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6.—*General Catalogue of South African Crustacea* (Part V. of S.A. Crustacea, for the Marine Investigations in South Africa)\*.—By the Rev. THOMAS R. R. STEBBING, M.A., F.R.S., F.L.S., F.Z.S., Fellow of King's College, London, Hon. Memb. New Zealand Inst., Hon. Fellow Worcester College, Oxford.

THE first part of this treatise on the crustacean fauna of South Africa was published ten years ago. A systematic review of the subject was then and has since been deferred, in order that important additions to our knowledge of it, resulting from recent researches, might be more or less adequately dealt with. In the meantime the extensive collections made by Dr. Gilchrist, during the *Pieter Faure* expeditions, together with material provided by Dr. Péringuey and several other naturalists, have so greatly enlarged the task of description, that any methodical survey has run a chance of being indefinitely postponed. Over and over again, in drawing up this present Catalogue, I have felt that it may be misleading, should any one hastily infer from it that such and such tribes or families are scantily represented, or that this or that genus has no species, in South African waters. Almost at every point I have been tempted to linger over the illustration and definition of new species, or the discussion of forms not hitherto recorded from the district. As will be seen, the temptation has sometimes been too strong to be overcome. Thus a crab so long known as *Hexapus sexpes* (Fabricius) has been drawn and quartered afresh; a new crab has been described and figured as *Nasinatalis disjunctipes* in the tribe Oxystomata; further, the plates claim to exhibit a new Pagurid, a new Isopod, two new Caprellids, and two new species of Sympoda, one of them suggesting the institution of a new genus and a new family. Obviously, however, most of the Catalogue deals with names already

\* Parts I.—III. have been published in the "Marine Investigations in South Africa," Part IV. in Vol. VI. of the Annals of the South African Museum.

published. Among these here and there I have ventured fearfully to introduce some changes, as in proposing *Pachos* among the Copepoda in place of the preoccupied *Pachysoma*, Claus, and in vindicating Ostrapoda, Straus, against Ostracoda, Latreille.

The substitution of *Ægeon* for Risso's preoccupied *Egeon* appears to originate, not as I formerly supposed with Guérin, but with Kinahan in 1857, who at that date rejected the genus, but revived it in 1862, and to him the name is therefore rightly attributed by J. V. Carus in 1885.

*Nocticula*, J. V. Thompson, 1829, claims rather fuller notice than I have given it on p. 396. Sars quotes it as *Noctiluca*. But Thompson may have had his own reasons for adopting an anagrammatic form founded on that name rather than the name itself. Actually in his Researches, vol. i., pt. 1, Mem. 3, p. 52, he prints *Nocticula*. He explains that he establishes this genus for an animal discovered and named by Sir Joseph Banks as "*Cancer fulgens* (Macartney Phil. Trans., 1810)," pl. 14, fig. 1 and 2. On p. 53 he takes the liberty of renaming this animal "*Nocticula* Banksii or Luminous Shrimp." Thompson's scholarship was evidently not on a par with his scientific ability, since he calls the group to which his new genus belongs Shizopodæ. But *Nocticula* would be valid, if its species could be identified.

The Catalogue may expect to be reproached for its great length. As its foster-parent I venture to urge in its defence that ships bound for almost anywhere take South Africa on their way and fish in its teeming waters without remorse. That is not the only thing. It is well known that by a legal fiction an ambassador carries a circumambient fragment of his own country with him into the land to which he is accredited. But as an actual fact the earth of African lakes, transferred to the aquaria of Professor Sars in Norway has yielded in that distant clime a plentiful crop of true South African Crustacea. The length, then, of the Catalogue is not due to any malice of its own, but to the wonderful activity of carcinologists in recent years. Apologies indeed are due for the omission of innumerable important references, balanced by apologies to students of the modern school who will perhaps regard most of those that are given as entirely superfluous.

## CÆNOBITA RUGOSUS (Milne-Edwards).

1837. *Cenobita rugosa*, Milne-Edwards, Hist. Nat. Crust., vol. ii., p. 241.

1843. *C. r.*, Krauss, Südafrik. Crust., p. 58.

Krauss says: "I only found a single specimen on the rocky coast of Natal in a shell of *Tritonium dolarium*, LAMR. Its whole length amounts to about 2 inches."

1888. *Cænobita r.*, Henderson, Challenger Anomura, vol. xxvii., p. 51.

1905. *C. rugosus*, Alcock, Catal. Indian Decap. Crust., pt. 2, fasc. 1, pp. 143, 192, pl. 14, figs. 3, 3a.

In 1902 de Man, Abhandl. Senckenberg. Gesellschaft, vo. xxv., pt. 3, p. 742, pl. 24, fig. 45, adopts the name "*Cænobita compressus*, Guérin," on Bouvier's authority. But Milne-Edwards, *loc. cit.*, gives *C. compressa* after *C. rugosa*, only as a manuscript name assigned by Guérin, which would therefore be without authority.

## GEN. GLAUCOTHOE, Milne-Edwards.

1830. *Glaucothoe*, Milne-Edwards, Ann. Sci. Nat., vol. xix., p. 334.

1891. *G.*, Bouvier, Ann. Sci. Nat., Ser. 7, vol. xii., p. 65.

1906. *G.*, Alcock, Catal. Indian Decap. Crust., pt. 2, Anomura, fasc. 1, p. 22.

This is now generally accepted as a genus embracing larval forms of various Pagurids.

## \* GLAUCOTHOE, sp.

1910. *Glaucothoe*, sp., S.A. Crustacea, pt. 5.

No. 103, sent by Dr. Gilchrist, from Lion's Head, S. 72 E. 47 miles. Depth 174 m.

## TRIBE GALATHEIDEA.

1888. *Galathea*, Henderson, Challenger Anomura, Reports, vol. xxvii., p. 103.

1901. *G.*, Alcock, Catal. Indian Decap. Macrura and Anomala, p. 235.

## FAMILY PORCELLANIDÆ.

1888. *Porcellanida*, Henderson, Challenger Anomura, Reports, vol. xxvii., p. 104.

1902. *P.*, Stebbing, S.A. Crustacea, pt. 2, p. 27.

## GEN. PORCELLANA, Lamarck.

1801. *Porcellana*, Lamarck, Syst. Anim. sans Vertèbres, p. 153.  
 1902. *P.*, Stebbing, S.A. Crustacea, pt. 2, p. 28.

## \* PORCELLANA DEHAANII, Krauss.

1843. *Porcellana dehaanii*, Krauss, Südafrik. Crust., p. 59, pl. 4, fig. 2.  
 "Very frequent in the sinuosities of *Eschara foliacea* L., on the terraces of the Natal coast."  
 1858. *P. dehaanii*, Stimpson, Pr. Ac. Sci. Philad., vol. x., pp. 229, 243 (67, 81), and *sreptocheles*, Stimpson, ibid.  
 Simon's Bay, 11-22 m.  
 1888. *P. s.*, Henderson, Challenger Anomura, Reports, vol. xxvii., p. 110.  
 Simon's Bay, 9-33 m.  
 1902. *P. dehaanii*, Stebbing, S.A. Crustacea, pt. 2, p. 28.  
 No. 8, sent by Dr. Gilchrist, from False Bay.  
 1907. *P. streptocheles*, Stimpson, Smithson. Misc. Coll., vol. xlix., p. 191, pl. 23, fig. 1.

Stimpson says: "This species is common in from six to twelve fathoms on sandy bottoms in Simon's Bay, Cape of Good Hope. It differs from *P. dehaanii*, Krauss, also from the Cape, in its naked carapace, broader front, with a less prominent median tooth, and non-denticulated superantennary margin." It is not clear whether Stimpson means that he had himself found *P. dehaanii* at the Cape, or whether he is only referring to Krauss's Natal coast specimens. The recently published figure of Stimpson's species certainly differs in appearance from Krauss's figure, but specimens, taken at low tide in False Bay by C. F. Beyers, show variation in the central rostral tooth, and in the prominence or evanescence of the two or three teeth on the inner margin of the wrist of the chelipeds, making it very doubtful whether Stimpson's species can be distinguished from that of Krauss. There is no doubt that the specimens from False Bay are the species described and figured by Stimpson.

## GEN. PACHYCHELES, Stimpson.

1858. *Pachycheles*, Stimpson, Pr. Ac. Sci. Philad., vol. x., p. 228 (66).  
 1888. *P.*, Henderson, Challenger Anomura, Reports, vol. xxvii., p. 113.  
 1897. *P.*, Ortmann, Zool. Jahrb., vol. x., p. 290

## PACHYCHELES NATALENSIS (Krauss).

1843. *Porcellana natalensis*, Krauss, Südafrik. Crust., p. 58, pl. 4, fig. 1.

"Very frequent in the sinuosities of *Eschara foliacea* L. on the Madrepore banks of the Natal coast."

1858. *Pachycheles* n., Stimpson, Pr. Ac. Sci. Philad., vol. x., p. 228 (66).  
 1875. *Pisosoma* n., Paulson, Red Sea Crustacea, p. 88, pl. 11, fig. 5.  
 1897. *Pachycheles sculptus*, Ortmann, Zool. Jahrb., vol. x., pp. 291, 294.  
 1902. *P. natalensis*, de Man, Abhandl. Senckenberg. Gesellschaft, vol. xxv., pt. 3, p. 701.

Ortmann and de Man are not agreed on the identification of this species. Dana in 1852, U.S. Expl. Exp., vol. xiii., p. 415, suggested that it might be the species which Guérin in 1838 (and earlier in 1835, *see* Ortmann) named *Porcellana grossimana*. But Ortmann in 1892, 1894, and 1897 identifies it with *Porcellana sculpta*, Milne-Edwards, 1837. In 1902 de Man remains unconvinced by Ortmann, and for the time continues to regard *natalensis* as distinct from *sculptus*.

## FAMILY GALATHEIDÆ.

1853. *Galatheidæ*, Dana, U.S. Expl. Exp., vol. xiii., p. 1431.  
 1901. *G.*, Alcock, Catal. Indian Decap. Macrura and Anomala, p. 236.  
 1902. *G.*, Stebbing, S.A. Crustacea, pt. 2, p. 29.  
 1902. *G.*, Benedict, Pr. U.S. Nat. Mus., vol. xxvi., p. 243.

## GEN. GALATHEA, Fabricius.

1793. *Galathea*, Fabricius, Entomologia Systematica, vol. ii., p. 472.  
 1888. *G.*, Henderson, Challenger Anomura, Reports, vol. xxvii., p. 117.  
 1902. *G.*, Benedict, Pr. U.S. Nat. Mus., vol. xxvi., pp. 246, 300.

## GALATHEA LABIDOLEPTA, Stimpson.

1858. *Galathea labidolepta*, Stimpson, Pr. Ac. Sci. Philad., vol. x., December, pp. 238, 251 (76, 89).  
 At Cape of Good Hope.

1888. *G. l.*? Henderson, Challenger Anomura, Reports, vol. xxvii., p. 120, pl. 12, figs. 6, 6a.

After describing *Galathea dispersa*, Bate, 1859, from British specimens, and stating that he cannot find any points of difference in the Challenger examples, Henderson continues: "Two species of *Galathea* were taken in Simon's Bay, South Africa, at a depth of 5 to 18 fathoms, from which locality the type of *Galathea labidolepta*, Stimpson, was procured. The first of these, represented by a single male specimen (figured twice the natural size on pl. xii.), which I refer with considerable hesitation to Stimpson's species, is either very closely allied to or identical with *Galathea dispersa*. The second species, represented by three imperfect specimens, is of much smaller size, the body of a male measuring 17.5 mm. in length, while a female with ova measures only 11 mm. In these the merus of the external maxillipedes is considerably longer and narrower than the ischium (a character in which it agrees with the common European *Galathea squamifera*, Leach), the inner margin bears two acute spinules near its distal end, and a few minute spinules are present on the outer margin. The chelipedes in the single specimen in which they are still present (a female) are very slender, and the fingers exceed the palm in length. It is impossible to say which of these species, or indeed whether either of them, is referable to *Galathea labidolepta*. The original description of the latter is very incomplete and the size is not recorded; the brief diagnosis would indeed apply to either of the Challenger species in most respects, but as regards the external maxillipedes, in the form of which they differ to a marked extent, Stimpson has furnished no account."

1907. *G. l.*, Stimpson, Smithson. Misc. Coll., vol. xlix., p. 231.

In this posthumous account Stimpson still gives no description of the third maxillipeds, but says: "The dimensions of a male specimen are: Length of the carapax, 0.32; breadth, 0.21; length of rostrum, 0.11; of chelipeds, 0.58 inch. Females are generally larger, the carapax in one being 0.4 inch in length." Bonnier's largest specimen of *Galathea dispersa* measured at full stretch from front to apex 39 mm., of which the carapace took 20 mm., four-fifths of an inch as compared with only two-fifths in Stimpson's species, which was "dredged from a sandy bottom in twelve fathoms in Simon's Bay, Cape of Good Hope."

## GALATHEA DISPERSA, Bate.

1858. *Galathea dispersa*, Bate, Journ. of Proc. Linn. Soc., London, vol. iii. (1859), No. 9, Aug. 20, 1858, p. 3.

1888. *G. d.*, Henderson, Challenger Anomura, Reports, vol. xxvii., p. 119, pl. 12, figs. 6, 6a.

Simon's Bay. As Bate's name was published in August, 1858, and Stimpson's not till December of the same year, should the two species prove to be identical, Bate's *dispersa* will have the claim of priority. But from the disparity in the sizes mentioned above, it is probable that they are distinct.

1888. *G. d.*, Bonnier, Bull. Sci. France-Belgique, ser. 3, vol. i., Nos. 4-8, p. 68, pl. 13, figs. 1-3.

## GEN. MUNIDA, Leach.

1820. *Munida*, Leach, Dict. Sci. Nat., vol. xviii., p. 52.

1902. *M.*, Benedict, Pr. U.S. Mus., vol. xxvi., pp. 251, 305.

1902. *M.*, Stebbing, S.A. Crustacea, pt. 2, p. 29.

## \* MUNIDA SANCTI-PAULI, Henderson.

1885. *Munida sancti-pauli*, Henderson, Ann. Nat. Hist., ser. 5, vol. xvi., p. 411.

1888. *M. s.*, Henderson, Challenger Anomura, Reports, vol. xxvii., p. 142, pl. 3, fig. 6.

1902. *M. s.*, Benedict, Pr. U.S. Mus. vol. xxvi., pp. 251, 312.

1902. *M. s.*, Stebbing, S.A. Crustacea, pt. 2, p. 30.

No. 144, specimen sent by Dr. Gilchrist, from Buffalo River north 10 miles; depth 567 m. There is some doubt whether this species should not be united with *M. militaris*, Henderson, which has page-precedence. But Benedict, in his review of the genus, keeps them separate.

## GEN. GALACANTHA, A. Milne-Edwards.

1880. *Galacantha*, A. Milne-Edwards, Bull. Mus. Comp. Zoöl., Harvard, vol. viii., p. 52.

1908. *G.*, Stebbing, S.A. Crustacea, pt. 4, p. 19.

## \* GALACANTHA ROSTRATA, A. Milne-Edwards.

1880. *Galacantha rostrata*, A. Milne-Edwards, Bull. Mus. Comp. Zool., vol. viii., p. 52.

1908. *G. r.*, Stebbing, S.A. Crustacea, pt. 4, p. 20.

No. 176, specimen sent by Dr. Gilchrist, from Cape Point, NE. by E.  $\frac{1}{4}$  E., 46 miles; depth about 1,646 m.

### FAMILY UROPTYCHIDÆ.

1901. *Uroptychidæ*, Alcock, Catal. Indian Decap. Macrura and Anomala, p. 278.

1902. *U.*, Stebbing, S.A. Crustacea, pt. 2, p. 31.

#### GEN. UROPTYCHUS, Henderson.

1888. *Uroptychus*, Henderson, Challenger Anomura, Reports, vol. xxvii., p. 173.

1902. *U.*, Stebbing, S.A. Crustacea, pt. 2, p. 32.

1902. *U.*, Benedict, Pr. U.S. Mus., vol. xxvi., pp. 292, 330.

#### \* UROPTYCHUS NITIDUS (A. Milne-Edwards).

1880. *Diptychus nitidus*, A. M.-Edw., Bul. Mus. Comp. Zoöl. vol. viii., p. 62.

1902. *U. n.*, Stebbing, S.A. Crustacea, pt. 2, p. 32.

No. 146, specimens sent by Dr. Gilchrist, from Cape Natal N. by E. (approx.) 24 miles; depth 804 m.

### TRIBE HIPPIDEA.

1849. *Hippidea*, de Haan, Crustacea Japonica, decas septima, p. 200, and Præfatio, p. xxii.

1852. *H.*, Dana, U.S. Expl. Exp., vol. xiii., p. 404.

1907. *H.*, Borradaile, Ann. Nat. Hist., ser. 7, vol. xix., p. 475.

### FAMILY HIPPIDÆ.

1858. *Hippidæ*, Stimpson, Pr. Ac. Sci., Philad., vol. x., p. 229 (67).

1886. *H.*, Henderson, Challenger Anomura, Reports, vol. xxvii., p. 37.

1900. *H.* Rathbun, Pr. U.S. Mus., vol. xxii., p. 300.

Miss Rathbun here explains that Fabricius in 1787 established the genus with five species, but of these in 1798 he left in it only the species *Hippa adactyla*. Later Latreille made this species the type of his genus *Remipès*, under the name *R. testudinarius*, with the result that *Remipès* must be regarded as a synonym of *Hippa*. Fabricius, however, in 1798 added *Cancer emeritus*, Linn., to keep company with



his *Hippa adactyla*. But, as they are now considered generically distinct, the species *emeritus* has to find a new generic name. This appears to be supplied by an entry in Sherborn's Index Animalium, p. 327, 1902.

GEN. EMERITA, Meuschen.

1778. *Emerita*, Meuschen, Mus. Gronovianum, p. 87 (Sherborn).

This name was accepted by Benedict, Bull. U.S. Fish. Comm. for 1900, vol. ii., p. 138, but attributed to Gronovius, and with this attribution Miss Rathbun appears to agree, only correcting the Gronovian date from 1763 to 1764 (Proc. Biol. Soc., Washington, vol. xvii., p. 171, 1904). I am not in accord with these esteemed carcinologists in regarding Gronovius as any authority for Linnean nomenclature, but the intervention of Meuschen allows me to follow them in using the name *Emerita*.

EMERITA EMERITUS (Linn.).

1767. *Cancer emeritus*, Linn., Systema Naturæ, ed. 12, p. 1055.  
 1778. *Astacus emeritus*, Fabricius, Systema Entomologiæ, p. 416.  
 1778. *Emerita e.*, Meuschen, Mus. Gronov., p. 87.  
 1791. *Cancer e.*, Herbst, Krabben und Krebse, vol. ii., pt. 1, p. 8, pl. 22, fig. 3 (not 4 as stated in text).  
 1798. *Hippa e.*, Fabricius, Suppl. Ent. Syst., p. 370.  
 1837. *Hippa emerita*, Milne-Edwards, Hist. Nat. Crust., vol. ii., p. 209, the footnote including a reference to the undated Règne Animal, éd. 3, Crust., pl. 42, fig. 2, *a-i*. The footnote wrongly attributes *Hippa emerita* to Fabricius, instead of *Hippa emeritus*.  
 1852. *H. e.*, Dana, U.S. Expl. Exp., vol. xiii., p. 409, pl. 25, fig. 9 *a-c*.  
 1910. *Emerita emeritus*, Stebbing, S.A. Crustacea, pt. 5.

A specimen sent by Mr. Quekett, from the Durban Museum, has a carapace measuring 30 mm. in length from the central tooth of the tridentate front to the hind margin.

MACRURA GENUINA.

1901. *Macrura*, Alcock, Catal. Indian Deep-sea Decap. *Macrura* and *Anomala*, p. 8.

In Borradaile's classification, Ann. Nat. Hist., Ser. 7, vol. xix., p. 457, 1907, which Calman accepts in the Crustacea of Lankester's

Treatise on Zoology, pt. 7, fasc. 3, 1909, the Anomura include the tribe Thalassinidea in addition to the Galatheidea, Paguridea, and Hippidea here assigned to the Macrura anomala. However sound the arguments may be for this combination, the term Anomura, implying unsymmetrical tails, is scarcely admissible for a group in which three tribes out of four have the pleon symmetrical.

### TRIBE THALASSINIDEA.

1893. *Thalassinidea*, Stebbing, History of Crustacea, Internat. Sci. Ser., vol. lxxiv., p. 180.  
1903. T., Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 534.  
1907. T., Borradaile, Ann. Nat. Hist., Ser. 7, vol. xix., p. 475.

### FAMILY AXIIDÆ.

1888. *Axiidæ*, Bate, Challenger Macrura, Reports, vol. xxiv., p. 36.  
Bate places the genus *Calocaris* in his family Thaumastochelidæ.  
1901. A., Alcock, Catal. Indian Deep-sea Macrura, p. 186.  
1903. A., Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 536.  
1906. A., Rathbun, Bull. U.S. Fish Comm. for 1903, pt. 3, p. 893.

### GEN. CALASTACUS, Faxon.

1893. *Calastacus*, Faxon, Bull. Mus. Comp. Zoöl., Harvard, vol. xxiv., p. 194.  
1895. C., Faxon, Mem. Mus. Comp. Zoöl., vol. xviii., p. 105.  
1901. C., Alcock, Catal. Indian Deep-sea Macrura, p. 191.  
1902. C., Rathbun, Pr. U.S. Mus., vol. xxiv., p. 887, and (undated) Harriman Exp., vol. x., p. 150.  
1903. C., Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 539.  
Borradaile and others regard *Calastacus* as a subgenus of *Calocaris*, Bell, 1853.

### \* CALASTACUS LONGISPINIS, McArdle.

1901. *Calastacus longispinis*, McArdle, Ann. Nat. Hist., Ser. 7, vol. viii., p. 522.

McArdle's specimen was dredged in the Arabian Sea from a depth of 300 fathoms. His description includes the following

points: "The rostrum is acutely triangular and short, about one-fourth the length of the remainder of the carapace. A slight but well-marked median carina runs backwards for about two-thirds of the way to the cervical groove, and carries a single blunt spine near its beginning. The margins of the rostrum are spinous, having five teeth on either side in its free portion and two more on their continuation backwards as ridges over the carapace, where they extend as far as the level of the termination of the median carina, enclosing a horseshoe-shaped space. The gastric area supports three small spines on either side arranged in a longitudinal row, midway between the median carina and the continuation of the rostral margins." He also mentions that the telson has a couple of minute spines along the outer border.

1902. *C. l.*, McArdle, Illustrations Zool. R.C.M.S. Investigator, pl. 57, figs. 2, 2a.

1905. *C. l.*, MacGilchrist, Ann. Nat. Hist., Ser. 7, vol. xv., p. 239.

Captain MacGilchrist describes another female specimen, more complete and larger; carapace with rostrum 16.6 mm. long, pleon 27 mm., trawled in the Gulf of Oman, between 700 and 689 fathoms. In this "The median carina running backwards from the rostrum carries a large procurved acute spine in the anterior part of the gastric region." "The margin of the rostrum has 4 or 5 spinelets in front of a basal spine on either side of its free portion, and on the continuation backwards of the rostral margin on each side the spines vary from 2 to 4, and may display a want of symmetry in number and position on the two sides of the same specimen. The spines lying between these and the median carina similarly vary from 2 to 3 in number." "The telson has a fair-sized terminal spine with an upcurved tip."

1910. *C. l.*, Stebbing, S.A. Crustacea, pt. 5.

No. 71 was obtained by Dr. Gilchrist from a depth of 250 fathoms, 457 m., Table Mountain N. 79 E. 40 miles. In this specimen the median carina carries no tooth either blunt or acute, the very acute rostrum has four denticles on either side, not quite symmetrically arranged, and these are followed by five teeth on the left and four on the right side of the horseshoe arrangement on the carapace, between these sets and the median carina a line of two teeth occurring on each side, with the hinder tooth on the left poorly developed. The telson has a little straight tooth in the small median emargi-

nation of its convex distal border. As the species shows itself variable even in the two halves of the same specimen, the differences here noted do not seem to demand a distinctive name.

## FAMILY CALLIANASSIDÆ.

1888. *Callianassida*, Bate, Challenger Macrura, Reports, vol. xxiv., p. 27.  
1893. *C.*, Stebbing, History of Crustacea, p. 183.  
1901. *C.*, Alcock, Catal. Indian Deep-sea Macrura, p. 197.  
1903. *C.*, Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 541.  
1906. *C.*, Rathbun, Bull. U.S. Fish Comm. for 1903, pt. 3, p. 892.

## GEN. CALLICHIRUS, Stimpson.

1866. *Callichirus*, Stimpson, Proc. Chicago Acad. Sciences, vol. i., p. 47.  
1874. *C.*, Stimpson, Annals of Lyceum of New York, vol. x., p. 122.  
1903. *C.*, Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 546.  
Borradaile regards this as a subgenus of *Callianassa*, assigning to it nineteen species.

## \* CALLICHIRUS KRAUSSI (Stebbing).

1900. *Callianassa kraussi*, Stebbing, S.A. Crustacea, pt. 1, p. 39, pls. 2, 3.  
No. 41, specimens sent by Dr. Gilchrist, taken a little below high-water mark in Gordon's Bay, Cape of Good Hope. It has been sent me also from Gordon's Bay by C. F. Kies, Esq.  
1903. *Callichirus k.*, Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 547.

## GEN. CALLIACTITES, Borradaile.

1903. *Calliactites*, Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 545.  
This also is regarded by Borradaile as a subgenus of *Callianassa*, and he assigns to it six species.

## \* CALLIACTITES ROTUNDAUDATUS (Stebbing).

1902. *Callianassa rotundicaudata*, Stebbing, S.A. Crustacea, pt. 2 p. 41, pl. 8.  
No. 87 was obtained by Dr. Gilchrist from St. Francis Bay

lat.  $34^{\circ} 2' 45''$  S., long.  $25^{\circ} 10' 00''$  E., between 55 and 62 m. depth.

1903. *Calliactites* r., Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 545.

GEN. UPOGEBIA, Leach.

1813. *Upogebia*, Leach, Edinb. Enycl., vol. vii., p. 400.  
 1893. *U.*, Stebbing, History of Crustacea, p. 185.  
 1900. *U.*, Stebbing, S.A. Crustacea, pt. 1, p. 42.  
 1903. *U.*, Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 542.

\* UPOGEBIA CAPENSIS (Krauss).

1843. *Gebia major*, var. *capensis*, Krauss, Südafrik. Crust., p. 54.  
 "Frequent in Table Bay."  
 1891. *G. capensis*, Ortmann, Zool. Jahrb., vol. vi., p. 54.  
 1900. *Upogebia* c., Stebbing, S.A. Crustacea, pt. 1, p. 45.

No. 4, specimens sent by Dr. Gilchrist, from Swartkops River, Algoa Bay. It has also been sent me from Gordon's Bay, False Bay, by C. F. Kies, Esq. Dr. Gilchrist states that it is very abundant in some of the "Vleis," or salt-water lakes of Cape Colony.

1903. *U. c.*, Borradaile, Ann. Nat. Hist., Ser. 7, vol. xii., p. 543.

Borradaile says: The fact that "this species has gills on the last pair of legs will probably make it needful to separate it as a subgenus with such others as may share the character."

UPOGEBIA SUBSPINOSA (Stimpson).

1860. *Gebia subspinosa*, Stimpson, Pr. Ac. Sci. Philad., vol. xii., p. 22 (91).

In Simon's Bay, at the Cape of Good Hope, from 15 m. depth. It is stated that the feet of the first, second, and third pairs are armed with a sharp spine near the base. No trace of such a spine is apparent in the preceding species. But a specimen about 8 mm. long, sent me by Mr. C. F. Beyers, Esq., which I should otherwise have assigned to *U. capensis*, does show such a spine on the limbs mentioned, and may therefore be the young of *U. subspinosa*.

GEN. CALLIADNE, Strahl.

1861. *Calliadne*, Strahl, M. B. Akad. Berlin, p. 1064.  
 1868. *Gebiopsis*, A. Milne-Edwards, Nouv. Arch. Mus. Hist. Nat. Paris, vol. iv., p. 64.

1893. *Gebia* (*Gebiopsis*), Ortmann, Decap. der Plankton-Exp., vol. ii. p. 49.  
1900. *Gebiopsis*, Stebbing, S.A. Crustacea, pt. 1, p. 43.  
1907. *Calliadne*, Nobili, Bull. Sci. France-Belgique, vol. xl., p. 60.  
1910. *Calliadne*, Borradaile, Trans. Linn. Soc., vol. xiii., pt. 2, p. 262.

It must be left to the option of naturalists to regard this as an independent genus or a subgenus of *Upogebia*.

\* *CALLIADNE SAVIGNYI*, Strahl.

1825. *Gebia stellata*, Audouin (not Montagu), Explic. Planches Egypt., p. 80, pl. 9, fig. 3 (Savigny), not pl. 10, fig. 3, as stated by Nobili.  
1861. *Calliadne savignyi*, Strahl, M. B. Akad. Berlin, p. 1064.  
1891. *Gebia isodactyla*, Ortmann, Zool. Jahrb., vol. vi., p. 55, pl. 1, fig. 9.  
1893. *G. (Gebiopsis) i.*, Ortmann, Decap. Plankton-Exp., vol. ii., p. 50.  
1907. *Upogebia (Calliadne) savigny* Nobili, Ann. Sci. Nat., Ser. 9, vol. iv., p. 98.

The late Dr. Nobili, to whose writings I owe the reference to Strahl, had one of Ortmann's specimens for comparison with his own, and convinced himself that Ortmann's species is identical with that figured by Savigny.

1900. *Calliadne s.*, Stebbing, S.A. Crustacea, pt. 5.

No. 85, sent by Dr. Gilchrist, from lat. 33° 9' 30" S., long. 28° 3' 00" E. Ortmann considers that *Gebiopsis* (now *Calliadne*) depends for distinction only on two characters, the equally long fingers of the first peræopods and the absence of that little tooth on the antero-lateral margin of the carapace which is present in *Upogebia*. So far our specimen agrees with Ortmann's. It has the triangular rostrum rather more extended than that shown in his figure, but in accord with his description it has the lateral furrows of the carapace tolerably straight, somewhat diverging backwards, the fourth and fifth joints of the first peræopods without teeth, and the fingers almost equally curved; the telson with two ridges parallel to the lateral margins. It cannot, however, be said that the peduncle of the inner antennæ is only about as long as the penultimate joint of the outer. There may, therefore, be some doubt as to its true specific position. The length is about 22 mm.