

CHRYSOCOCCYX RUSSATA, Gould.

Head, all the upper surface, and wings pale shining rusty bronze ; under surface white, crossed by numerous bands of bronzy brown ; a wash of rufous across the breast, most apparent or defined on the sides in front of the shoulders ; under wing-coverts barred like the breast ; base of the primaries and secondaries deep fawn-colour ; tail deep rufous, the two centre feathers glossed with bronze, the lateral feather on each side with three double spots, the upper half black, in the form of a crescent, the lower round and white, a similar spot on the tip of the inner web of each of the next three feathers on each side, but with the white greatly diminishing as they approach the centre ; bill black ; legs and feet olive.

Total length $5\frac{3}{4}$ inches, bill $\frac{5}{8}$, wing $3\frac{1}{2}$, tail $2\frac{5}{8}$, tarsi $\frac{1}{2}$.

Hab. Cape-York district of Queensland, Australia.

PITTA SIMILLIMA, Gould.

Crown deep ferruginous, with a narrow stripe of black down the centre ; on the chin a large spot of black, terminating in a point on the front of the neck, uniting with a broad band on each side of the head, encircling the crown and terminating in a broad rounded point at the base of the neck ; back and wings pure olive-green ; shoulders and lesser wing-coverts bright metallic cerulean blue ; across the rump a band of the same colour ; upper tail-coverts and tail black, the latter tipped with dark olive-green ; primaries black, becoming paler at the tip ; near the base of the fourth, fifth, and sixth a small spot of white ; sides of the neck, throat, breast, and flanks buff ; on the centre of the abdomen a patch of black ; vent and under tail-coverts scarlet ; irides dark brown ; bill brown ; feet flesh-colour.

Total length $7\frac{1}{4}$ inches, bill $1\frac{1}{8}$, wing $4\frac{3}{8}$, tail $1\frac{3}{4}$, tarsi $1\frac{1}{2}$.

Hab. Cape-York district of Queensland, Australia.

2. Monograph of the Species of Worms belonging to the Subclass *Gephyrea* ; with a Notice of such Species as are contained in the Collection of the British Museum.
By W. BAIRD, M.D., F.R.S., F.L.S., &c.

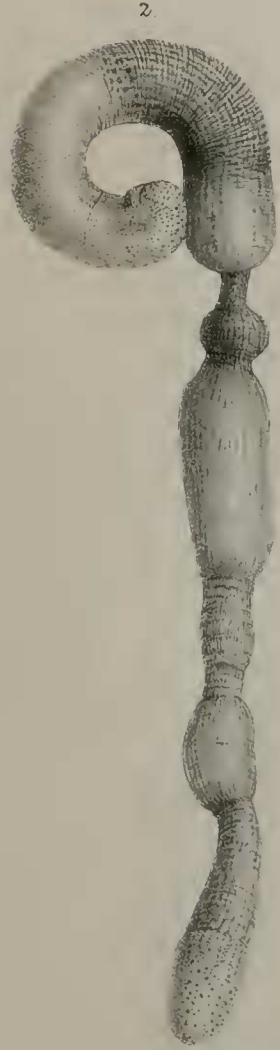
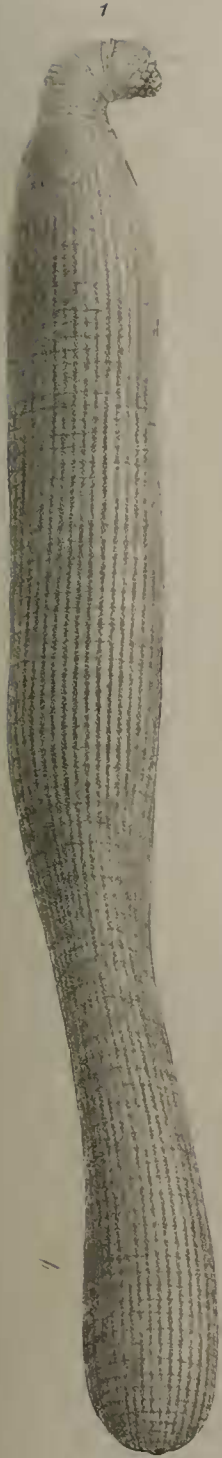
(Plates IX., X., XI.)

Subclass GEPHYREA*.

Gephyrea, Quatrefages, Ann. des Sciences Nat. 3rd ser. Zool. tom. vii. p. 340, 1847 ; Hist. Nat. des Annelés, Annélides et Géphyréens, tom. ii. pt. 2. p. 563, 1865 ; Ehlers in Zeitschrift für wissenschaft. Zool. Band xi. Heft 2. p. 205, 1861.

Rhyngodea, suborder *Proctucha*, tribe *Sipunculidea*, Diesing, Syst.

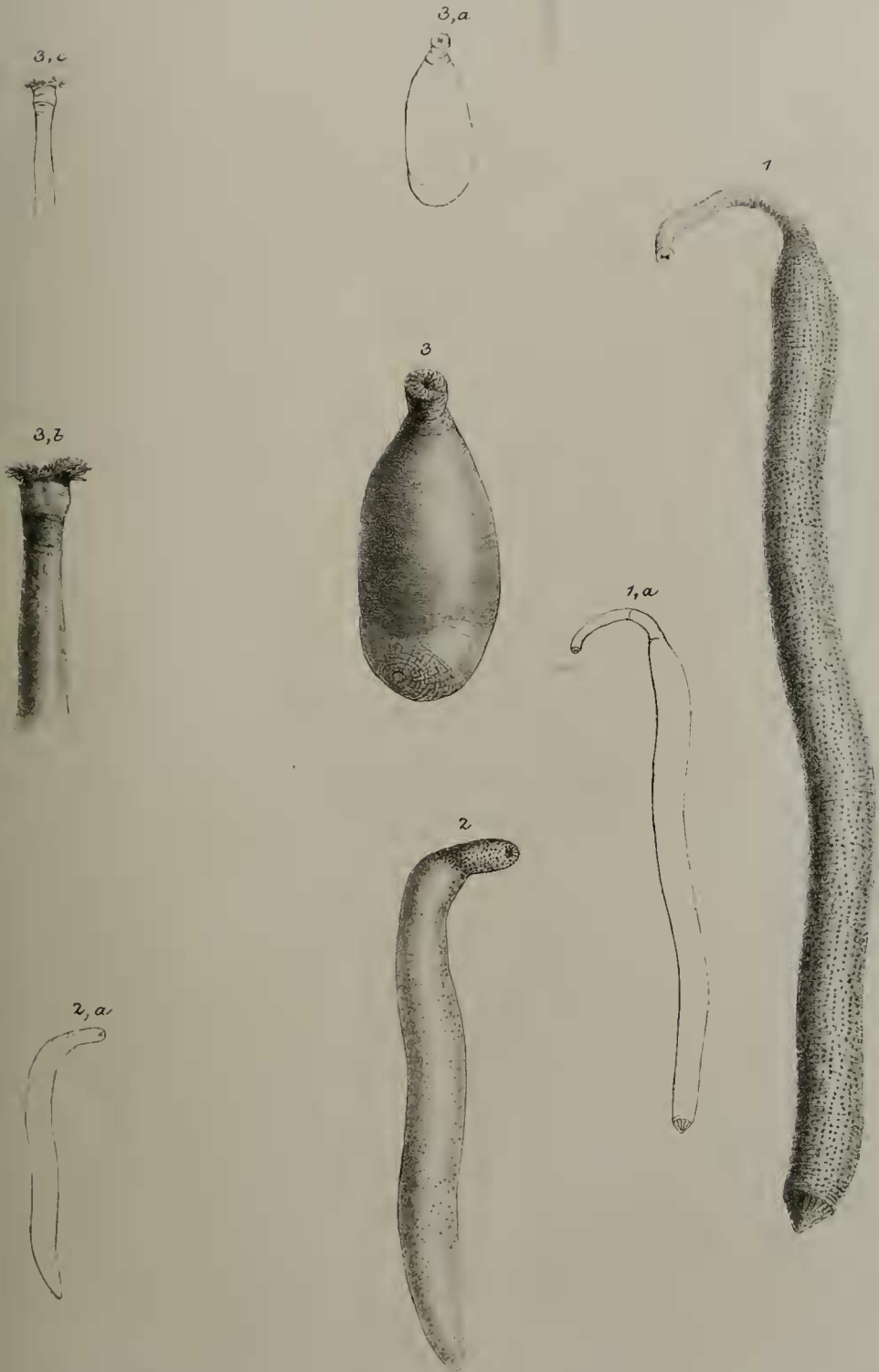
* γέφυρα, bridge.



R. Minter, lith. ad. nat.

W. West, imp.

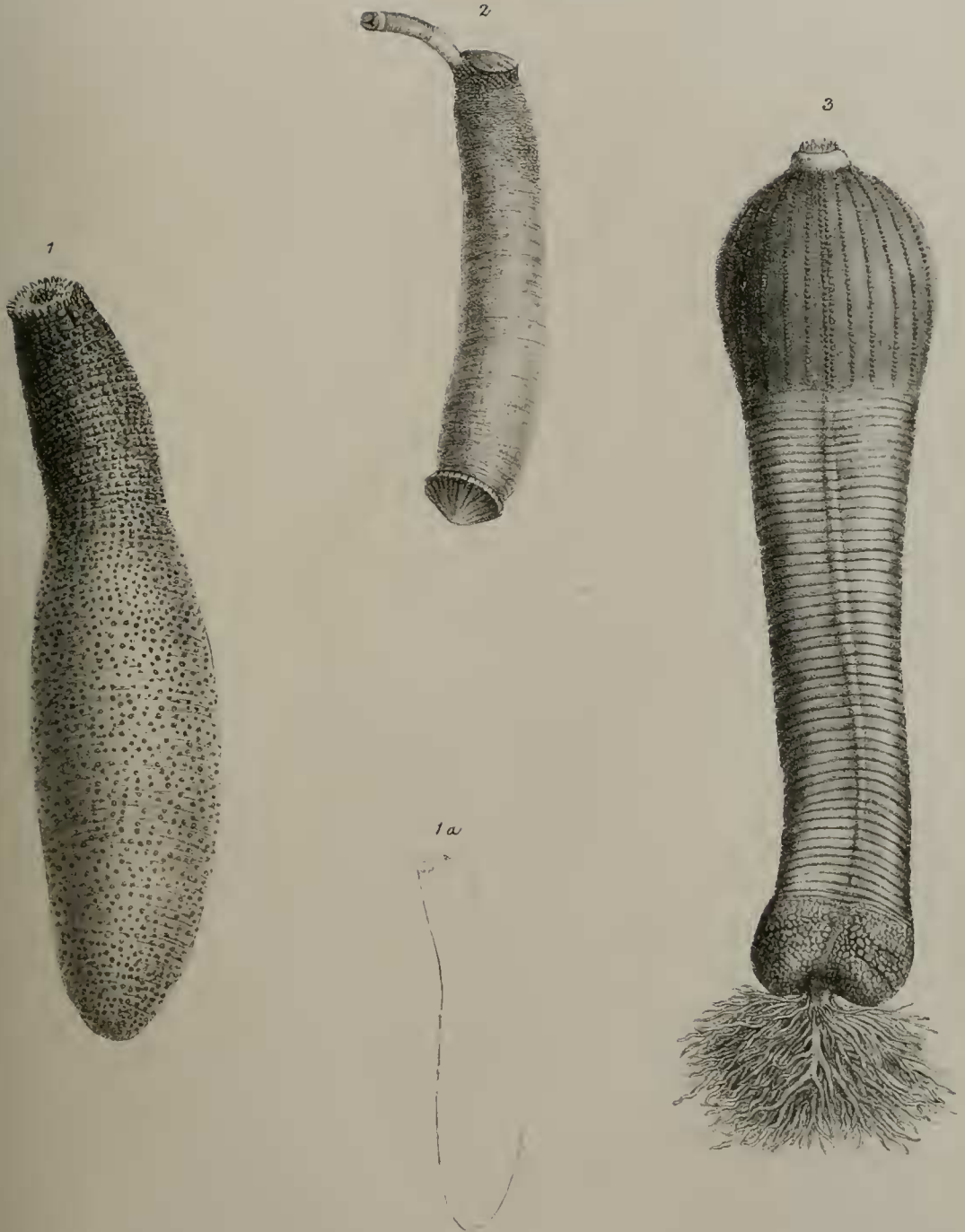
New species of Gephyrea.



R. Muntern lith ad nat

W West imp.

New species of Gephyrea.



R. Waterhouse ad na.

W. West ing.

New species of Gephyrea.

Helminth. tom. ii. p. 59, 1851; Revis. der Rhyngod. in Sitzungsberichte der kaiserlichen Akad. der Wissenschaft. Band xxxvii. p. 751, 1859.

Order I. GEPHYREA INERMIA.

Gephyrea inermia, Quatrefages.

Sipunculidea acrostomata, Diesing, Revis. der Rhyngod.

Sipunculidæ, Keferstein.

Family I. SIPUNCULIDÆ.

Sipunculea, Quatrefages, 1865.

Sipunculacea, Brandt, 1835; Keferstein, 1865.

Eusipunculidea, *Evaspidosiphones*, Diesing, Revis. der Rhyngod. 1859.

Anoteroprocta, *Baseoprocta* (pars), Diesing, Syst. Helminth. 1851.

Genus I. SIPUNCULUS.

Sipunculus, Linnæus, Blainville, Lamarek, Cuvier, Grube, Diesing, Quatrefages, Keferstein, &c.

Syrinx, Bohadsch, Forbes (pars).

Lumbricus, sp., Pallas.

1. SIPUNCULUS NUDUS.

Vermis microrhynchoteros, Rondeletius, Gesner De Vermib. Aquatilibus, liber iv. p. 1226. fig. superior, 1558.

Vermis macrorhynchoteros, Rond. Gesner *l. c.* fig. infer.*

Syrinx, Bohadsch, De quibusd. Animalib. Marinis, pp. 93–95, t. 7. f. 6, 7, 1761.

Sipunculus nudus, Linnæus, Syst. Nat. 12th edit. p. 1078, 1766; Pennant, British Zoology, vol. iv. p. 31, t. 20. f. 10 (bad), 1777; Barbut, Genera Vermium, p. 16, t. 2. f. 3, 1783†; Gmelin, Lim. Syst. Nat. vi. p. 3094 (synon. Martin exclud.), 1789; Lamarek, Système des Anim. sans Vertèb. p. 352, 1801, Hist. Nat. An. s. Vertèb. 1st edit. iii. p. 78, 1816, 2nd edit. iii. p. 469, 1840; Turton, Brit. Fauna, p. 128, 1807; Schweigger, Handbuch der Naturg. p. 553, 1820; Martens, Fauna Veneta, in Reise nach Venedig, Theil ii. p. 523, 1824; Blainville, Dict. des Sc. Nat. art. *Sipunculus*, tom. xlix. p. 309, and art. Vers, lvii. p. 554, Atlas, t. 31. f. 1, 1a, 1827; Leuckart, Brev. Animal. quorund. descriptiones, pp. 20, 21, t. 1. f. 3, 1828; Fleming, British Animals, p. 491, 1828; Costa, Faun. del

* The two worms figured by Gesner, in the work quoted above, appear to me, without doubt, to represent the same species, only in different states of preservation in spirits. I have equally little doubt that they are identical with the *Syrinx* figured by Bohadsch, and that the two species given by Linnæus in the 'Systema Naturæ,' *S. nudus* and *S. saccatus*, are only different states of the same species, as has been pointed out by Cuvier and others.

† The figure of *S. nudus* given by Barbut in the work quoted above is very bad and does not well represent this species; but the description appended to it is very good. The figure given by him of the *S. saccatus* is copied from Bohadsch, and refers to this species.

Regn. di Napoli, p. 4, t. 1. f. 9, 1832?; Grube, Müller's Archiv für Anat. 1837, p. 237, t. 10. f. 1; Krohn, Müll. Archiv, 1839, p. 348; Grube, Actin. Echinod. Würm. Adriat. p. 43, 1840; Diesing, Syst. Helminth. ii. p. 60, 1851; Revis. der Rhyngod. l. c. p. 756, 1859; Keferstein, Beitr. z. Anat. der Sipunculoid. in Nachricht. königl. Gesellsch. der Wissenschaft. zu Göttingen, p. 196, 1865; Zeitsch. für wissenschaft. Zool. 1867, p. 45; Quatrefages, Hist. des Annelés, l. c. p. 614, 1865.

Sipunculus reticulatus, Martin, Observ. on Marine Vermes, &c., p. 6, t. 1. f. 3, 1786.

Syrinx tessellatus, Rafinesque, Précis des découvertes, p. 32, 1814.

Sipunculus tessellatus, Keferstein, l. c. p. 196, 1865.

Sipunculus balanophorus, Delle Chiaje, Mem. sull. Stor. e Notom. Animal. s. Vertebre, tom. i., sur la Notom. e la Classificaz. del Sipunc. Nud. p. 22, t. 1. f. 1-7, 1823.

Syrinx nudus, Forbes, Brit. Starfishes, p. 245. fig., 1841.

Sipunculus saccatus, Barbut (not Linn.), Genera of Worms, p. 18. t. 2. f. 4, 1783 (figure copied from Bohadsch); Turton, British Fauna, p. 128, 1807.

Hab. Mediterranean; British seas; Weymouth and Devonshire (*Mus. Brit.*); ? American seas; (*Keferstein*). B.M.

2. SIPUNCULUS PHALLOIDES.

Lumbricus phalloides, Pallas, Spic. Zool. tom. i. fasc. 10. p. 12, t. 1. f. 8, 1774.

Sipunculus phalloides, Blainville, Dict. Sc. Nat. art. *Sipunculus*, tom. xlix. p. 311, 1827, Atlas, t. 32. f. 1 (copied from Pallas); Diesing, Syst. Helminth. ii. p. 61, 1851; Revis. der Rhyngod. l. c. p. 757, 1859; ? Grube, Annulat. Ersted. p. 12, 1858*; Keferstein, Beitr. z. Anat. der Sipunc. in Gesellsch. Wissensch. Götting. p. 196, 1865; Quatrefages, Hist. Nat. Annel. p. 615, 1865.

? *Nereis (sacculo induta)*, Linnæus, Chinensia Lagerstrœmiana, f. 5, 1754; and in Amœn. Acad. iv. p. 254, t. 3. f. 5 (1788).

? *Sipunculus saccatus*, Linnæus, Syst. Nat. ed. 12, p. 1078, 1766†; Gmel. Syst. Nat. et var. β , p. 3095, 1789; Bosc, Hist. Nat. des Vers, ii. p. 130, 1802; Turton, Brit. Fauna, p. 128, 1807; Lamarck, An. s. Vert. 1st edit. iii. p. 79, 1816, 2nd edit. iii. p. 469, 1840; Fleming, Brit. Anim. p. 491, 1828.

Hab. Shores of Grenada (*Pallas*); Punta Arenas (*Ersted*); Indian seas? (*saccatus*) (*Linnæus*).

* Grube describes the tentacular membrane (as he calls the cirri round the mouth) of Dujardin as being "6-fariam laciniata, laciniis iterum incisus," which does not agree with Pallas's description of his *Lumbricus phalloides*, and which, indeed, would almost place this species in the genus *Themiste* of Gray (*Dendrostomum* of Grube). The habitat, Punta Arenas in Central America, is not, however, very widely apart from that given by Pallas, "Shore of the island of Grenada in the West Indies."

† Pallas refers the *saccatus* of Linnæus, with a doubt, to his species *L. phalloides*, it only differing in the skin which covers it being rendered lax by having been badly preserved in spirits.

3. SIPUNCULUS GIGAS.

Sipunculus gigas, Quatrefages, Hist. Nat. Ann. ii. p. 514, 1865.

Hab. Coast of Brittany (*Quatrefages*).

I suspect this is only a variety of *Sipunculus nudus*. The chief difference seems to consist in the oral cirri, which, according to Quatrefages, are "quasi conglobati," or, as he elsewhere describes them, something like cauliflowers. This, however, he says may be the action of the spirits in which the specimen has been preserved.

4. SIPUNCULUS EDULIS.

Lumbricus edulis, Pallas, Spic. Zool. tom. i. fasc. x. p. 11, t. 1. f. 7, 1774.

Sipunculus edulis, Lamarck, An. s. Vert. 1st edit. iii. p. 79, 1816; 2nd edit. iii. p. 469, 1840; Blainville, Dict. Sc. Nat. art. *Sipunculus*, 1827, Atlas, t. 31. f. 4; Cuvier, Règn. Anim. iii. p. 243, 1830; Guérin Icon. Règn. An. Zooph. p. 8, pl. 5. f. 3 (copied from Pallas?); Griffith, An. Kingd. xii. Zooph. t. 12. f. 3 (copied from Guérin), 1834; Diesing, Syst. Helminth. ii. p. 61, 1851, Revis. der Rhyngod. l. c. 757, 1859; Quatrefages, Hist. Nat. Annel. ii. p. 615, 1865.

Hab. Java (*Pallas*); Siam (*Mouhot*).

B.M.

5. SIPUNCULUS INDICUS.

Sipunculus indicus, Peters, Müller's Archiv für Anat. &c. 1850, p. 385, t. 4. f. A-H*; Diesing, Syst. Helminth. ii. p. 555, 1851, Revis. der Rhyngod. in l. c. p. 757, 1859; Keferstein, Beitr. z. Anat. der Sipunc. in l. c. p. 196, 1865; Quatrefages, Hist. Nat. Annel. ii. p. 615, 1865.

Hab. Coast of Mozambique (*Peters*).

6. SIPUNCULUS RUFOFIMBRIATUS.

Sipunculus rufofimbriatus, Blanchard, Ann. Sc. Nat. 3rd ser. tom. xii. p. 56, 1849; Cuv. Règn. An. edit. Crochard, Zoophytes, t. 22. f. 1, 1a; Diesing, Syst. Helminth. ii. p. 62, 1851; Revis. der Rhyngod. l. c. p. 757, 1859; Quatrefages, Hist. Nat. Annel. ii. p. 616, 1865.

Hab. Nice (*Blanchard*).

7. SIPUNCULUS ECHINORHYNCHUS.

Siphunculus echinorhynchus, Delle Chiaje, Memor. sulla Storia e Notom. degli Animal. s. Vertebre, tom. i. pp. 124 & 133, 134, t. 10. f. 8-11, 1823.

Sipunculus echinorhynchus, Diesing, Syst. Helminth. ii. p. 60, 1851; Dujardin, in Lamk. An. s. Vert. 2nd edit. tom. iii. p. 469; Quatrefages, Hist. Nat. Annel. ii. p. 616, 1865†.

* Peters's figure of this species represents the tentacular membrane as being divided into a considerable number (eight according to Diesing) of laciniae or oral cirri, which appear again to be divided into others, amounting, according to Diesing, to from 40 to 60. This structure would appear to be almost sufficient to refer this species to another genus, allied to the *Dendrostomum* of Grube.

† Quatrefages says it is likely that this species may turn out to be only the young of *S. nudus*. The oral cirri, however, are very different from those of that species.

Phascolosomum echinorhynchus, Diesing, Revis. der Rhyngod. l. c. p. 763, 1859.

Hab. Bay of Naples (*Chiaje*).

8. SIPUNCULUS ROBUSTUS.

Sipunculus robustus, Keferstein, Beitr. z. Anat. der Sipunc. in Nach. könig. Gesellsch. der Wissensch. Götting. p. 196, 1865, Quatrefages, Hist. Nat. Annel. ii. p. 616, 1865.

Hab. Wallis Islands, Oceania (*Dr. Gräfte* fide Keferstein).

9. SIPUNCULUS ANGASII, sp. nov. (Pl. IX. fig. 1.)

Corpus cylindricum, inæquale, infra medium contractum, laxè clathratum, longitudinaliter costatum et transverse striatum; apice caudali globoso-clavato, lævi; proboscis brevis, crassiuscula, cylindrica, muricata, oris limbo papilloso; totum corpus iridescens.

Long. corporis 6 unc., crassitud. in medio corporis 8 lin., long. probosc. muricat. 8 lin.

Retractile portion of body, containing the proboscis, short, tolerably well developed, covered with numerous rather large triangular tubercles, the points projecting downwards. The tentacular membrane is divided in the centre into numerous short and somewhat conical papillæ, forming, as it were, a pad at the extremity of the proboscis. Body contracted a little below the middle. The upper portion is much the larger, and for a short distance below the proboscis it is divided, for about half an inch, by several rather deep circular sulci. Then the grooves or ridges run longitudinally throughout the whole length of the body, which is cylindrical, and terminates at the lower extremity in a round-shaped club, smooth and shining. The grooves or ridges in the upper half of the body are rather distant from each other, and are crossed by faint transparent circular lines. Below the contraction the circular grooves are more decided, and the longitudinal grooves are crowded and of a wavy form. The whole body is shining, and of an opal iridescent hue, especially about the centre of the body.

Hab. Port Lincoln, South Australia (*G. F. Angas, Esq.*). B.M.

10. SIPUNCULUS DEFORMIS, sp. nov. (Pl. IX. fig. 2.)

Corpus subcylindricum, inæquale, hinc et illinc valde constrictum, dense clathratum et tuberculatum, apice caudali subinflato, ovali, tuberculis parvis muricato; proboscis crassa, quintam partem longitudinis corporis æquans, tuberculis minimis rufis circulariter obsita; color corporis fuscus.

Longit. $5\frac{1}{2}$ unc., crassitud. major 4 lin.; long. probosc. $1\frac{1}{2}$ unc., crass. prope extremitat. 3 lin.

Retractile part of body, containing the proboscis, of considerable length, nearly equalling the fifth part of the body, roughened with numerous very small brown dots or tubercles arranged in circular rows, robust, of nearly equal thickness with the rest of the body, ex-

cept at the thickest portion. The extremity of the proboscis, containing the tentacular filaments, in the only specimen we possess, is withdrawn completely, so that it cannot be seen. The body is of a subcylindrical form, and is roughly clathrate, the longitudinal ridges being close set, and the circular striæ cutting rather deep, and forming, as it were, small tubercles along the longitudinal ridges, which are especially prominent near the base of the proboscis. In several places it is very much constricted, the constricted parts in one or two places being very narrow*. The caudal extremity is of an oval slightly inflated form, and densely roughened with crowded small tubercles. The general colour of the body is brown, the small dots or tubercles on the proboscis being of a deeper hue.

Hab. Sir Charles Hardy's Island, North Australia (*J. B. Brookes, Esq.*). B.M.

11. *SIPUNCULUS ÆNEUS*, sp. nov.

Corpus cylindricum, gracile, antice attenuatum, postice crassius, fusiforme, reticulatum, in parte anteriore corrugatum, deinde lævius et minute granulatum, apice caudali ovali, lævi, lucente; proboscis brevis, lævis, parte anteriore corporis crassior; color albus, aëneo lucens.

Longit. corporis $6\frac{1}{2}$ unc.; crass. part. anter. $1\frac{1}{2}$ lin., part. posterior. 4 lin.; long. probos. 6 lin., crass. 2 lin.

The proboscis in this species is much thicker than the upper or anterior part of the body; so that it is difficult to imagine how the animal could withdraw it within its body, and "where it could pack it," as Professor Forbes says of another species. It is smooth-looking, but when examined with a glass we see it ringed or annulated and finely reticulated. The oral cirri or tentacles are not visible in the only specimen we possess. The body is slender, ringed, the rings or annulations being very close together, small, and finely but distinctly reticulated across. The upper extremity is strongly corrugately reticulate, the middle portion less distinctly so, and the caudal almost smooth. Scattered over the surface we see a good many small warty-looking tubercles. The upper extremity is narrow, the body gradually enlarging in size as it descends, so that at the caudal extremity it is three times as large as anteriorly, and is of a fusiform conoidal form, the warty tubercles at the same time being larger there than elsewhere.

The general colour is nearly white, except towards the caudal extremity, where it is very shiny with an iridescent metallic lustre.

Hab. New Zealand (*Mr. Cumyng's Collection*). B.M.

12. *SIPUNCULUS EXIMIO-CLATHRATUS*, sp. nov.

Corpus cylindricum, infra medium coarctatum dense clathratum, extremitatibus inflatis, læviusculis, iridescentibus; proboscis brevis, crassiuscula, muricata; color griseus.

Long. $2\frac{1}{2}$ unc.; crassit. in medio 3 lin., ad extremitates $5\frac{1}{2}$ lin.

* This may, to a considerable extent, be produced by the spirit in which the animal has been immersed.

The body of the animal is cylindrical in form, rather narrow in the middle, and densely clathrate, presenting the appearance, to a certain extent, of *chain armour*. The two extremities are inflated and nearly smooth and shining, the longitudinal ridges being much wider asunder, and the transverse sulci shallow and less apparent; the posterior extremity is a little larger than the anterior. The proboscis is only partially excluded, but appears short and cylindrical, and is densely covered with triangular soft murications, the points projecting downwards. The body is of a grey colour, and the two extremities are somewhat iridescent.

Hab. Philippine Islands (*Mr. Cuming's Collection*). B.M.

13. SIPUNCULUS CORALLICOLUS.

Sipunculus corallicolus, Pourtalès, Proc. Amer. Soc. Adv. Knowl. 1851, p. 41.

Hab. Florida, living in hollows in dead coral (*Portalès*).

Another species has been shortly described; but, according to Diesing, it requires further investigation.

Genus 2. PHASCOLOSOMA.

Phascolosoma, Leuckart, Grube, Ærsted, O. Schmidt, Keferstein, Costa.

Phascolosomum, Diesing.

Sipunculus (*Phascolosomum*), Quatrefages, *l. c.*

Sipunculus, Blainville, Forbes (in part), Grube (in part).

Siphunculus, Montagu, Gray.

Syrinx (part.), Forbes, M'Coy.

Phymosomum (part.), Quatrefages, *l. c.*

Ædematosomum (part.), Quatrefages, *l. c.*

Cryptosomum (part.), Quatrefages, *l. c.*

* *Species with the skin smooth.*

(PHASCOLOSOMUM, Quatrefages.)

1. PHASCOLOSOMA HARVEI †.

Syrinx harveii, Forbes, British Starfishes, p. 249. fig., 1841; Gosse, Rambles of a Naturalist on the Devonshire Coast, p. 157, 1853.

? *Sipunculus nudus*, Bose, Hist. Nat. des Vers, ii. p. 130, 1802 (Syn. Bohadsch exclud.); ? Turton, Brit. Faun. p. 128, 1807.

Siphunculus nudus, Martin, Marine Vermes, p. 4, t. 1. f. 2, 1786; Gray, Spic. Zoolog. p. 8, 1828.

Phascolosomum harveyi, Diesing, Revis. der Rhyngod. *l. c.* p. 763, 1859.

† In this species the extremity of the proboscis is encircled by a close-set series of short bristles, "as if," says Mr. Gosse, "it had omitted to shave its beard the day before;" and the oral cirri consist of a "dense tuft of white tentacula."

Sipunculus (Phascolosomum) harveyi, Quatrefages, Hist. Nat. Annel. ii. p. 617, 1865.

Hab. Coast of England, Weymouth, Devonshire, Cornwall, &c. B.M.

2. PHASCOLOSOMA FORBESI*.

Syrinx forbesii, M'Coy, Ann. & Mag. Nat. Hist. xv. p. 273, t. 16. f. 3, 1845.

Phascolosomum forbesi, Diesing, Syst. Helminth. ii. p. 66, 1851; Revis. der Rhyngod. l. c. p. 764, 1859.

Sipunculus (Phascolosomum) forbesii, Quatrefages, Hist. Nat. Annel. ii. p. 618, 1865.

Hab. South Devon, Cornwall (*Montagu, Laughrin*). B.M.

3. PHASCOLOSOMA TENUICINCTUM.

Syrinx tenuicinctus, M'Coy, Ann. & Mag. Nat. Hist. xv. p. 273, t. 16. f. 4, 1845.

Phascolosomum tenuicinctum, Diesing, Syst. Helminth. ii. p. 64, 1851; Revis. der Rhyngod. l. c. p. 764, 1859.

Sipunculus (Phascolosomum) tenuicinctus, Quatrefages, Hist. Nat. Annel. ii. p. 618, 1865.

Hab. Falmouth (*J. Cranch*). B.M.

4. PHASCOLOSOMA OXYURUM.

Lumbricus oxyurus, Pallas, Spic. Zoolog. i. fasc. 10. p. 16, 1774; Miscell. Zool. p. 147, t. 11. f. 7, 8, 1766.

Sipunculus oxyurus, Blainville, Dict. Sc. Nat. xlix. art. Siponcle, p. 312, 1828.

Sipunculus, sp., Forbes, Brit. Starfishes, p. 255, 1841.

Anoplosomatium pallasii, Diesing, Syst. Helminth. ii. p. 69, 1851; Revis. der Rhyngod. l. c. p. 756, 1859; Quatrefages, Hist. Nat. Annel. ii. p. 631, 1865†.

Hab. Hastings; coast of Sussex (*Pallas*). B.M.

5. PHASCOLOSOMA CAPSIFORME, sp. nov. (Pl. IX. fig. 3.)

Corpus cylindrico-fusifforme, lævissimum, lutescens, in medio inflatum, sacciforme, capsico simile, apice caudali acuminato, granuloso; proboscis cylindrica, crassiuscula, cirris brevibus, numerosis, apice clavatis, obsita.

Long. corporis 2 unc., crass. corporis in medio 10 lin., crass. apic. caudal. 2½ lin.

In this species the body is cylindrical and fusiform, very smooth-

* In this species the extremity of the proboscis is surrounded by from six to eight distinct circles of minute bristles, and the oral cirri are in the form of short lacinia.

† One of the characters of the genus *Anoplosomatium*, according to its founder, Grube, and Diesing himself, is the position of the anus in the caudal extremity. Pallas, however, distinctly states that in this species the anus is placed in the anterior portion of the body; and the specimen we possess from the coast of Sussex, and which I refer to the *oxyurus* of Pallas, agrees in this particular with the description given by that author.

looking and shining. It is inflated like a bottle, more swollen near the anterior extremity, but with the inferior extremity elongately acuminate and somewhat granular or warty. The general appearance of the animal, especially with the proboscis retracted, is that of a capsicum. The proboscis is thick and cylindrical, and at the apex is crowned with numerous short, fleshy-looking cirri, each slightly club-shaped at the free extremity. The surface of the body, when examined with the lens, presents the appearance of very minute circular striæ, and numerous, very fine, flat granulations. The posterior extremity becomes suddenly acuminate, and is of considerable length.

Hab. Falkland Islands (*W. Wright, Esq.*). B.M.

The *P. capsiforme* approaches in characters to the *Sipunc.* (*Edematosomum*) *rapa* of Quatrefages, a species brought by M. d'Orbigny, but from what quarter of the world the author does not state; neither has the proboscis been seen by M. Quatrefages, and the body is described as "albo setaceum," or like the cocoon of a white moth.

6. PHASCOLOSOMA BOREALE.

Phascolosoma boreale, Keferstein, Beitr. z. Anatom. der Sipunc. in *l. c.* p. 206, 1865.

Sipunculus (Phascolosomum) borealis, Quatrefages, *l. c.* ii. p. 620, 1865.

Hab. Godthaab, Greenland, in from 30 to 40 fath. (*Holbüll*).

B.M.

7. PHASCOLOSOMA CÆRSTEDII.

Phascolosoma cærstedii, Keferstein, *l. c.* p. 205, 1865.

Sipunculus (Phascolosoma) cærstedii, Quatrefages, *l. c.* ii. p. 620, 1865.

Hab. Godthaab, Greenland (*Holbüll*).

B.M.

8. PHASCOLOSOMA OBSCURUM.

Sipunculus (Phascolosomum) obscurus, Quatrefages, *l. c.* ii. p. 616, 1865.

Hab. Les côtes de l'Océan (*Quatrefages*).

9. PHASCOLOSOMA VULGARE.

Sipunculus vulgaris, Blainville, Dict. Sc. Nat. art. Siponcle, Atlas, pl. 33. f. 3, 3 a, b, 1828.

Phascolosomum vulgare, Diesing, Syst. Helm. ii. p. 65, 1851; Revis. der Rhyngod. p. 759, 1859.

Phascolosoma vulgare, Keferstein, Beitr. in *l. c.* p. 201, 1865.

Sipunculus (Phascolosomum) vulgaris, Quatrefages, *l. c.* ii. p. 616, 1865.

Hab. Dieppe (*Blainville*).

10. PHASCOLOSOMA PUNCTATISSIMUM.

Sipunculus punctatissimus, Gosse, Ann. & Mag. of Nat. Hist. 2nd ser. vol. xii. p. 125, 1853; Quatrefages, *l. c.* ii. p. 617, 1865.

Phascolosomum punctatissimum, Diesing, Rev. der Rhyng. *l. c.* p. 763, 1859.

Hab. English coast (*Gosse*); Isles of Chausey (*Quatrefages*).

11. PHASCOLOSOMA RUBENS.

Phascolosoma rubens, Costa, Faun. del Regn. di Nap. p. 11, t. 1. f. 6-8, 1860?

Phascolosomum rubens, Diesing, Rev. der Rhyng. *l. c.* p. 764, 1859.

Sipunculus (Phascolosomum) rubens, Quatrefages, *l. c.* ii. p. 617, 1865.

Hab. Coasts of Naples and Sicily (*Costa*).

12. PHASCOLOSOMA CARNEUM.

Phascolosoma carneum, Leuckart & Rüppell, Atlas der Reise im nördl. Africa, t. 2. f. 2, 1828; Diesing, Rev. der Rhyngod. in *l. c.* p. 764.

Sipunculus carneus, Diesing, Syst. Helm. ii. p. 63, 1859.

Sipunculus (Phascolosomum) carneus, Quatrefages, *l. c.* ii. p. 618, 1865.

Hab. Red Sea (*Rüppell*).

13. PHASCOLOSOMA GOULDII.

Sipunculus gouldii, Pourtalès, Proc. Amer. Ass. for Advance. of Science, 1851, pp. 40, 41.

Phascolosomum gouldii, Diesing, Revis. der Rhyngod. in *l. c.* p. 764, 1859.

Sipunculus (Phascolosomum) gouldii, Quatrefages, *l. c.* ii. p. 618, 1865.

Phascolosoma gouldii, Keferstein, Beitr. in Nach. Gesellsch. Wissn. Göttingen, p. 205, 1865; Zeitsch. für wissensch. Zool. Band xv. t. 33. f. 32, 1865, and Band xvii. Hest 1. p. 54, 1867.

Hab. Massachusetts (*Portalès*).

14. PHASCOLOSOMA VIOLACEUM.

Sipunculus (Phascolosomum) violaceus, Quatrefages, Hist. Nat. des Annelés, ii. p. 619, 1865.

Hab. Indian Seas (*Quatrefages*).

15. PHASCOLOSOMA VERMICULUM.

Sipunculus (Phascolosomum) vermiculus, Quatrefages, *l. c.* ii. p. 619, 1865.

Hab. Indian Seas (*Quatrefages*).

16. PHASCOLOSOMA ELONGATUM.

Phascolosoma elongatum, Keferstein, Unters. üb. nied. Seethiere-Kenntn. in Zeitschr. für wiss. Zool. tom. xii. p. 39, t. 3. f. 5, 1862; Beitr. in *l. c.* p. 201, 1865.

Sipunculus (Phascolosomum) elongatus, Quatrefages, *l. c.* ii. p. 619, 1865.

Hab. St. Vaast, Normandy (*Keferstein*).

17. PHASCOLOSOMA AUSTRALE.

Phascolosoma australe, Keferstein, Beitr. in l. c. p. 197, 1865.
Sipunculus (Phascolosomum) australis, Quatrefages, l. c. ii. p. 619,
 1865.

Hab. Sydney (*R. Schütte* fide *Keferstein*).

18. PHASCOLOSOMA CORIACEUM.

Phascolosoma coriaceum, Keferstein, Beitr. in l. c. p. 203, 1865.
Sipunculus (Phascolosomum) coriaceus, Quatrefages, l. c. ii.
 p. 203, 1865.

Hab. St. Thomas's, West Indies (*Riise* fide *Keferstein*).

19. PHASCOLOSOMA PELLUCIDUM.

Phascolosoma pellucidum, Keferstein, Beitr. in l. c. p. 204, 1865.
Sipunculus (Phascolosomum) pellucidus, Quatrefages, l. c. ii.
 p. 620, 1865.

Hab. St. Thomas's, West Indies (*Riise* fide *Keferstein*).

20. PHASCOLOSOMA PAPILLIFERUM.

Phascolosoma papilliferum, Keferstein, Beitr. in l. c. p. 204, 1865.
Sipunculus (Phascolosomum) papillifer, Quatrefages, l. c. ii.
 p. 620, 1865.

Hab. St. Thomas, West Indies (*Riise* fide *Keferstein*).

21. PHASCOLOSOMA PYGMÆUM.

Sipunculus (Ædematosomum) pygmæus, Quatrefages, l. c. ii.
 p. 627, 1865.

Hab. ———?

22. PHASCOLOSOMA RAPA.

Sipunculus (Ædematosomum) rapa, Quatrefages, l. c. ii. p. 627, 1865.
Hab. ———?

23. PHASCOLOSOMA MARGARITACEUM.

Phascolosoma margaritaceum, Sars, 1851, fide Keferstein, Nach.
 Gesell. Wissensch. 1865, p. 201.

Hab. Bergen (*Keferstein*).

24. PHASCOLOSOMA CUMANENSE.

Phascolosoma cumanense, Keferstein, Nach. kön. Gesell. Wissen.
 Göttingen, 1866; Zeitsch. f. wissensch. Zool. Band xvii. p. 53, t. 6,
 f. 19, 21, 1867.

Hab. Cumana, Venezuela (*Couthoy* fide *Keferstein*).

† *Species inhabiting shells belonging to the Mollusca.*

(CRYPTOSOMUM, Quatrefages.)

1. PHASCOLOSOMA BERNHARDUS.

Sipunculus strombus, Montagu, Tr. Linn. Soc. vii. p. 74, 1804;

Turton, Brit. Faun. p. 74, 1807; Fleming, Brit. Animals, p. 491, 1825; Gray, Spic. Zool. p. 8, 1828.

Sipunculus (Cryptosomum) strombi, Quatrefages, Hist. Nat. Ann. ii. p. 628, 1865.

Phascolosomum strombi, Diesing, Syst. Helminth. ii. p. 65, 1851.

Phascolosoma strombi, Kefenstein, Beitr. z. Anat. Sipunc. l. c. p. 202, 1865.

Siphunculus dentalii, Gray, Spic. Zool. p. 8, 1828; Johnston, Loudon's Mag. N. Hist. vi. p. 233, f. 25, 1833.

Phascolosomum dentalii, Diesing, Syst. Helm. ii. p. 64, 1851.

Sipunculus (Cryptosomum) dentalii, Quatrefages, Hist. Nat. Annel. ii. p. 627, 1865.

Sipunculus bernhardus, Forbes, Brit. Starfish. p. 251, f., 1841; Girard, Stimpson, Contrib. Smithson. 1853, p. 28.

Phascolosoma bernhardus, Pourtalès, Proc. Amer. Ass. Adv. Sc. Meeting v. 1851, p. 41; Diesing, Revis. d. Rhyngod. l. c. p. 759, 1859.

Sipunculus (Phascolosoma) concharum, Ørsted, De Regionib. Marin. p. 80, 1844; Krøyer's Nat. Tidssk. 1844-45, p. 419; Sars, Magaz. f. Naturvidensk. 1850, p. 77.

Var. *capitata*.

Sipunculus capitatus, Rathke, Nov. Act. Nat. Cur. xx. part i. pp. 143-147, t. 6. f. 20-23, 1843; O. Schmidt, Zeitsch. f. d. gesamt. Naturw. 1854, pt. 3. p. 2, t. 1. f. 2.

Phascolosomum capitatum, Diesing, Syst. Helm. ii. pp. 65 and 555, 1851.

Phascolosomum bernhardus, var. *capitata*, Diesing, Revis. d. Rhyngod. l. c. p. 760, 1859.

Hab. Coasts of England, Scotland, &c., inhabiting *Dentalium*- and *Stromb*-shells, &c.

a. *P. dentalii*, Cornwall (*Laughrin*), Devonshire (*J. Cranch*). B.M.

b. *P. strombus*, Devonshire (*Montagu*), Aberystwith (*Henslow*). B.M.

c. *P. dentalii*, var. *capitata*, Yorkshire (*W. Clift, Esq.*). B.M.

2. PHASCOLOSOMA CÆMENTARIUM.

Sipunculus (Cryptosomum) cæmentarius, Quatrefages, Hist. Nat. Annelés, ii. p. 628, 1865.

Hab. North America, in *Dentalium*-shells (*M. Richard* fide *Quatrefages*).

‡ *Species with skin more or less densely covered with warts or granules.*

(PHYMOSOMUM, Quatrefages.)

1. PHASCOLOSOMA TUBERCULATUM.

Sipunculus tuberculatus, Blainville, Dict. Sc. Nat. art. Siponcle, Atlas, pl. 33. f. 5, 1827.

Sipunculus verrucosus, Cuvier, Règn. An. 2nd ed. iii. p. 243, 1830; Grube, Actin. Echin. und Würm. Adriat. p. 44, 1840.

Phascolosoma granulatum, Leuckart, Brev. desc. An. quor. p. 22, f. 5, 1838; Keferstein, Unters. üb. nied. Seeth. p. 38, 1862; Beitr. in l. c. p. 200, 1865.

Phascolosomum granulatum, Diesing, Syst. Helm. ii. p. 63, 1851; Revis. der Rhyngod. in l. c. p. 759, 1859.

Sipunculus (Phymosomum) tuberculatus, Quatrefages, l. c. ii. p. 624, 1865.

Hab. Mediterranean, Adriatic (*Blainville, Leuckart*), Santa Cruz, West Indies (*Ersted*).

2. PHASCOLOSOMA GRAYI, Baird.

Siphunculus tuberculatus, Gray, Spic. Zool. i. p. 8. no. 4, 1828 (not Blainville, Dict. Sc. Nat. art. Sipuncle, 1827).

Hab. — ?

B.M.

The worm described by Blainville under the name of *Sipunculus tuberculatus* differs considerably from the species described by Dr. Gray under the same name in his 'Spicilegia Zoologica;' and a comparison of Gray's type in the National Collection with De Blainville's figure confirms this opinion. In the present species the caudal extremity terminates in a prolonged acuminate point, studded all over with flattened tubercles like warts. The exsertile part of the body is of considerable thickness, and is, like the opposite extremity, also thickly covered with warts. In De Blainville's species the caudal extremity is rounded and blunt, and the anterior or proboscidal extremity is much more attenuated than the posterior. The name *verrucosus* would have been appropriate; but Cuvier has pre-occupied that name; and more lately Hermann Meyer, in the 'Zeitschrift für wissenschaft. Zool.' i. p. 268, gives some anatomical details of a species which he considers the *Sipunculus verrucosus*, but which Diesing states to be the same as the *S. tuberculatus* of Blainville. As the species described by Blainville takes precedence by a year of Dr. Gray's, I have named it after this zoologist, who has very well defined the species in his 'Spicileg. Zoolog.'

3. PHASCOLOSOMA ARCUATUM.

Sipunculus arcuatus, Gray, Spic. Zool. i. p. 8. no. 5, 1828.

Hab. India (*General Hardwicke's Collection*).

B.M.

4. PHASCOLOSOMA JEFFREYSII, sp. nov.

Corpus attenuatum, fusiforme, maculis rubris in dorso notatum, striis circularibus transverse cinctum, in medio sparse granulatum, postice et antice dense granulatum, granulis brunneis; pars exsertilis sparse granulata et in dorso rubro cincta; tentaculis retractis.

Long. corp. 14 lin., proboscistertiam partem corpori æquans; crass. corp. $1\frac{1}{2}$ lin., proboscidis $\frac{1}{2}$ lin.

Hab. Spezzia (*J. G. Jeffreys, Esq.*).

B.M.

The body of this worm is narrow and cylindrically fusiform in

shape, rather acuminate posteriorly, slightly narrowed in front. Along the back it is marked with variously shaped reddish marks; it is striated transversely, the striæ distinct, marked with small, flattish, indistinct warts, and more sparingly with elevated brown granules. The caudal extremity is densely and rather strongly granulated, the granules of a reddish-brown colour and elevated. The proboscis at the root, next the body, is also densely granulated; anteriorly it is circularly striated, sparingly granulated, and ringed dorsally with reddish brown. The extremity of the proboscis, in the only specimen we possess, is withdrawn, so that the tentacles cannot be seen.

5. PHASCOLOSOMA FASCIATUM, sp. nov.

Corpus cylindricum, transverse obsolete striatum, antrorsum attenuatum, granulis parvis rubris obsitum, postice rotundatum, subito conicum, pars exertilis perlonga, attenuata, laevis, striis circularibus distinctis cinctu, et in dorso fasciis latis rubris notata; color albidus, maculis rubridis conspersus; tentaculis retractis.

Long. corp. 15 lin., proboscis corpore fere duplo longior; lat. corp. 2 lin., proboscis. 1 lin.

Hab. Madeira (*N. Lister, M.D.*).

B.M.

The body of the worm is of a whitish colour, obsoletely transversely striated, marked here and there with reddish-brown spots, and covered with small red granules, which are nearly similar in size anteriorly and posteriorly. It is more attenuated anteriorly, and sends out a very long proboscis, which is narrow, not tuberculated, but distinctly circularly striated, and fasciated with interrupted broad bands of brown. Posteriorly the body is blunt, but becomes suddenly pointed at the very extremity. The broad bands of brown on the proboscis, the marks of red on the body, and the small tubercles on the surface are all nearly confined to the dorsal aspect, the abdominal region being nearly white.

Is this the *Sipunculus laevis*, Cuvier = *Phascolosoma laeve*, Keferstein? In the 'Zeitsch. f. wiss. Zool.' 1867, p. 50, Keferstein mentions having received a specimen 11 mm. long from Fayal, Azores; but in some respects his description differs from that of the species here given.

6. PHASCOLOSOMA PLACOSTEGI, sp. nov.

Corpus fusiforme, breve, utrinque attenuatum, striis circularibus cinctum, fere laeve, parte caudali acuminata, granulis majusculis obsita, parte anteriore verrucis complanatis sparsis instructa, parte exertili circulariter striata; tentaculis absconditis.

Long. corp. 10 lin., crass. 1 lin.; long. probosc. 3½ lin.

Hab. Cape of Good Hope; found lodged in a mass of *Serpulæ* (*Placostegus*).

B.M.

The body is fusiform in shape, a little attenuated at both extremities, rather more so at the caudal termination, which is somewhat acuminate and covered with raised warty-looking granules. The

body is not verrucose, but is roughened with numerous, close-set, circular striæ near the anterior extremity, showing a few scattered, flattened-looking warty granules. The exsertile portion of the body is attenuated, and circularly striated; but the extremity or proboscis is withdrawn in the only specimen we possess, so that the tentacles cannot be seen. This was found lodged in some of the crevices of a mass of a species of tubicolous Annelides belonging to the genus *Placostegus*, which formed a portion of the collection of Dr. Krauss; it was dry, but was afterwards moistened and put into spirits.

7. PHASCOLOSOMA NIGRICEPS, sp. nov. (Pl. XI. figs. 1, 1^a.)

Corpus fusiforme, antice paulo attenuatum, postice rotundatum, granulis fuscis numerosis circulariter obsitum, parte antica nigra, granulis nigris multo majoribus instructa; pars exsertilis retracta.

Long. corp. fere 2 unc., crassitud. corp. med. $\frac{1}{2}$ unc.

Hab. St. Thomas's, West Indies (*Mr. Cuming?*); Jamaica (*Mr. Gosse*); Chili (*Mus. Brit.*). B.M.

The body is of a fusiform shape, slightly attenuated posteriorly, much more so anteriorly, and thicker about the centre. It is covered with numerous, rather small, rounded granules, of a brown colour, with a small white point in the centre, but which, at the anterior extremity, become much larger, rather square-shaped, and so dark as to give the whole of the anterior part, and what can be seen of the exsertile portion, a deep black hue. The proboscis itself, in all the specimens possessed by the Museum, is withdrawn, so that I could not ascertain the appearance of the tentacles. The body, with the exception of the granules and the anterior portion, is of a light colour.

8. PHASCOLOSOMA ÆTHIOPS, sp. nov.

Corpus utriculare, totum nigrum, granulis parvis, in extremitatibus, anteriore presertim, majoribus, obtectum, extremitate caudali conoidea, antica paulo attenuata; pars exsertilis brevis, crassiuscula, spinulis numerosis parvis obsita; tentacula brevia, nymphaeosa.

Long. corp. 14 lin., probosc. 3 lin.; crass. corp. in medio 4 lin.

Hab. St. Vincent's, West Indies (*Rev. J. Guilding?*). B.M.

The whole body is of a deep black colour, and it is covered with numerous small black granules, which, however, become larger at the extremities, especially anteriorly. The posterior extremity is conoidal, and the anterior is rather attenuated. The exsertile portion is also black, and is roughened with numerous small black spines. The cirri of the proboscis are short and numerous.

9. PHASCOLOSOMA PERLUCENS, sp. nov. (Pl. X. figs. 2, 2^a.)

Corpus subcylindricum, arcuatum, elongatum, postice paulo attenuatum, pellucido-albidum, granulis minimis sparsis obsitum, dimidia

pars anterior longitudinaliter sub cute albo lineata ; pars exsertilis granulis parvis rubris dense oblecta et rubro vittata.

Long. corp. 1 unc., crass. $1\frac{1}{2}$ lin.; long. probosc. $2\frac{1}{2}$ lin., crass. $\frac{1}{2}$ lin.

Hab. Jamaica; taken out of holes in coral-rocks (*Mr. Gosse*).

B.M.

The body of this worm is slightly arched or curved in form, is somewhat cylindrical, rather slender, much longer than broad, and is of a pellucid white colour, at first appearing smooth and shining, but with the assistance of a lens showing itself to be partially covered with minute light-brown-coloured granules. These are more numerous at the posterior extremity than on the rest of the body, except the exsertile or proboscidal portion, which is thickly covered with small reddish-brown granules and here and there a stain of reddish-brown hue. The upper half of the body is the smoothest, and is marked by a series of longitudinal white lines showing under the integument, and which disappear at about half the length of the body.

10. PHASCOLOSOMA ALBO-LINEATUM, sp. nov.

Corpus subcylindricum, arcuatum, subpellucidum, in medio punctis seu granulis minimis sparse obsitum, extremitatibus utrinque subattenuatis, granulis majoribus rubro-fuscis oblectis ; pars anterior laevis, sub cute longitudinaliter albo lineata ; pars exsertilis longa, postice granulis parvis rubris, antice laevis, rubro maculata, et prope extremitatem lineis nigris exilibus viginti circumdata ; proboscis cirris curtis paucis violascentibus induta.

Long. corp. $1\frac{3}{4}$ unc., long. part. exsert. 1 unc.; crass. corp. in medio 2 lin., crass. probosc. $\frac{1}{2}$ lin.

Hab. Philippine Islands (*Mr. Cuming's Collection*).

B.M.

This species is much larger than the preceding, but resembles it in many respects. The body is arched or curved in form, and is somewhat translucent, especially the upper or anterior half, which is smooth and shining to appearance, and is marked under the skin with numerous longitudinal white lines. Under the lens the middle of the body appears covered partially with very minute point-like granules, which enlarge at each extremity and become more numerous. The caudal extremity is conoidal, rather sharp-pointed, and the granules are like raised warty projections; the anterior extremity is rather attenuated, the exsertile portion being of considerable length, more than half the length of the body. It is covered at the base with numerous reddish-brown granules, is smooth on the anterior portion, is marked with reddish-brown-looking stains, and near the extremity is surrounded with about twenty very fine black rings, each ring being composed of numerous very small spines. The proboscis does not at first sight seem to be provided with any cirri; upon more attentive examination, however, they appear to be very short, few in number, and of a violet hue. The only history we have of this species is, that it was found in the Philippine Islands; but I should be disposed to consider, from its general resemblance

to the foregoing (*P. perlucens*), that it was found burrowing like it in holes in coral-rocks.

11. PHASCOLOSOMA NODULIFERUM.

Phascolosomum noduliferum, Stimpson, Proc. Acad. Philad. tom. viii. p. 375, 1855; Diesing, Rev. der Rhyngod. l. c. p. 761, 1859.

Phascolosoma noduliferum, Keferstein, Beitr. in l. c. p. 198, 1865.

Sipunculus (Phymosomum) nodulosus, Quatrefages, l. c. ii. p. 621. no. 30, 1865.

Sipunculus (Phymosomum) noduliferus, Quatrefages, l. c. ii. p. 624. no. 42, 1865*.

Hab. Australia, Sydney (*J. M'Gillivray*); Nicol Bay, north coast of Australia (*M. de Boulay*); Australia (*J. B. Jukes, Esq.*). B.M.

12. PHASCOLOSOMA AGASSIZII.

Phascolosoma agassizii, Keferstein, Nach. d. kön. Gesellsch. der Wissensch. in Göttingen, 1866; Zeitsch. für wissensch. Zool. Band xvii. Heft i. p. 46, t. 6. f. 3-8, 1867.

Phascolosoma Hawkinsii, Baird, MS. in Mus. Brit.

Hab. California and Panama (*Agassiz fide Keferstein*); Esquimalt Harbour, Vancouver Island (*Lieut.-Col. Hawkins*). B.M.

I had named this species after Lieut.-Col. Hawkins, H.M. Commissioner on the North-American Boundary Survey, who collected the specimens, and to whom we are indebted for them. There are two specimens, one much more slender than the other. This has the exsertile portion protruded; the other has it withdrawn, which may account for the difference in circumference.

13. PHASCOLOSOMA LORDI, sp. nov.

Corpus brevifusiforme, griseum, transverse rugosum, granulis parvis fuscis obsitum, ad extremitatem posteriorem coacervatis, ad extremitatem anteriorem sparsis; pars exsertilis cylindrica, brevis, rugibus circularibus circumdata.

Long. corp. 1 unc., part. exsert. 4 lin.

Hab. Esquimalt Harbour, Vancouver Island (*J. K. Lord, Esq.*). B.M.

The body of this animal is of a greyish colour, wrinkled across with transverse rugæ, or, as it were, corrugated. The skin is covered with very small light-brown granules, which at the posterior extremity are larger, darker-coloured, and more numerous, and at the anterior extremity are very few and scattered at intervals. The exsertile portion is rather short, cylindrical in form, and rugose. The tentacles are withdrawn. We have only one specimen of this species, which differs very much from the preceding in general appearance, size, and colour, though collected at the same place. I have named it after Mr. J. K. Lord, who was the naturalist attached

* Quatrefages has, evidently in mistake, quoted this species twice over, but has, in the first instance, given it the name of *nodulosus*. The synonyms he has quoted are the same in both instances.

to the North-American Boundary Survey under Col. Hawkins. It may possibly be only a variety of the preceding species.

14. PHASCOLOSOMA PLANISPINOSUM, sp. nov.

Corpus sacciforme, albo-griseum, granulis brunneis minutis oblectum, granulis ad extremitatem posticam in spinis latis mutatis; pars exsertilis partem tertiam corporis æquans, spinis latis, majoribus, brunneis oblecta; tentaculis retractis.

Long. corp. 6 lin., part. exsert. 4 lin.; corp. crass. usque ad $3\frac{1}{2}$ lin.

Hab. — ? (*Mr. Cuming's Collection*).

B.M.

The body of this species is of a light greyish colour, deeper at the two extremities, where the minute granules with which the body is covered are replaced by flat sharp-pointed spines, standing out nearly erect from the skin. The exsertile portion is particularly marked in this manner, the spines being numerous and larger than at the posterior extremity. The shape of the body is very similar to that of *Sipunculus (Phascolosoma) genuensis* of Blainville, but differs in being very much smaller and having the exsertile portion, comparatively speaking, longer, and being very rough with the flat spines. Unfortunately we have only one specimen, which was collected by the late Mr. Cuming, but no habitat was attached to it.

15. PHASCOLOSOMA MULTITORQUATUM.

Sipunculus (Phymosomum) multitorquatus, Quatrefages, *l. c.* ii. p. 621, 1865.

Hab. Guettary (*Quatrefages*).

16. PHASCOLOSOMA SPINICAUDA.

Sipunculus (Phymosomum) spinicauda, Quatrefages, *l. c.* ii. p. 621, 1865.

Hab. Barcelona (*Quatrefages*).

17. PHASCOLOSOMA GUTTATUM.

Sipunculus (Phymosomum) guttatus, Quatrefages, *l. c.* ii. p. 621, 1865.

Hab. Red Sea (*Quatrefages*).

18. PHASCOLOSOMA ORBINIENSE.

Sipunculus (Phymosomum) orbiniensis, Quatrefages, *l. c.* ii. p. 622, 1865.

Hab. American seas (*M. d'Orbigny*).

19. PHASCOLOSOMA PLICATUM.

Sipunculus (Phymosomum) plicatus, Quatrefages, *l. c.* ii. p. 622, 1865.

Hab. ? Indian seas (*Quatrefages*).

20. PHASCOLOSOMA JAVANENSE.

Sipunculus (Phymosomum) javanensis, Quatrefages, *l. c.* ii. p. 622, 1865.

Hab. Java (*Quatrefages*).

21. PHASCOLOSOMA CONSTELLATUM.

Sipunculus (Phymosomum) constellatus, Quatrefages, *l. c.* ii. p. 622, 1865.

Hab. Isle of France (*Quatrefages*).

22. PHASCOLOSOMA COCHLEARIUM.

Sipunculus cochlearius, Valenciennes, *Comptes Rendus*, tom. xxxix. p. 641, 1854.

Sipunculus (Phymosomum) cochlearius, Quatrefages, *l. c.* ii. p. 623, 1865.

Hab. Indian seas, in coral (*Quatrefages*).

23. PHASCOLOSOMA NIGRESCENS.

Phascolosoma nigrescens, Keferstein, *Beitr. in l. c.* p. 198, 1865.

Sipunculus (Phymosomum) nigrescens, Quatrefages, *l. c.* ii. p. 623, 1865.

Hab. Fiji Islands (Viti) (*Dr. Grütze fide Keferstein*).

24. PHASCOLOSOMA VARIANS.

Phascolosoma varians, Keferstein, *Nach. kön. Ges. Wissen.* p. 199, 1865; *Zeitsch. f. wiss. Zool.* Band xv. pp. 424-426, t. 31. f. 3, t. 32. f. 22, 1865; Band xvii. p. 48, 1867.

Phascolosoma puntarenæ, Keferstein, *Unters. über nied. Seethiere*, in *Zeitsch. f. wiss. Zool.* tom. xii. p. 40, t. 3. f. 1, 6, 12, 15, 1862.

Sipunculus (Phymosomum) varians, Quatrefages, *l. c.* ii. p. 623, 1865.

Hab. St. Thomas, West Indies (*Riise*), Florida (*Agassiz fide Keferstein*).

25. PHASCOLOSOMA CYLINDRATUM.

Phascolosoma cylindratum, Keferstein, *Beitr. in l. c.* p. 200, 1865.

Sipunculus (Phymosomum) cylindratum, Quatrefages, *l. c.* ii. p. 623, 1865.

Hab. Bermuda (*Riise fide Keferstein*).

26. PHASCOLOSOMA LORICATUM.

Lithodermus cuneus?, Cuvier, *R. An.* 2nd edit. iii. p. 242, 1830.

Sipunculus (Phymosomum) loricatus, Quatrefages, *l. c.* ii. p. 623, 1865.

Hab. New Holland (*Quatrefages*).

27. PHASCOLOSOMA PUNTARENÆ.

Phascolosoma puntarenæ, Grube et Ørsted, *Annl. Ørsted.* p. 13, 1858, not Keferstein, *Unters. n. Thier.* p. 40, 1863.

Phascolosomum puntarenæ, Diesing, Rev. der Rhyng. p. 761, 1859.

Sipunculus (Phymosomum) puntarenæ, Quatrefages, *l. c.* ii. p. 624, 1865.

Hab. Puntarenas (*Ærsted*).

28. PHASCOLOSOMA GENUENSE.

Sipunculus genuensis, Blainville, Dict. Se. Nat. art. Siponcle, Atlas, t. 33. f. 4, 1828.

Phascolosomum genuense, Diesing, Rev. der Rhyngod. *in l. c.* p. 761, 1859.

Phascolosoma lima, Costa, Faun. del Regn. di Napoli, Annelid.-pl. . f. , 18 ?

Phascolosomum lima, Diesing, *l. c.* p. 761, 1859.

Sipunculus (Phymosomum) genuensis, Quatrefages, *l. c.* ii. p. 625, 1865.

Hab. Coast near Genoa (*Blainville*); near Naples (*Costa*).

29. PHASCOLOSOMA GRANULOSUM.

Syrinx granulatus, M'Coy, Ann. & Mag. Nat. Hist. tom. xv. p. 272, t. 16, f. 2, 1845.

Phascolosomum granulatum, Diesing, Syst. Helminth. ii. p. 63, 1851; Revis. d. Rhyng. *in l. c.* p. 761, 1859.

Sipunculus (Phymosomum) granulatus, Quatrefages, *l. c.* ii. p. 625, 1865.

Hab. Roundstone Bay, Ireland (*M'Coy*).

30. PHASCOLOSOMA PAPILLOSUM.

Sipunculus papillosus, Thompson, Ann. & Mag. vol. v. p. 101, 1840.

Syrinx papillosus, Forbes, Brit. Starfishes, p. 247, fig., 1841.

Phascolosomum papillosum, Diesing, Revis. der Rhyngod. *in l. c.* p. 762, 1859.

Sipunculus (Phymosomum) papillosus, Quatrefages, *l. c.* ii. p. 625, 1865.

Hab. Miltown Bay, &c., Ireland (*Thompson*).

31. PHASCOLOSOMA JOHNSTONI.

Sipunculus johnstoni, Forbes, Brit. Starfishes, p. 254, fig., 1841.

Phascolosomum johnstoni, Diesing, Revis. d. Rhyng. *in l. c.* p. 762, 1859.

Sipunculus (Phymosomum) johnstoni, Quatrefages, *l. c.* ii. p. 625, 1865.

Hab. Berwick Bay (*Johnston*).

32. PHASCOLOSOMA LONGICOLLE.

Phascolosomum longicolle, Leuckart and Rüppell, Atlas z. der Reise im nördl. Afr. Zooph. p. 6, t. 2. f. 1, 1828.

Sipunculus (Phymosomum) longicollis, Quatrefages, *l. c.* ii. p. 625, 1865.

Hab. Red Sea (*Rüppell*).

33. PHASCOLOSOMA ANTILLARUM.

Phascolosomum antillarum, Grube & Ærsted, *Annulat. Ærsted.* p. 13, 1858; Diesing, *Revis. d. Rhyngod. in l. c.* p. 762, 1859.

Phascolosoma antillarum, Keferstein, *Beitr. in l. c.* p. 205, 1865; *Unters. Nied. Seethiere in Zeitsch. f. wiss. Zool.* Band xii. p. 40, 1862, t. 3. f. 2, 11; Band xv. p. 435, 1865, t. 31. f. 11, t. 33. f. 37, and Band xvii. p. 54, 1867.

Sipunculus (Phymosomum) antillarum, Quatrefages, *l. c.* ii. p. 626, 1865.

Hab. Puntarenas and Santa Cruz (*Ærsted*); St. Thomas, West Indies (*Keferstein*); Panama (*Agassiz*).

34. PHASCOLOSOMA GLANS.

Sipunculus (Ædematosomum) glans, Quatrefages, *l. c.* ii. p. 626, 1865.

Hab. ? Indian Seas (*Quatrefages*).

35. PHASCOLOSOMA IMMODESTUM*.

Sipunculus (Ædematosomum) immodestus, Quatrefages, *l. c.* ii. p. 627, 1865.

Hab. Indian Seas (*Quatrefages*).

36. PHASCOLOSOMA LÆVE.

Sipunculus lævis, Cuvier, *Règne An.* 2nd ed. tom. iii. p. 243, 1830.

Phascolosoma læve, Keferstein, *Zeitsch. f. wiss. Zool.* Band xii. p. 38, t. 3. f. 4, 1862; Band xv. p. 427, t. 31. f. 6, t. 32. f. 20, 21; 1865; Band xvii. p. 50, t. 6. f. 14, 1867; *Beitr. in l. c.* p. 200, 1865.

? *Phascolosoma fasciatum*, Baird, see sp. 5.

Hab. Sicily (*Cuvier, Keferstein*); Fayal, Azores (*Higginson fide Keferstein*).

37. PHASCOLOSOMA RIISEI.

Phascolosoma riisei, Keferstein, *Beitr. in l. c.* p. 206, 1865.

Hab. St. Thomas, West Indies (*Riise fide Keferstein*).

38. PHASCOLOSOMA PECTINATUM.

Phascolosoma pectinatum, Keferstein, *Nach. königl. Gesellsch. Wissensch. Göttingen*, 1866; *Zeitsch. f. wissensch. Zool.* Band xvii. p. 47, t. 6. f. 9-12, 1867.

Hab. Panama (*Agassiz fide Keferstein*).

39. PHASCOLOSOMA PACIFICUM.

Phascolosoma pacificum, Keferstein, *Nach. kön. Gesell. Wissen. Göttingen*, 1866; *Zeitsch. f. wissensch. Zool.* Band xvii. p. 49, t. 6. f. 1-2, 1867.

Hab. Kingsmill Island, Gilbert Group, Pacific (*Keferstein*).

* Quatrefages does not mention, in his description of this species, whether it is smooth or tuberculated.

Species considered doubtful, or not sufficiently described.

40. PHASCOLOSOMA NORDFOLCENSE.

Sipunculus nordfolcensis, Brandt, Prod. Descript. Animal. ab Mertens. observat. p. 61, 1835; Dujardin in Lamarck, An. s. Vertèb. (2nd edit.) iii. p. 470, 1840.

Phascolosomum nordfolcense, Diesing, Syst. Helm. ii. p. 67, 1851; Revis. d. Rhyngod. l. c. p. 765, 1859; Dujardin, Hist. Nat. Ann. ii. p. 631, 1865.

Hab. Norfolk Sound (*Mertens*).

41. PHASCOLOSOMA FASCIOLATUM.

Sipunculus fasciolatus, Brandt, Prod. Desc. An. Mertens. obs. p. 61, 1835.

Phascolosomum fasciolatum, Diesing, Syst. Helm. ii. p. 66, 1851; Revis. d. Rhyngod. l. c. p. 765, 1859; Dujardin, l. c. ii. p. 631, 1865.

Hab. Island of Ualan, Caroline Islands (*Mertens*).

42. PHASCOLOSOMA AMBIGUUM.

? *Sipunculus ambiguus*, Brandt, Prod. An. Mertens. obs. p. 62, 1835.

Phascolosomum ambiguum, Diesing, Syst. Helm. ii. p. 67, 1851; Revis. d. Rhyng. l. c. p. 765, 1859; Dujardin, l. c. ii. p. 631, 1865.

Hab. —? (*Mertens*).

43. PHASCOLOSOMA TIGRINUM.

Sipunculus tigrinus, Risso, Hist. nat. Europ. mérid. v. p. 292, 1826; Guérin, Icon. Règ. An. Cuv. Zooph. t. v. f. 4, 1834?.

Phascolosoma granulatum, Leuckart? *fide* Diesing; Joh. Müller, Wieg. Archiv, 1844, p. 168.

Phascolosomum tigrinum, Diesing, Syst. Helm. ii. p. 66, 1851; Revis. d. Rhyng. l. c. p. 765, 1859; Dujardin, l. c. ii. p. 631, 1865.

Hab. Nice, amongst *Fuci* (*Risso*).

44. PHASCOLOSOMA FLAVUM.

Sipunculus flavus, Risso, Hist. nat. Eur. mérid. v. p. 292, 1826.

Phascolosomum granulatum, Leuckart?; Joh. Müller, Wieg. Archiv, 1844, p. 168 (quoted by Diesing).

Phascolosomum flavum, Diesing, Syst. Helm. ii. p. 66, 1851; Revis. d. Rhyng. l. c. p. 765, 1859; Dujardin, l. c. ii. p. 631, 1865.

Hab. Nice (*Risso*).

45. PHASCOLOSOMA LEACHII.

Sipunculus leachii, Blainville, Diet. Sc. Nat. xlix. p. 312, 1827.

Phascolosomum leachii, Diesing, Syst. Helm. ii. p. 67, 1851; Revis. d. Rhyngod. l. c. p. 765, 1859; Dujardin, l. c. ii. p. 631, 1865.

Hab. —? (*Leach*).

46. PHASCOLOSOMA POURTALESII.

Sipunculus granulatus, Pourtalès, Proc. Amer. Ass. Adv. Sc. 1851, p. 41.

Phascolosomum pourtalesii, Diesing, Revis. der Rhyngod. l. c. p. 765, 1859.

Hab. Florida (*Portalès*).

Genus 3. PETALOSTOMA.

Phascolosoma (sp.), Keferstein, 1862.

Petalostoma, Keferstein, 1865.

PETALOSTOMA MINUTUM.

Phascolosoma minutum, Keferstein, Unter. niedere Seethiere in Zeitsch. f. wissensch. Zool. Band xii. p. 40, t. 3. f. 7-10, 1862.

Petalostoma minutum, Keferstein, Beitr. Nach. kön. Gesellsch. Göttingen, p. 207*, 1865; Quatrefages, l. c. ii. p. 631, 1865.

Hab. St. Vaast, Normandy (*Keferstein*).

Genus 4. THEMISTE.

Themiste, Gray, Spicilegia Zoolog. p. 8, 1828.

Dendrostomum, Grube & Ærsted, Annulat. Ærsted, p. 14, 1858; Diesing, Rev. d. Rhyngod. 1859; Quatrefages, l. c. ii. p. 629, 1865.

Dendrostoma, Keferstein, Beitr. z. Anat. Sipunc. in Nach. könig. Gesellsch. Göttingen, p. 207, 1865.

1. THEMISTE HENNAHI.

Themiste hennahi, Gray, Spic. Zool. p. 8, 1828.

Hab. Peru (*Rev. W. Hennah*).

B.M.

2. THEMISTE ALUTACEA.

Dendrostomum alutaceum, Grube & Ærsted, Annulat. Ærsted, p. 14, 1858; Diesing, Revis. der Rhyngod. in l. c. p. 765, 1859; Quatrefages, l. c. ii. p. 630, 1865.

Hab. Santa Cruz, West Indies (*Ærsted*).

3. THEMISTE PINNIFOLIA.

Dendrostoma pinnifolium, Keferstein, Beitr. in l. c. p. 207, 1865.

Dendrostomum pinnifolium, Quatrefages, l. c. ii. p. 630, 1865.

Hab. St. Thomas's, West Indies (*Riise*).

4. THEMISTE RAMOSA.

Dendrostomum ramosum, Quatrefages, l. c. ii. p. 629, 1865.

Hab. Brazil (*Quatrefages*).

5. THEMISTE LAGENIFORMIS. (Pl. X. figs. 3-3^c.)

Corpus cum proboscide exserta lageniforme, læve, corrugatum,

* *P. minutum*! evidently a misprint for *minutum*.

transverse rugoso-striatum, rotundato-inflatum, extremitate postica in mucronem obtusum desinente, antica paulo attenuata; pars exsertilis longa, cylindrica, rugoso-plicata; tentaculis 6? in pinnulas numerosas divisis.

Long. corp. 6 lin., crass. 5 lin.; long. part. exsert. 5 lin.

Hab. ? Australia (*Earl of Derby's Coll.*). B.M.

This species, which is one of many specimens of natural history collected for the late Earl of Derby by the late John Macgillivray, appears different from all the others in our collection. When the exsertile portion is protruded, it is completely bottle-shaped, and the skin is entirely free from granulations. It is, however, wrinkled, transversely finely striated and rugose, and at the posterior extremity is almost clathrate. This portion of the body is rounded, inflated, and terminates in a blunt conical point. The exsertile portion is of considerable length, is cylindrical in shape, and rugosely plicate. The tentacles or cirri are short and much pinnated.

We possess two specimens of this species—one with the exsertile portion and tentacula protruded, from which the diagnosis is chiefly drawn up, and which apparently, when collected, had been allowed to dry, and has thus, to outward appearance, become almost smooth; when examined, however, more carefully, the skin is seen to be wrinkled and transversely striated. In the other specimen the proboscis is almost entirely withdrawn, and the skin is much more distinctly wrinkled and striated. At first sight they appear to be distinct species; but as they come from the same locality, I am led to believe them the same.

Genera of Sipunculidæ not sufficiently established, and the position of which is doubtful.

Genus 1. ASCOSOMA.

Ascosoma, Leuckart, Brev. Animal. quor. Descript. 1828; Quatrefages, *l. c.* ii. 1865.

Ascosomum, Diesing, Syst. Helminth. ii. p. 75, 1851; Revis. d. Rhyngod. in *l. c.* p. 778, 1859.

ASCOSOMA BLUMENBACHII.

Ascosoma blumenbachii, Leuckart, Brev. Animal. quor. Descrip. p. 21, t. 1. f. 4, 1828; Quatrefages, *l. c.* ii. p. 630, 1865.

Ascosomum blumenbachii, Diesing, Syst. Helminth. ii. p. 76, 1851; Revis. d. Rhyngod. in *l. c.* p. 778, 1859.

Phascolosoma granulatum, Leuckart? Joh. Müll. Wieg. Arch. p. 168, 1844.

Hab. Mediterranean, near Cette (*Leuckart*).

Genus 2. ANOPLOSOMATUM.

Anoplosomatium, Grube, Act. Echin. Würm. Adriat. p. 47, 1840 (charact. emend.); Diesing, Syst. Helm. ii. p. 68, 1851; Revis. d.

Rhyng. *in l. c.* p. 766, 1859; Quatrefages, *l. c.* ii. p. 630, 1865; Keferstein, Beitr. *in l. c.* p. 209, 1865.

Lanceola, Blainville, Dict. Sc. Nat. lvii. art. Vers, p. 553, 1828.

1. ANOPIOSOMATUM UTRICULUS.

Anoplosomatum utriculus, Grube, Actin. Echin. Würm. Adriat. p. 48, t. 1. f. 3, 1840; Diesing, Syst. Helminth. ii. p. 69; Revis. d. Rhyngod. *in l. c.* p. 766, 1859; Quatrefages, *l. c.* ii. p. 631, 1865.

Hab. Mediterranean, near Palermo (*Grube*).

2. ? ANOPIOSOMATUM PARETTI.

Lanceola paretii, Blain. *l. c.* art. Vers, 1828.

Anoplosomatum paretii, Diesing, Syst. Helm. ii. p. 69, 1851; Revis. d. Rhyngod. *in l. c.* p. 776, 1859; Quatrefages, *l. c.* ii. p. 631, 1865.

3. ANOPIOSOMATUM ANTILLENSE.

Anoplosomatum antillense, Steenstrup, Keferstein, Beitr. *in l. c.* p. 209, 1865.

Hab. St. Ian, West Indies (*Prosch, Suenson, fide Keferstein*).

? Genus 3. DICLIDOSIPHON.

Diclidosisiphon, Diesing, Revis. d. Rhyngod. 1859.

Sipunculus, sp., Lesson, Quatrefages.

DICLIDOSIPHON LUMBRICIFORMIS.

Sipunculus lumbriciformis, Lesson, Cent. d. Zool. p. 152, t. 53. f. 3, 1830.

Sipunculus (Phyrosomum) lumbriciformis, Quatrefages, *l. c.* ii. p. 626, 1865.

Diclidosisiphon lumbriciformis, Diesing, Syst. Helminth. ii. p. 70, 1851; Revis. d. Rhyngod. *in l. c.* p. 766, 1859.

Hab. Falkland Islands (*Lesson*).

Family II. ASPIDOSIPHONIDÆ.

Eusipunculidea, Aspidosiphones (part.), Diesing.

Aspidosiphonea, Quatrefages.

Genus 1. ASPIDOSIPHON.

Aspidosiphon, Diesing, Syst. Helm. ii. p. 67, 1851; Revis. der Rhyngod. *l. c.* p. 767, 1859; Quatrefages, *l. c.* ii. p. 608, 1865.

Sipunculus, sp., Blainville.

Sipunculus (Phascolosomum), sp., Joh. Müller.

Lesinia, O. Schmidt, Zeitsch. f. d. gesammt. Naturwiss. 1854, tom. iii. p. 2; Diesing, Revis. der Rhyngod. *l. c.* p. 779, 1859; Quatrefages, *l. c.* p. 599, 1865.

(Anus dorsalis.)

1. ASPIDOSIPHON MÜLLERI.

Sipunculus (Phascolosomum) scutatus, Joh. Müller, in Wiegmann Archiv, tom. xix. p. 166-168, t. 5. f. A-D, 1844; Krohn, in Müll. Archiv, p. 371, 1851.

Aspidosiphon mülleri, Diesing, Syst. Helminth. ii. pp. 68 & 556; Revis. der Rhyngod. l. c. p. 767, 1859; Quatrefages, l. c. p. 609, 1865; O. Schmidt, Mitth. Nat. Verein. Steirmark, p. 56, 1865.

Lesinia farcimen, O. Schmidt, Zeitsch. f. d. gesamt. Naturwiss. 1854, vol. iii. p. 2, t. 1. f. 3; Diesing, Revis. der Rhyngod. l. c. p. 779, 1859; Quatrefages, l. c. p. 599, 1865.

Hab. Mediterranean (*Grohman & Krohn*); Lesina (*Schmidt*); off the Shetland Isles (*J. G. Jeffreys*).
B.M.

Notwithstanding the difference of habitat, I cannot distinguish any marks by which to separate our specimen from the species found in the Mediterranean. It is perhaps less narrow posteriorly; and the small brown points or papillæ, as Diesing terms them, on the body, are smaller than in the species figured by Müller. The *Phascolosoma radiata* of Alder, found in the same locality, and described by him in the 'Annals and Magazine of Natural History' in 1860, approaches in some respects this species, and may possibly be synonymous with it. The description given by Mr. Alder is rather indefinite, and a further examination of fresh specimens is necessary to elucidate the point.

2. ASPIDOSIPHON STEENSTRUPII.

Aspidosiphon steenstrupii, Diesing, Revis. der Rhyngod. l. c. p. 767, 1859; Icon. Zoogr. Ferdinand. I. Imperatoris; Quatrefages, l. c. p. 610, 1865.

Hab. Island of St. Thomas, West Indies (*Riise fide Diesing*).

3. ASPIDOSIPHON RHYSSASPIS.

Aspidosiphon rhyssaspis, Diesing, Revis. der Rhyngod. l. c. p. 768, 1859; Icon. Zoogr. Ferdinand. I. Imperatoris; Quatrefages, l. c. p. 610, 1865.

Hab. West Indies (*Suenson fide Diesing*).

4. ASPIDOSIPHON EREMITA.

Aspidosiphon eremita, Diesing, Revis. der Rhyngod. l. c. p. 768, 1859; Icon. Zoogr. Ferd. I. Imperat.; Quatrefages, l. c. p. 610, 1865.

Hab. Madeira (*Dr. Lister*); inhabiting empty shells of *Ditrupa* (*Diesing*).
B.M.

5. ASPIDOSIPHON COYI.

Aspidosiphon coyi, Quatrefages, l. c. p. 608, 1865.

Hab. Indian seas? (*Quatrefages*).

6. ASPIDOSIPHON LÆVE.

Aspidosiphon læve, Quatrefages, *l. c.* p. 609, t. 20. f. 23, 24.

Hab. Indian seas? (*Quatrefages*).

7. ASPIDOSIPHON CUMINGII, sp. nov. (Pl. XI. fig. 2.)

Corpus cylindricum, fuscum, antice densissime, postice paululum verrucosum, in medio rugosum et circulariter striatum; scutellum anterius subellipticum, brunneum, longitudinaliter sulcatum, posterius centrifuge sulcatum, sulcis dichotomis; proboscis brevis, cylindrica, gracilis, rugosa, fasciata.

Long. corp. 3 unc., lat. 7 lin.; long. probosc. 8 lin.

Hab. Philippine Islands (*Cuming*).

B.M.

This is the largest species I have seen. Anteriorly it is densely granularly tuberculated for nearly an inch in length, posteriorly for only a very short distance. In the middle the body is circularly striated and longitudinally ribbed, as it were, with pellucid ribs. It is of a brownish colour, much deeper at the two extremities, and marked with scattered granulations. The anterior scutellum is of a somewhat oval or elliptic shape, broadly sulcated longitudinally, near the proboscis tubercularly granulated, and at a short distance from where it terminates on the body it is keeled. The posterior scutellum is circular, is marked by the same kind of sulci as the anterior, but radiately disposed and dichotomously divided towards the external margin. It is separated from the lower part of the body by a sharp keel which surrounds it. The proboscis is rugose, slender, and short, is of a light colour at its two extremities, and peculiarly marked in the middle with a broad band of a deep brown.

8. ASPIDOSIPHON TRUNCATUM.

Phascolosoma truncatum, Keferstein, Nach. kön. Gesell. Göttingen, 1866.

Phascolosoma (Aspidosiphon) truncatum, Keferstein, Zeitsch. f. wissensch. Zool. Band xvii. p. 50, t. 6. f. 15-18, 1867.

Hab. Panama (*Agassiz fide Keferstein*).

9. ASPIDOSIPHON RADIATUM.

Phascolosoma radiata, Alder, Ann. & Mag. Nat. Hist. 3rd ser. v. p. 75, t. 5. f. 4-6, 1860.

Sipunculus (Cryptosomum) radiatus, Quatrefages, *l. c.* ii. p. 629, 1865.

Hab. Shetland Isles, in shells of *Aporrhais* (*Barlee fide Alder*).

Genus 2. PSEUDASPIDOSIPHON, Baird.

Corpus gracile, duabus opacitatibus, scutella simulantibus, instructum. Extremitas posterior conica, centrifuge radiata; extremitas anterior, scutello destituta, opaca. Cetera ut in Aspidosiphone.

1. PSEUDASPIDOSIPHON CLAVATUM.

Sipunculus clavatus, Blainville, Dict. Sc. Nat. tom. xlix. art. *Sipunculus*, Atlas, t. 33. f. 2, 1828.

Aspidosiphon clavatum, Diesing, Syst. Helminth. ii. p. 68, 1851.

Aspidosiphon clavatus, Diesing, Revis. der Rhyng. l. c. p. 768, 1859; ? Quatrefages, l. c. p. 611, 1865.

Hab. Mediterranean (*Blainville*).

Quatrefages says of this species that the figure given of it by Blainville in the work quoted above does not represent the anterior scutellum so characteristic of the genus, and which is found in all the other species described. The posterior extremity is conical and centrifugally radiated, but does not appear to have a regular scutellum. The same may be said of the next species, which is said by Diesing to belong doubtfully to the genus *Aspidosiphon*. I have therefore made a new genus for the reception of these two species, and for a third, which does not appear to have been previously described.

2. PSEUDASPIDOSIPHON SPRATTI.

Sipunculus, sp., Spratt, Lond. Edin. & Dublin Philosoph. Magaz. xxxiii. p. 171, 1848.

Aspidosiphon ? spratti, Diesing, Revis. der Rhyngod. l. c. p. 768, 1859.

Hab. Near the island of Malta, at 320 fathoms depth (*Spratt*).

3. PSEUDASPIDOSIPHON GRACILE, sp. nov. (Pl. X. figs. 1, 1^a.)

Corpus gracile, elongatum, cylindricum, striis circularibus cinctum, et granulis parvis, numerosis, brunneis obsitum, parte caudali conoidea, subito acuminata, centrifuge radiata, parte anteriore infra proboscidem attenuatam scutelliformi, brunnea, longitudinaliter rugoso-verrucosa; pars exsertilis attenuata, granulis minimis obsita; proboscis retracta.

Long. corporis $2\frac{1}{4}$ unc., crass. $1\frac{1}{2}$ lin.; long. proboscid. $\frac{1}{2}$ unc., crass. $\frac{1}{2}$ lin.

Hab. Philippine Islands (*Mr. Cuming*).

B.M.

The body of this peculiar species is long and slender, circularly striated, the interspaces between the striæ regularly beset with numerous small brown granules. The caudal portion terminates abruptly in a short conical point, which is longitudinally centrifugally striated, while the upper portion of the body just beneath the exsertile portion is of a dark brown colour, and longitudinally granulosly striated, the two extremities resembling a good deal the scutella of the genus *Aspidosiphon*. The colour of the body is of a light yellowish hue, the two extremities (which show the resemblance to the scutella) being of a darker brown, resembling in this respect the *Sipunculus clavatus*, as represented by Blainville in his figure in the Atlas of the Dict. des Sc. Nat.

Family III. LOXOSIPHONIDÆ.

Eusipunculidea, Aspidosiphones (part.), Diesing, Rev. Rhyng. 1859.

Loxosiphonea, Quatrefages, Hist. Nat. Ann. ii. p. 604, 1865.

(Anus terminalis.)

Genus 1. LOXOSIPHON.

Loxosiphon, Diesing, 1851; Quatrefages, 1865.*Sternaspis*, sp., Chamisso & Eysenhardt.*Sipunculus*, sp., Blainville.

1. LOXOSIPHON ELEGANS.

Sternaspis elegans, Chamisso & Eysenhardt, Nov. Act. Nat. Cur. tom. x. p. 351, t. 24. f. 5 *a-e*, 1820.*Sipunculus elegans*, Blainv. Dict. Sc. Nat. art. Siponcle, Atlas, t. 26. f. 2 (copied from Cham. & Eysenh.), 1828.*Loxosiphon elegans*, Diesing, Syst. Helm. ii. p. 70, 1851; Revis. Rhyng. *l. c.* p. 769, 1859; Quatrefages, Hist. Ann. ii. p. 605, 1865.*Hab.* Island of Radack, Pacific Ocean (*Chamisso*).

2. LOXOSIPHON ASPERGILLUM.

Loxosiphon aspergillum, Quatrefages, Hist. Nat. Annel. ii. p. 605, t. 20. f. 20, 1865.*Hab.* Isle of France (*Quatrefages*).

Genus 2. DIESINGIA.

Diesingia, Quatrefages, ii. p. 606, 1865.

1. DIESINGIA CHAMISSOI.

Diesingia chamissoi, Quatrefages, Hist. Nat. Annel. ii. p. 606, t. 20. f. 22, 1865.*Hab.* — ?

2. DIESINGIA CUPULIFERA.

Diesingia cupulifera, Quatrefages, *l. c.* p. 607, t. 20. f. 21, 1865.*Hab.* ? Indian seas (*Quoy & Gaimard fide Quatrefages*).

Family IV. PRIAPULIDÆ.

Priapulidea, Diesing, 1851 & 1859.*Priapulea*, Quatrefages, *l. c.* p. 600, 1865.*Priapulacea*, Keferstein, Nach. Gesellsch. Wissensch. Götting. 1865.

Genus 1. PRIAPULUS.

Priapulus, Lamarck, 1816; Blainville, 1828; Cuvier, 1830; Edwards; Forbes, 1841; Diesing, 1851 & 1859; Ehlers, 1862; Quatrefages, 1865, &c.*Priapus*, Linnæus.*Holothuria*, sp., Müller, Linnæus.

1. PRIAPULUS CAUDATUS.

Holothuria priapus, Linnæus, Syst. Nat. 12th ed. p. 1091 (synonym. et habitat partim exclusis), 1766; Gmelin, Linn. Syst. Nat.

p. 3140. no. 9, 1789; Müller, O. F., Zool. Dan. Prod. no. 2807, 1776; Zool. Danicæ, tom. iii. p. 27, t. 96. fig. infera, 1789; Fabricius, Faun. Grœnland. p. 355. no. 347, 1780; Abildgaard, in Schrift. der Gesellsch. naturf. Freunde zu Berlin, tom. ix. p. 133, t. 3. f. 1-3, 1789; Rathke in Zool. Dan. iv. pp. 18-19, ? t. 135. f. 2, 1784.

? *Priapulus humanus*, Linnæus, Amœn. Acad. tom. iv. p. 255, 1754?

Madkomoder, Olafsen & Povelsen, Reyse igiennem Island, Decl. ii. p. 1001, t. 10. f. 9 (from an injured specimen), 1772.

Priapulus caudatus, Lamarek, An. s. Vert. 1st. edit. tom. iii. p. 77, 1816; 2nd edit. iii. p. 467, 1840; Schweigger, Handb. der Naturg. p. 554, 1820; Fleming, British Animals, p. 491, 1828; Blainville, Diet. Sc. Nat. art. Vers, tom. lvii. p. 554, 1828; Forbes, Hist. British Starfishes, p. 256, fig. annexed, 1841; M.-Edwards, Cuv. R. An. edit. Crochard, Zooph. t. 21. f. 2; Frey and Leuckart, Beit. zur Kenntn. wirbellos. Thiere (anatom.), pp. 40-45, 1847; Sars, Mag. for Naturvidenskab. p. 76, 1850; Diesing, Syst. Helm. tom. ii. pp. 71 & 556, 1851; Revis. der Rhyngod. l. c. p. 769, 1859; O. Schmidt, Zeitsch. für die gesammten Naturwissensch. Halle, 1854, p. 4, t. 2. f. 4 a-b; Maitland, Faun. Belgii Septent. tom. i. p. 96, 1851; Phillips, Report of British Assoc. 23rd meeting, at Hull, in 1853, Notices and Abstracts, pp. 70-71, 1854; Ehlers, Zeitsch. für wissenschaft. Zool. tom. xi. p. 209, t. 20. f. 1-13, t. 21. f. 14-22, 1862; Keferstein, Beitr. zur Anat. und Syst. Kennt. der Sipunculid. p. 208, 1865; Quatrefages, Hist. Nat. des Annel. tom. ii. part 2. p. 601, 1865.

Priapulus, sp., Cuvier, R. An. 2nd edit. tom. iii. p. 242, 1830.

Priapula caudata, Guérin, Iconog. R. Anim. Zooph. t. 5. f. 2, copied into Griffith's An. Kingd. tom. xii. Zooph. t. 12. f. 2, 1834 (both copied from Müller).

Priapulus hibernicus, M'Coy, Ann. & Mag. Nat. Hist. 1st ser. tom. xv. p. 272, t. 16. f. 1, 1845; Diesing, Syst. Helm. ii. p. 71, 1851; Revis. Rhyng. l. c. p. 770, 1859.

Lacazia hibernica, Quatrefages, Hist. Nat. Annel. ii. p. 604, 1865.

Hab. Coasts of Greenland, Norway, Great Britain, and shores of German Ocean.

B.M.

This species, like most of the group to which it belongs, varies remarkably in appearance according as it is observed alive or, as it is generally seen, corrugated and preserved in spirits. Professor Forbes, in his 'History of the British Starfishes,' points this out, and says that when alive it will in a moment change its size from half an inch to as many as four or five inches. Professor Phillips, in his notes upon the animal seen alive, quoted above, says that it becomes very active in the sunshine, "drawing in and exerting the proboscis quickly and even suddenly, opening and again contracting the large caudal plume, bending, extending, and shortening the body without any settled order of changes." This will account for the discrepancy in the various figures given by different authors. The figure given by Müller in his 'Zoologia Danica,' copied into Guérin's 'Iconography,' and the works of Abildgaard & Forbes would almost be sufficient, were

it not for the author's descriptions, to induce one to suppose that they referred to a distinct species from the animal figured by Ehlers and others, and the specimens from Scotland and Greenland which we possess in our Collection. The *P. hibernicus* of M'Coy, as figured by him in the 'Annals,' exactly corresponds with the figure given by Ehlers of *P. caudatus*, and with our specimens of that species in the Collection as corrugated by the spirits in which they have been preserved. I have no hesitation, therefore, in referring it to our *P. caudatus*. What Quatrefages could see in either M'Coy's description or figure to induce him to place it in the genus *Lacazia* I am at a loss to understand. Indeed he himself places it there with doubt. Linnæus, in his dissertation, 'Chinensia Lagerstrœmiana' (first published in 1754), and afterwards in the 'Amœnitates Academicæ,' vol. iv. p. 255, and in the 10th edit. of the Syst. Natur. p. 656 (1758), describes a species of *Priapulus* which has been usually quoted as synonymous with the *P. caudatus*. He names it in these works *Priapus humanus*—an objectionable name in itself, and which he afterwards changed in the 12th edition of the 'Systema Naturæ' to *Holothuria priapus*. As the species of plants and animals mentioned in that dissertation ('Chinensia Lagerstrœmiana') chiefly refer to those inhabiting the Southern or East-Indian and Chinese seas, and as in the 10th edit. of the Syst. Nat. he mentions distinctly the habitat "*in mari indico*," I have some hesitation in referring the species described there to the *caudatus*, which is a northern species, and not likely to be met with in the Indian seas. Osbeck, however, a pupil of Linnæus, mentions a species as found in China, and which is referred to the *Holothuria priapus* of Linnæus. His voyage to China was made in the years 1750–52; and an English translation, with a 'Faunula Chinesia' attached, was published in London in 1771: *vide* this edition, p. 337.

2. PRIAPULUS GLANDIFER.

Priapulus glandifer, Ehlers, Zeitschr. f. wissensch. Zool. tom. ii. p. 209, t. 20. f. 24, 1862; Quatrefages, *l. c.* p. 601, 1865.
Hab. North seas (*Ehlers*).

3. PRIAPULUS BREVICAUDATUS.

Priapulus brevicaudatus, Ehlers, *l. c.* t. 21. f. 23, 1862; Quatrefages, *l. c.* p. 601, 1865.
Hab. North seas (*Ehlers*).

4. PRIAPULUS TUBERCULATO-SPINOSUS. (Pl. XI. fig. 3.)

Proboscis 25 *costis longitudinalibus tuberculato-spinosis*; *cauda brevis, papillis numerosis validis longe acuminatis*; *dentes* 50 *cingentes, pallidi, in basi lati cum aculeo parum incurvato unico*; *corporis pars postica verrucis magnis obsita.*

Hab. Falkland Islands. Collected by Dr. J. Robertson during the Antarctic expedition under the command of Sir James Ross. B.M.

This species, according to the only specimen we have in the Collection, is upwards of five inches in length, and the trunk is about one inch in circumference. It is of an olive colour, the exsertile part of the body, or proboscis, darker than the rest of the animal. This proboscis is large, somewhat club-shaped; and the ribs, which run down longitudinally, are placed at some distance from each other, and, instead of being roughened with short spines (*muricated*) as in the other known species, are beset at nearly equal distances with unequal-sized small tubercles, which have a lax spine coming out of the centre. The lower extremity of the body is covered with rather large warts. The tail itself is short; but the papillæ which surround it are numerous, rather strong, and terminate in a long sharp point. The teeth (which surround the mouth) are of a pale colour, of tolerable size, spring from a broad base, and have only one (the central) spine, slightly curved inwards. The lateral small teeth, seen in the other species, in this one appear to be altogether wanting. The body is divided into numerous flattened rings, about fifty in number; the grooves or sulci which separate them are very distinct; and each ring is marked with a fine groove running round the centre; it is nearly smooth at the upper part, becoming striated as it descends, and is beset very sparingly with sharp spines, which, however, are most numerous posteriorly.

Genus 2. HALICRYPTUS*.

Halicryptus, Siebold, 1849?; Diesing, 1859; Keferstein, 1865; Quatrefages, 1865.

HALICRYPTUS SPINULOSUS.

Halicryptus spinulosus, Siebold, in *Neue Preussische Provincial-Blätter*, vii. figs. 8, 9, 1849?; Diesing, *Revis. der Rhyngod. in l. c.* p. 779, 1859; Keferstein, *Beitr. in Nach. kön. Gesellsch. Göttingen*, p. 208, 1865; Quatrefages, *l. c.* ii. p. 599, 1865.

Hab. —?

Genus 3. CHÆTODERMA.

Chætoderma, Lovén, *Hornschuch, Arch. Skandinav.* 1845; Diesing, *Revis. d. Rhyngod.* 1859; Keferstein, *Beitr. in l. c.* 1865.

Chætoderma, Quatrefages, *l. c.* 1865.

CHÆTODERMA NITIDULUM.

Chætoderma nitidulum, Lovén, *Hornschuch, Arch. Skandinav. Beitr. z. Naturg.* i. p. 69, tab., et in *Froriep, Neue Notiz.* tom. xxxiv. p. 26, f. 43, 1845; Diesing, *Revis. der Rhyng. in l. c.* p. 770, 1859; Keferstein, *Beitr. in l. c.* p. 208, 1865.

Chætoderma nitidulum, Quatrefages, *l. c.* ii. p. 602, 1865.

Hab. Coast of Sweden (*Lovén*).

* Diesing, followed by Quatrefages, places this genus amongst his "genera minus cognita;" but Keferstein accepts it as belonging to the family *Priapulidæ*.

? Genus 4. LACAZIA.

Lacazia, Quatrefages, *l. c.* 1865.

LACAZIA LONGIROSTRIS.

Quatrefages, *l. c.* ii. p. 603, t. 20 (16 bis *in textu*). f. 18, 19, 1865.

Hab. — ?

This appears to be a doubtful genus. Certainly the second species quoted by Quatrefages (*Lacazia hibernica*) is a true *Priapul*, and is nothing more than the *Priapul* *caudatus* (*P. hibernicus*, M'Coy).

Order II. GEPHYREA ARMATA.

Rhynchelidea, Diesing, Syst. 1851.

Sipunculidea baseostomata, Diesing, Revis. 1859.

Gephyrea armata, Quatrefages, *l. c.* ii. 1865.

Family I. STERNASPIDÆ.

Sternaspidea, Quatrefages, *l. c.* ii. 1865; V. Carus.

Sternaspididæ, Malmgren, Annulat. polychæt. Spitsberg. Grœnland. &c. p. 85, 1867.

Genus STERNASPIS*.

Sternaspis, Otto, Nov. Act. 1821; Blainville, Dict. Sc. Nat., 1828; Cuvier, R. A. 1830; Lamarck, A. s. V. 1838; Krohn, Müll. Archiv, 1842; Quatrefages, Hist. Nat. Annel. 1865; Malmgren, *l. c.* 85, 1867.

Echinorhynchus, sp., Renier, 1807.

Thalassema, sp., Ranzani, Isis, 1817; Schweigger, Handb., 1820; Martens, 1824.

1. STERNASPIS SCUTATA.

Mentula cucurbitacea marina, Janus Plancus, De Conchis minus notis, p. 110, t. 5. App. f. D, E, 1760.

Echinorhynchus scutatus, Renier, Tavola alfabetica delle Conchiglie Adriatiche, 1807† (as quoted by Ranzani in his paper in 'Isis').

Schreberus bremseri, Renier, Catalog. Vienn. (? MS.), 1807? fide Otto et Blainv.†

Thalassema scutatum, Ranzani, Isis, 1817; ib. xii. pp. 1457-60,

* M. Claparède, in his critique on the classification of the Annelida, especially with reference to that of M. Quatrefages, in the 'Bibliothèque Universelle,' 1867, and translated in the 'Annals & Magazine of Nat. Hist.' for November 1867, expresses his concurrence with Oken, Siebold, Max Müller, and Malmgren in their opinion that the genus *Sternaspis* belongs to the true Annelida. He also says that it is astonishing "that in the year 1865 M. de Quatrefages, in assigning to *Sternaspis* a place among the Gephyrea, should still mistake the head of these animals for the tail, without taking any notice of the beautiful anatomical investigations of MM. Krohn and Max Müller, and more especially as neither Bianchi (Janus Plancus), Ranzani, nor Delle Chiaje had fallen into the error of Oken and Otto, now corroborated by the authority of M. Quatrefages" (Ann. & Mag. Nat. Hist. 1867, p. 361).

I retain here the genus *Sternaspis* amongst the Gephyrea, as, in outward form at least, it seems to be more nearly allied to this group than to the true Annelids.

† These works I have not been able to see.