is sub-acuminated, with the apex crenated. The chelae are unequal in size, but both large. The abdomen is covered with hairs, except the last joint.

This species has affinity to the *Polydectus cupulifer* of Milne Edwards, agreeing with it, in having three great tubercles surrounding each orbit, one occupying its external angle, and the two others the lower edge of the orbit.

7. Of the family *Cancridae* we have no species; we pass on therefore to the following—

**Fam. ERIPHIDÆ, Mihi.**

**Sub-genus. Eriphia, Lat.**

Sp. 9. (——- ) *Eriphia Smithii*, n. s.


Note. This species of *Eriphia* has its carapace well marked by the regions. The whole of it towards the margin, except behind, is covered with tubercles; the rest of the surface is granulose. The lateral margin is strongly tuberculated, and the two last tubercles behind the orbits are almost spines. The margin of the orbit is tuberculated. The margin of the two middle lobes of the four-lobed clypeus has five tubercles for each. The fore-feet are one larger than the other. The larger being marked above by tubercles sparingly scattered, and the smaller being strongly verrucose above and below. The chelae of the former has strong teeth; those of the latter have scarcely any, and cross each other. The feet are spotted with white above, are hispid, but have no tubercles. The length is more than two inches. The abdomen of the male is seven-jointed.

Sp. 10. (——- ) *Eriphia Fordii*, n. s.

Descr. *Eriphia* testâ postice fulvomaculâ regionibus distinctis, lateribus antice sub-sexspinosis, clypeo humâ spinoso, lobis duobus mediis 6-tuberculatis, manibus lavibus chelis nigris, pedibus hispidis.

Note. This species also, like the *Eriphia* in general, has the regions well marked out. The fore margin of the carapace is tubercled, but not so much so as in the *Eriphia Smithii*. The rest of the surface is very finely granulose. The lateral margin has six distinct teeth or spines
before, and some minute tubercles behind. The margin of the orbit is also tuberculated, four of the tubercles becoming almost teeth. The margin of the two middle lobes of the four-lobed clypeus has six tubercles for each. The fore-feet are one larger than the other. Both are almost smooth, although the smaller presents some vestiges of tubercles. The digits of the chela are black; those of the larger hand have three teeth above and below; those of the lesser hand being almost without teeth. The feet are without spots or tubercles, but are very hispid. The length is two inches. The abdomen of the female has seven joints.

The two foregoing species of *Eriphia* both come close to their congeners, the *Gegarcinus hirtipes* of Lamarck, and the *Eriphia veximana* of Milne Edwards. But these last species are natives of the Isle of France.

**Sub-genus. Curtonotus, Dehaan.**

Sp. 11. (———) Curtonotus vestitus, Dehaan.

*Curtonotus vestitus*, Fam. Jap. tab. 5. fig. 3.

This last groupe appears to be the same as that which is named *Pseudorkombida* by Milne Edwards.

**Fam. PORTUNIDÆ, Mihi.**

**Sub-genus. Achelous, Dehaan.**

Sp. 12. (———) Achelous crassimanus, n. s.

**Descri.** Achelous testa glabra regionibus distinctis lateribus antice dentatis, clypeo sexdentato, orbitis subtus unidentatis, manibus articulo tertio intus tridentato extus bidentato, quarto supra ad apicem bidentato adque basae unidentato.

**Note.** This large crab has a shell which is about five inches long by seven wide. The teeth of the cephalothorax are triangular, sharp, and nearly equal. The fore feet are nearly equal in size. The abdomen of male has seven joints. It has been only known, as yet, to occur in deep holes, which it makes in the mud islands near the mouth of the Zwartkops River,—islands that are only visible at low water.

**Sub-genus. Charybdis, Dehaan.**

Sp. 13. (———) Charybdis Smithii, n. s.

**Descri.** Charybdis testa glabra, regionibus indistinctis, lateribus antice sexdentatis, clypeo 8-dentato, orbitis laud dentatis, manibus articulo secundo intus tridentato, quarto supra bidentato intus et extus linea tribus granulatis longitudinaliter carinato, digitis sulcatis.

**Note.** Although I have here placed *Charybdis* as a sub-genus, I suspect that when the family **Portunidae** is worked out, it will be found that the *Charybdis* of Dehaan is only a section of some sub-genus of the genus **Portunius**. M. Dehaan is here splitting very fine; for between the groups named by him *Oceanus, Charybdis,* and *Thalamita,* the differences are very minute. Our crab comes between *Oceanus crucifer* of Dehaan and his *Charybdis 6-dentatus*. The cephalothorax has no transverse granulated lines like the latter, nor are the teeth of the clypeus blunt like those of *Oceanus crucifer*. The six teeth of the anterior lateral margin are
equal, the tooth nearest the eye being sharp. So are the teeth of the clypeus, and the four middle of these teeth are scarcely separated from the lateral ones by a deeper incision. The fore-feet are equal in size, having two apical teeth on the upper margin of the fourth joint. The length is about two inches. The abdomen of the female has six joints.

Fam. CARCINIDÆ, Leach.

Sub-genus. ANISOPOs, Dehaan.


Platyonychus bipustulatus, M. E. Hist. Nat. des Crust. vol. i. p. 497. tab. 17. fig. 7. 10.

Note. This crab has a strong relation to the Corystidae, which Professor Dehaan has pointed out with his usual acumen. By Anisopus, in fact, we pass off to the Corystina among the Trigonostomous Brachyura.

Sub-genus. XAIva, Mât.

Cephalothorax rather depressed, as broad as long, but narrower behind, being broadest in the middle, and having the sides in front arched with a five-toothed margin; the tooth behind the eyes being broad and truncated. The sides behind are entire, rather concave, and with a margin. The shell behind is also entire and margined. The clypeus is triangular, advanced with an acute point, and having the sides undated, while it is furnished above on each side at its base with an orbital tooth.

Orbit with two teeth below, the outer one of which is triangular, and larger than the other.

External antennæ inserted within the orbit, and having their basilar joint short and sub-triangular.

External pedipalpi, with the second joint, almost twice as long as the third, which is sub-quadrate, carinated at the base, with the point obliquely truncated, acuminated on the outside; the inner margin having a piece cut out, as it were, above its middle.

Feet, first pair with the chelae bicarinated above; second, third, and fourth pair with slender nails, while the hind pair has the nails or ungues dilated and pointed as in the genus Carcinus.

Abdomen of male has seven segments; but the third, fourth, and fifth appear soldered together.

Xaiva is the Spanish name for all crabs which have the posterior feet natatory. This will be seen on referring to the curious work of Parra on the natural history of the Gulf of Mexico. The present sub-genus comes close to Carcinus of Leach; but is easily distinguished by the third joint of the external pedipalpi.

Sæ. 15. (― ― ) Xaiva pulchella, n. s.

Descr. Xaiva testâ margine anteriore subreflexo, tuberculis quatuor in regione stomachali, lineâ utrinque elevâta in tuberulaum lateralem desinente, chelis suprâ bicarinatis et extus tricarinatis.

Note. The stomachal region in this pretty little crab is marked by four tubercles, which are situated on an elevated ridge, stretching on each side towards a lateral tubercle, which is almost on the middle tooth of the anterior lateral margin of the shell. The genital region is marked by
two minute tubercles at the base of a longitudinal carina. An irregular transverse carina stretches out on each side from the last lateral marginal tooth towards the middle of the shell, marking out the upper limit of the branchial region. The chelae are marked above with five keels on the fixed digit, and three or four longitudinal furrows on the middle finger. The second, third, and fourth pair of feet, are compressed, having their third and fourth joints bicarinated, and their ungues furrowed. The fifth pair of feet are less bicarinated, and the last joint or claw is like the posterior claw of *Carcinus maenas*, Leach, only more broad. The length is less than an inch.

8. We now return to the aberrant family *Eriphidae*, by means of which we pass to *Thelphusa* among the *Grapsina*. It becomes therefore necessary to point out the families of a stirps which is very common in warm climates, and the study of whose manners afforded me much amusement whilst I resided in the West Indies. Dr. Milne Edwards calls them *Catamictopes*, and says that some of them are "complément terrestres." This is an error, however; for all these crabs must lay their eggs in water, must pass their infant state in water, and must, during their future life, return periodically to the vicinity of water. The land-crab *par excellence*, *Gegarcinus viricola*, Lat., in this respect, does not differ in economy from other Brachyurous Decapods, nor does it retire many leagues from the sea. In our small West India islands it may be found all over them; but in Cuba it has its limits, which are confined to a certain distance from the shore.

**Stirps. GRAPSINA, or SQUARE CRABS.**

**Families.**

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<td>Tigellus of external pedipalps never inserted at the middle of the apex of third joint.</td>
<td>Tigellus of external pedipalps inserted at the middle of the apex of third joint. Palpi never dentated.</td>
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1. **Thelphusidae**, M. E. *Fresh Water Crabs.*


Ocular peduncles short. Tigellus of external pedipalps never inserted at the outer angle of third joint. Scape of the palpi unidentated on the inside.

Ocular peduncles long. Tigellus of external pedipalps inserted at the inner angle of third joint. Scape of the palpi unidentated on the inside.

Ocular peduncles long. Tigellus of external pedipalps always inserted at the outer angle of third joint. Scape of the palpi not dentated.

Shell depressed, and the whole structure such as to render these crabs unable to retire far from the sea.

Shell convex in order to contain a certain quantity of water, enabling these crabs to travel great distances on land.

9. Dr. Smith has brought specimens of all the above families of *Grapsina* except of the *Gegarcinidae*. The first family *Thelphusidae* has the genital organs of the male placed nearly as in the last stirps *Cancerina*, with which it is osculant. But the other families of *Grapsina* have the genital orifices of the male placed in a transverse groove hollowed out on the sternum. Both the *Thelphusidae* and *Gonoplacididae* being aberrant families, agree with the *Cancerina* in having the scape of their palpi unidentated on the inside.
ON THE BRACHYUROUS DECAPods OF THE CAPE.

Fam. **THELPHUSIDÆ**, M. E.

*Sub-genus*.,Thelphusa, Lat.

**Sp. 16.** (________) Thelphusa perlata, M. E.  

**Note.** This crab is common in all the rivers of southern Africa, and grows to the size of nearly three inches long. The male has a much more convex shell than the female, and in aspect resembles much a *Gegarcimus*. The pearly tubercles of the anterior margin of shell are also still more small and evanescent than in the female. I may take this occasion to observe, that in my cabinet I separate those species of *Thelphusa*, which, like the present, have a transversal crest in front of the shell, and call them *Potamonautes*. They are easily distinguished from true *Thelphusa*, of which the type is the European species *Thelphusa fluviatilis*.

Fam. **GONOPLACIDÆ**, M. E.

*Sub-genus*? Cleistotoma, Dehaan.

**Sp. 17.** (________) Cleistotoma Edwardsii, m. s.  
*Descri.* Cleistotoma oculis magnis, testa laevi haud pilosa lateribus integris nec granulosis nec postice divergentibus, manibus brevibus; pedum pari tertio longiori, femoribus infra levibus.

**Note.** This species comes very near to the *Cleistotoma Leachii* of Milne Edwards; but differs from it in the surface being altogether smooth. The length is four lines.

Fam. **OCYPODIDÆ**, Leach.

*Sub-genus*. Ocypode, Fab.

**Sp. 18.** (________) Ocypode cordimana, Lat.  

**Note.** The *Ocypode cordimana* of Dehaan appears to be a very different species.

*Sub-genus*. Ceratophthalma, Dehaan.

**Sp. 19.** (________) Ceratophthalma cursor, Herbst.  
*Cancer cursor*, Herbst. vol. i. tab. 1. fig. 8 and 9.

*Sub-genus*. Gelasimus, Lat.

**Sp. 20.** (________) Gelasimus chlorophthalmus, M. E.  
Fam. GRAPSIDÆ, M. E.

Sub-genus? GNATHOCHASMUS, M. L.

Cephalothorax sub-quadrate, with the back convex, and entire sides which are arched towards the eyes; the clypeus between the eyes is plane, entire, truncated and deflexed.

Exterior Antennæ produced as far as the middle between the eyes, and having the first joint transverse.

Exterior Pedipalpi very distant from each other; with the second joint very oblique at the base, at the point situated, and of the same length as the third joint, which is concave in the middle, and has a bearded crest continuous along its inner edge as far as the outer part of the base of the second joint.

Feet; first pair with thick and equal chela.

Abdomen in both sexes has seven segments.

10. Dehaan has noticed the affinity between the two groups, which he names Chasmagnathus and Pachysoma. By them he passes from the family Ocypodidae to the family Grapsidae. The sub-genus or sub-section which I have just characterized under the name of *Gnathochasmus* comes exactly between *Chasmagnathus* and *Pachysoma*. It agrees with both in the remarkable elevated crest, which stretches down obliquely from the inner angle of the third joint of the external pedipalp to the outer angle of the base of its second joint. It has the thorax with arched sides, like those of *Chasmagnathus*; but then these sides are entire, like those of *Pachysoma*. I may here observe, that Dehaan’s name *Pachysoma* ought to be changed, as it was assigned, long ago, by Mr. Kirby, to a division of the genus *Scarabaeus*. See *Horn* Entomologica, part 2, p. 507.

Sp. 21. (———) Gnathochasmus barbatus, n. s.

*Descrip.* Gnathochasmus testá lavi, utrique ad oculos deflexā regionibus sub-distinctis, lateribus clypeosoque marginatis integris; manibus laviibus glaberrimis crassis chelis sub-concoloribus latis convexis, pedibus laviibus sub-compressis nigro-punctatis tarsis sulcatīs.

Note. This crab is about an inch and a quarter long.

Sub-genus. SESARMA, Say.

Sp. 22. (———) Sesarma reticulata, Say.


*Sesarma reticulata*, Say, Trans. Acad. Phil. vol. i. p. 73. tab. 4. fig. 5.

Note. It is singular that I can find no good character whereby to separate this Cape crab from the American species described by Bose and Say. The latter, however, I only know from description. It is six lines long, whereas the Cape crab is more than an inch. Both are distinguished from the *Sesarma quadrata* by their epistome being covered with granulations, so as to appear finely reticulated. I dare say if we could compare the two crabs together we should be able to discover a specific difference. The Cape crab has not the slightest vestige of granulation on the shell of the cephalothorax. I have found in Cuba the species of *Sesarma* to live generally under stones on the banks of the muddy mouths of rivers. Say’s name, *Sesarma*, is adopted
by me instead of *Pachy soma*. It distinguishes a groupe which is the most quadrilateral form of the family *Grapsidae*, and easily known from the true *Grapsus* by its sides deflexed vertically, being parallel to each other from the eyes. In the Cape species the clypeus has four lobes, the two middle ones being separated by a deep furrow.

**Sub-genus. Plagusia, Lat.**

Sp. 23. (———) *Plagusia tomentosa*, M. E.


**Note.** In the younger specimens of this species the feet are wholly tomentose; but in the more adult specimens we find the two ridges of the upper side of the second joints of the feet appearing white, from the tomentum being worn off.

Sp. 24. (———) *Plagusia spinosa*, n. s.

**Descri.** *Plagusia* testâ subtomentosa valde depressâ, longiore quam latâ, lateribus arcuatis antice quadridentatis, clypeo medio angusto quadridentato dentibus mediis porrectioribus, elypei lateribus bidentatis, manibus brevissimis gracilibus, pedibus articulis secundis extus spinosis, pari secundo longiore.

The length of this *Plagusia* is about three quarters of an inch. It comes very near to the *Plagusia elavimana* of Desmarest.

**Sub-genus. Goniopsis, Dehann.**

Sp. 25. (———) *Goniopsis strigosa*, Herbst.

*Cancer strigosa*, Herbst. tab. 47. fig. 7.


**Descri.** *Goniopsis* testâ glaberrimâ nitàd à nigrolividâ lateribus antice bidentatis, epistonate brevissimo crista utrínque transversâ tuberculâ, manibus sanguineis bicarinatis, pedibus flavis nitidissimis.

**Note.** This species is nearly three inches long, and very handsome. The manners of the various species of *Goniopsis* are very interesting. There are no crabs more active, more vigilant, or more beautiful. The type of this genus is the *Grapsus ru ricola* of Degeer, a crab whose manners are detailed by me in the first volume of the Transactions of the Zoological Society. The name, *Grapsus ru ricola*, Deg., was wrongly altered from my manuscript by some person who superintended the press during my absence at the Havana, and changed the name to *Gegarcinus ru ricola*, Desm. The *Grapsus ru ricola*, Deg., is the *Grapsus eruentatus* of Latreille, and the true *Crabe des Paletuviers* of French travellers, although Milne Edwards erroneously makes this to be the *Goniopsis picta*, a species which on the contrary is always found on reefs, and which is therefore by Parra called "*Cangrejo de Arrecife*.”

**Sub-genus. Nautilograpsus, M. E.**

Sp. 27. (———) *Nautilograpsus major*, n. s.

**Descri.** *Nautilograpsus* testâ depressissimâ longiore quam latâ, antice livi, lateribus posticè rugis transversis, margine antico pone oculos subemarginato, clypeo lato utra laterum angulos porrecto.

**Note.** This species is ten lines long by seven wide; whereas the true *Nautilograpsus minutus*,...
the Cancer minutus of Fabricius, of which I have taken abundance in the Atlantic ocean, adhering to the gulf-weed, is only three lines long.

Sp. 28. (———) Nautilograpsus Smithii, n. s.

Descr. Nautilograpsus testâ convexâ levii, tam latâ quam longâ, margine laterali antico pane oculos vix emarginato, clypeo lato vix ultra laterum angulos porrecto.

Note. This species is seven lines long, and as broad as long. I believe that many species of this sub-genus are confounded with the Cancer minutus of Fabricius. Nautilograpsus is an excellent groupe, which appears to have escaped the notice of M. Dehaan. It is in general found in the wide ocean, adhering to chelonian reptiles or masses of floating sea-weed. The feet therefore are almost natatorial. Grapsus pusillus of Dehaan appears to be a species of the sub-genus near to Nautilograpsus major above described.

Sub-genus. Grapsillus, M.L.

Cephalothorax heart-shaped, depressed, with the back plane and the sides arched, almost forming the quadrant of a circle; the clypeus is broad, truncated, and sinuated in front. Orbits placed at the fore angles of the shell, with great depressed eyes. Exterior Antenna placed without the orbit towards the middle of the clypeus. Internal Antenna rather thick. External Pedipalpi with the second and third joints quadrate, almost equal, the third being a little shorter; the third joint also has its inner apex rounded off; the tigellus is thick, and the outer palpus has its sides almost parallel. Feet; first pair almost twice as long as body with very large joints; the chelae being without teeth and the other feet being short with hairy tarsi. Abdomen in males has five segments, in females it has six.

11. This groupe is very distinct from any described one with which I am acquainted. It approaches in many respects to Nautilograpsus, and appears to connect that groupe with Plagusia. It is remarkable for the large size of the fore feet.

Sp. 29. (———) Grapsillus subinteger, n. s.

Descr. Grapsillus testaceus; thoracis lateribus versus medium vix emarginatis; clypeo medio emarginato denteque utrinque ad oculos obtuso; manibus articulo secundo intus tridentato, chelis apice purpureis ad margine unistriatis.

Note. This species is about four lines long, and rather broader than long.

Sp. 30. (———) Grapsillus dentatus, n. s.

Descr. Grapsillus rufotestaceus; thoracis lateribus medio uniidentatis, dente acuto; clypeo medio sub-bilobo denteque distincto utrinque ad oculos obtuso; manibus articulo secundo intus septem-dentato, chelis apice sub-purpureis ad margine unistriatis.

Note. This species is about half an inch long, and about the same width.

Sp. 31. (———) Grapsillus maculatus, n. s.

Descr. Grapsillus testaceus suprat et infra rufo-maculatus maculis rotundis; thoracis lateribus medio unispinosis, spinâ brevi acutâ; clypeo medio sub-bilobo utrinque ad oculos emarginato;
ON THE BRACHYUROUS DECAPODS OF THE CAPE.

manibas articulo secundo intus quinque-dentato, chelis apice concoloribus ad marginem haud striatis.

Note. This beautiful little species is four lines long, by more than five broad.

12. The above great number of Grapsidae at the Cape shews that the carcinology of South Africa agrees with that of intratropical climates more than it does with that of the temperate zones in general. But we now proceed to the stirps Pinnotherina, and for that purpose we must return to the family Ocypodidae. Milne Edwards has shewn that a small crab of the Red Sea, called by him Doto sulcatus, makes the passage from the Ocypodidae to the Pinnotherina.

Stirps. PINNOTHERINA, Dehaan, or Parasitical Crabs.

13. This stirps contains so few known species, that I shall not attempt its arrangement at present, more particularly as Dr. Smith has only brought home one species, which has long been known as a native of the Cape of Good Hope. M. Dehaan makes the distinguishing characteristic of this stirps, which he calls Pinnotheridea, to consist in the sixth joint of the fourth pair of maxille being inserted at the base of the fifth joint. The groupe consists of singular crabs, among which we find the last pair of feet to be sometimes evanescent, as in the genus Hexapus of Dehaan.

Fam. HYMENOSOMIDÆ.

Genus. HYMENOSOMA, Leach.

Sub-genus. LEACHIUM, M. E.

Sp. 32. (Hymenosoma) Leachium orbiculare, Leach, MSS.


Note. Milne Edwards has shewn that the Hymenosoma Leachii of Guerin belongs to another sub-genus.

14. Perhaps when the attention of collectors shall have been more directed to these small, though curious crabs, we may discover their natural arrangement. The difficulties pointed out by Milne Edwards, who complains that his genera are so distinct from each other, evidently proceeds from almost every one of his genera belonging to a distinct family. Perhaps indeed, if we consider his arrangement in this light—in other words, that most of his genera represent families—the table he gives (vol. 2, p. 29) may not be found so far wrong. But however this may be, I shall now return to the stirps Cancrina and family Carcinidae. From these we pass directly to the osculant stirps Corystina, belonging to the interesting tribe of Trigonostomous Brachyura, which may be displayed to view in the following manner:—
 Tribe. TRIGONOSTOMA.

 Stirps.

 Aberrant Groupe.  
 MACROCEA.  
 External antennae long, or at least conspicuous.

 1. CORYSTINA. { External antennae long. Hind feet of the more usual structure, and serving for locomotion. Oral orifice triangular.

 2. DORIPPINA. { External antennae long. Hind feet raised up over the back and serving for organs of prehension. Oral orifice triangular.

 3. DROMIINA. { External antennae moderate. Hind feet raised up over the back and serving for organs of prehension. Oral orifice not always triangular.

 Normal Groupe.  
 BRACHYURA.  
 External antennae more or less rudimentary and always inconspicuous.

 4. LEUCOSINA. { Anterior feet not elevated into a crest. No branchial afferent apertures in front of the fore feet.

 5. CALAPPINA. { Anterior feet compressed and elevated into a crest. Branchial afferent apertures in front of fore feet.

 15. From the CORYSTINA we pass to the CALAPPINA, by means of MATUTA. By ORCOPHORUS we leave the CALAPPINA for the LEUCOSINA. The passage from the LEUCOSINA to the DROMIINA is not so clear; but these last are close to the DORIPPINA, which last again are approximated naturally to the CORYSTINA. Still the tribe has never been worked out, and I think it more than possible that the DROMIINA which I have here considered to be an aberrant groupe of Trigonostomous BRACHYURA, will, in the end, be found to be an aberrant groupe of Anomorous MACRONURA. Nay, this last is the position assigned to it by Milne Edwards, and the arguments for such a location of DROMIINA are their rudimentary abdominal appendages, and the oral orifice being rarely triangular. On the other hand, however, they differ from all MACRONURA in having fossae for the reception of their internal antennae. The question therefore of their true place can only be determined when the groupe shall have been worked out, which I fear cannot be done at present, on account of the paucity of species which are known to belong to this essentially tropical tribe. One thing, nevertheless, is established, namely, that the DROMIINA are osculant, or, in other words, they stand on the limits of the Trigonostomous BRACHYURA and Anomorous MACRONURA. Into which of these circles the stirps truly enters, must be left for future investigation; but I shall provisionally consider it as belonging to the BRACHYURA. As for the families of Trigonostomous BRACHYURA, I shall not at present attempt to indicate them, but proceed at once to characterize the sub-genera brought from the Cape, which are only three.

 Stirps. CORYSTINA.

 Of the stirps CORYSTINA we have no species from the Cape; but the following is very close to it, being aberrant in the next stirps.
ON THE BRACHYUROUS DECAPods OF THE CAPE.

Stirps. CALAPPINA.

Fam. MATUTIDÆ.

Genus. MATUTINUS.

Sub-genus. MATUTA, Fab.

Sp. 33. (Matutinus) Matuta Victor, Fab.


Note. I agree entirely with my lamented friend Dr. Leach in thinking, that there are many species confounded together under the name of Matuta victor. I do not consider the above names of the family and genus to possess any authority, and merely publish them in order that the reader may understand the relation which the sub-genus bears to the stirps Calappina.

Stirps. LEUCOSINA.

Here likewise I shall not pretend to characterize the families, or to describe the genera of a stirps in which so few species are as yet known; but shall merely content myself with the following description of the only sub-genus of the groupe which is known to be found at the Cape of Good Hope:—

Sub-genus. Leucisca, M.L.

Body in front slender and compressed, but behind thick.

Cephalothorax smooth, plane, depressed, sub-elliptical, broader than long, and having a thin reflexed margin; while the clypeus is advanced with a round sub-reflexed apex, which is scarcely emarginate.

Orbits small, sub-circular, and hidden under the clypeus; while the eyes are deeply set, very minute and globose.

Exterior Antennæ very small and rather tri-articulate.

Interior Antennæ hidden under the clypeus in transverse reniform fossula.

External Pedipalpi very large, and closing a triangular buccal cavity; their second joint is oblong, quadrate, and broader in front than the third, which is triangular, with a sharp point, while the external palpus is lunate.

Feet: first, second, and third pairs have been lost in the only specimen before me; but the two remaining pair are short, and all are inserted under the margin of the cephalothorax.

Abdomen of the female with four segments.

The nearest crab to this is one from the Red Sea, which is described by Rüppell under the name of Oreophorus horridus. Both come near to Calappina.

Sp. 34. (——— ) Leucisca squallina, n.s.

Descri. Leucisca alba, dorso medio convexiasculo, oculis glancis, pedipalpis externis palpisque margine externo granulatis, pedibus articulo quarto extus sulcato, unguibus longis acutis.

Note. The length of this curious little crab is only about three lines; and my specimen is much injured, having lost the chelae, and several other of the feet. The abdomen also is in a damaged state.
Stirps. DROMIINA.

Sub-genus. Dromia, Fab.

Milne Edwards has described the form of this sub-genus in one of its early stages of metamorphosis, and has also very distinctly pointed out the various points in which the adult state of Dromia differs from that of the Brachyura in general.

Sp. 35. (——— ) Dromia hirtissima, Lam.


Sp. 36. (——— ) Dromia rotunda, n. s.

Descr. Dromia villosa, minime tuberculata, tam longa quam lata, globosa regione hepaticâ fos- sulâ obliquâ utrinque munitâ, lateribus anteicis haud dentatis, clypeo anteic didentato.

Note. This species comes very near one from the Red Sea, described by Rüppell under the name of Dromia unidentata; but the anterior sides of the shell have not an unidentated margin. The crab is all, except the tips of the fore feet, covered with a close, short, brown tomentum. The shell is round, with a convex globular back. Besides the two middle triangular teeth of the clypeus, there is a short blunt one above the inner side of the orbit, and vestiges of another blunt tooth above the outer side. The length is about sixteen lines.

Dr. Smith has brought no species of the stirps Dorippina from the Cape.
ON A NEW SPECIES OF CERAPTERUS.

The addition of a new species to so rare a genus as Cerapterus will confer entomological fame on Dr. Smith's expedition. The genus Cerapterus is so little understood by entomologists, that ere I describe this new species I conceive myself called upon to make a few remarks on the groupe, particularly as those hitherto made have either been extremely inaccurate, or have been accompanied by bad figures.

The genus Cerapterus was founded by Swederus fifty years ago, and the insects having immediate reference to it remain to this day of the utmost rarity; so much so, indeed, that I believe there is no specimen in any Continental Museum. There are only five specimens in England, and each of these belongs to a distinct species. Of these five specimens, three are in my collection, one in that of the East India Company, and one in that of Mr. John Curtis. Having the first four species now on the table before me, I consider myself enabled to distinguish the species accurately; and I shall take the opportunity of stating some interesting particulars observed by my brother, Mr. George MacLeay, in New South Wales, which agree with the observations made by M. Verreaux on the economy of the Paussidae in general,—a family of which he has brought home a very extensive collection.

Being in possession of a fine series of undescribed Paussidae, and finding some very curious forms among them, I shall probably hereafter treat of the family at large in some other work. My object for the present must be confined to a satisfactory description of Dr. Smith's new species. I shall therefore in this place merely remark, that if we watch that chain of affinity which is most visible in the family of Paussidae, some genera that are usually included in it will seem, so far as we are acquainted with the groupe, to be more properly excluded. For instance, beginning with the true genus Paussus, we pass, by an easy transition, to the groupe called Platyrhopes by Mr. Westwood, and to that interesting insect Platyrhopes Mellyi, which appears to be the type of a new sub-groupe leading us on directly to Cerapterus latipes of Swederus; and by the New Holland form of Cerapterus which I call Arthropertus, we pass to Pentaplates, from which we return to Paussus. Now, as this returning into itself is the essential characteristic of a natural groupe, it follows that the genus Hylo-

storus of Dalman, as well as the Trochoidea of Westwood, are osculant grupoes, leading off from the Paussidae, since if inserted in the above circular series, they appear to interrupt it. If indeed Dalman's name Hylo-

storus be correctly applied, this insect cannot enter into the groupe of true Paussidae, which, according to the observations of M. Verreaux, never attack wood. As to the genus Trochoidea, which, by the way, is strangely named; for the insects are as like to Hercules as to a wheel; it certainly leads off to the parasitical Myrmecoxenus of
Chevrolat, and other genera, such as Cryptophagus, of the groupe which I have called Necrophaga. Mr. Westwood seems to have been the first to suspect the affinity of Cryptophagus to the Paussidae, but he has not expressed himself very clearly on the subject. With respect to the true affinities of Hylotornis, having never seen the insect except as figured by Schönmherr in his appendix, I am unwilling to offer an opinion; although, if Dalman's name has been given to the genus on account of its habits, I suspect that good reasons may hereafter be found for this last entomologist's assertion, that it bears some kind of relation to Platypus. One thing, however, is sure, namely, that the Paussidae have a strong relation of analogy to the Pselaphidae; so strong indeed, that I at one time suspected immediate affinity. But I shall return to this subject anon.

I have taken care that figures of the greatest accuracy, and made under my own superintendence, should be executed by Mr. C. Curtis, an artist whose skill in such subjects is only rivalled by that of his brother. I wished also to render the following observations still more complete, by presenting entomologists with the anatomy of the mouth; but as I hope soon to have several specimens at my disposal for dissection, I am unwilling to sacrifice valuable insects, which are, so far as I know, at present unique in my cabinet.

Those persons who may wish to possess some notion of the actual state of our knowledge with respect to Cerapterus, will do well to cast their eye over a paper on Paussidae, published in the 16th volume of the Linnean Transactions. It would be unjust to a clever entomologist, Mr. Westwood, did I not praise the industry with which he has there brought together almost every word that has been written on these rare insects. I trust he will now confer a further favour on the entomological world, by condensing the materials he has so laboriously compiled, and by arranging his own valuable observations in a lucid order. His reasoning, however, ought all to be unsparingly expunged; for Mr. Westwood, when he draws an inference, is even more awful than when he names his Paussi.*

In the Cerapterus of authors I can clearly discern two very distinct sub-genera. But I shall first state the external characters common to both. They are as follows:—


Such insects are peculiar to the tropics of the Old World and to New Holland, and I distribute them as follows:—

Sub-genus. Cerapterus, Swederus.

Caput thorace angustius, collo brevi, oculis mediocribus. Thorax latior quam longus lateribus dilatatis rotundatis. Scutellum mediocre. Elytra abdomine vix breviora

* For instance, he has attempted to prove, although I know not how, that the Paussi presented to Latreille by my father, were given to the latter out of the Linnean Collection by its purchaser, Sir J. E. Smith. Mr. Westwood accordingly vents a great deal of virtuous indignation, which however is all wasted, as my father never received an insect in his life from Sir James Smith; and I must say it is rather hard that the late President of the Linnean Society should be so unjustly attacked in the Transactions of an Institution which he founded.
ON A NEW SPECIES OF CERAPTERUS.

lata, apice subrotundata. *Tibiae* lateribus parallelis apice truncatis haud bispinosis. 
*Tarsi* intra tibiarium apices excavatos retractiles.

This group is found in Asia and Africa, within the tropics.

**Sp. 1.** (——) Cerapterus latipes, Swedol.

**Descr. Cerapterus** piecvs, elytris maculâ apicali flavescente subrotundâ antice quadridentatâ postice lobatâ, antemis rufas articulo ultimo in tuberculum ad basin elevato.


**Note.** The original specimen which General Davies sent to Swederus for description is now in my collection, my father having purchased it at the sale of the General's museum. It is supposed to be a native of the East Indies, which is more than probable, as it comes very close to the Javanese species hereafter described.

**Sp. 2.** (——) Cerapterus Horsfieldii.

**Descr. Cerapterus** piecvs, thorace antice omarginato, elytris maculâ apicali flavescente haud rotundâ litteram Y quodammodo simulante.


*C. latipes*, West. Trans. Linn. Soc. vol. xvi. p. 682. tab. 33. fig. 52—56.


**Note.** The only specimen known of this insect was brought by Dr. Horsfield from Java, and deposited by him in the museum of the East India Company. It was first described by Mr. Westwood, who imagined it to be a variety of *Cerapterus latipes*. He proposed, however, if it should eventually be proved different, that it should be called *C. Horsfieldii*; and this proposal I have had great pleasure in adopting, out of respect for the profound entomological science of Dr. Horsfield. The figure given in the Linnean Transactions of this interesting insect is so incorrect, that I have, with Dr. Horsfield's kind permission, employed Mr. C. Curtis to make an accurate one for the satisfaction of entomologists. The size is that of the former species, that is, rather more than five lines.

**Sp. 3.** (——) Cerapterus Smithii, n. s.

**Descr. Cerapterus** nigropieceus subnigritus, elytris maculâ fulvâ lunari, tibiis intus spinâ apicali instructis.


**Note.** For an unique specimen of this African species I am indebted to the kindness of Dr. Smith, who found it within the tropic of Capricorn. It is by far the largest of the *Pauasside* known, and differs from the two former species of *Cerapterus* in having a spine at the extremity of the tibia. It seems to form a distinct section of *Cerapterus*. 
ON A NEW SPECIES OF CERAPTERUS.

Sub-genus. Arthropterus, M'L.


This groupe inhabits New Holland.

Sp. 1. Arthropterus MacLeaii, Don.


Note. The only specimen known of this species was purchased by my father at the sale of Mr. Francillon's museum. None of the authors who have written on the species ever saw it, except Donovan, who was its first describer in his work on the "Insects of New Holland." There is another species of Arthropterus, which I have seen in the valuable collection of my friend Mr. John Curtis, and which differs from A. MacLeaii in the form of the thorax, and in the body being more depressed. I am ignorant which of these two my brother, Mr. George MacLeay, has lately found, or whether his discovery may not prove, on comparison, to be still a third species. But I learn, by a letter from my father, that my brother, "in one of his late excursions into the interior of New South Wales, discovered several specimens of 'Cerapterus MacLeaii' in the nests of ants, and, moreover, remarked, that when alive they had the power of exploding, after the manner of Brachini." The first of these observations with respect to the economy of Arthropterus agrees perfectly with what M. Verreaux noticed of the Paussi of the Cape; and my brother's second observation accords with that of M. Dupont's correspondent on the Senegal species, Paussus excavatus. I hope, however, as I am about to visit Australia, soon to be able to make myself master of the economy of these interesting insects, and also to publish a correct representation of the parts of their mouth.
Cetonia levina

Trichinus Horstfieldti

Ischnostoma mada

Goliathus Smithii

Macromus apicornez

Ischnostoma apicalipes

Fig. a. hind leg
(Invertebrata Plate i)

Cerapterus Smithii
Fig. a antena. Fig. b wing.
Fig. c fore feet.

Cerapterus Intispis.

Arthropterus Macleayi
Fig. a antena.
PROSPECTUS.

The Cape of Good Hope is now acknowledged to be one of the greatest avenues as yet opened for the researches of the Naturalist. Our Colony in that part of Southern Africa is the key to a large portion of an extensive continent which is still but very partially explored; and the field to which it admits the scientific traveller is rich to exuberance in the variety and novelty, both of animal and vegetable life.

Stimulated by the prospect of Discovery in a quarter so fertile in interest, "The Cape of Good Hope Association for Exploring Central Africa" was established in 1833; and in 1836, an Expedition fitted out by that body, consisting of thirty-four persons, and directed by Dr. Smith, after an absence of nineteen months, and penetrating as far as 25° 28' South latitude, returned to Cape Town laden with a variety of curious and important specimens in Natural History, &c.

Previously to this period little information has been furnished, in a shape calculated to enable the public to form accurate ideas of the various animated beings by which these regions are inhabited. The splendid publication of Le Vaillant, no doubt, should be mentioned as forming an exception, pro tanto; but this includes only a portion of the Birds of the most southern extremity of the country, and a work therefore extensive enough to comprehend the various departments of Zoology is still a desideratum.

The Members of The Cape of Good Hope Association for Exploring Central Africa found themselves, on the return of the recent Expedition, in a situation to supply at least some portion of the existing deficiencies; but their funds, even if it had been possible to divert them to such an object, were altogether inadequate to defray the expense of laying the result of their labours before the world. Under such circumstances, it was decided that Dr. Smith, the director of the Expedition, should be authorised, on his arrival in England, to wait upon Lord Glenelg, for the purpose of making him acquainted with the position and views of the Society, in the hope that Government might be induced to assist in the publication of their materials.

This hope has not been disappointed. At the recommendation of the Secretary of State for the Colonial Department, the Lords Commissioners of Her Majesty's Treasury have been pleased, by a pecuniary grant, to enable the Society to publish the result of its labours, without infringing upon the funds raised solely for the purposes of discovery; and in a form which, while it places the work within reach of most of the friends and promoters of science, will not, it is hoped, be found inconsistent with the interest and importance of the subject.

The materials for the work now offered, under such patronage, to the public, will consist of pictorial illustrations of between three and four hundred subjects of the animal kingdom, all of which have been collected to the south of 28° 28' South latitude; and will comprise,

First, and principally, unknown animals;

Secondly, animals known, but not yet figured; and

Lastly, such as have been imperfectly figured; but of which the Society is in possession of accurate drawings.

The Entomological portion of the work will be from the pen of W. S. Mackay, Esq., who has kindly undertaken that department. The rest of the descriptions will be furnished by Dr. Smith, who will add a summary of African Zoology, and an inquiry into the Geographical ranges of species in that quarter of the Globe.

Conditions of Publication.

The Work will appear periodically; and it is estimated that the whole will be completed in about thirty-four parts. As it will be necessary that the plates be published promiscuously, they will be arranged in five divisions, viz. Mammalia, Aves, Pisces, Reptilia, and Invertebrata. The plates of each of these divisions will be numbered independently, and the letter-press descriptions left unpagd, so that on the work being completed, they may be arranged either agreeably to the general classified order which will accompany the last number, or according to the particular views of the purchasers.

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