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III. ZOOLOGY.

1. *Conspectus Crustaceorum quæ in Orbis Terrarum Circumnavigatione, Carolo Wilkes e Classe Reipublicæ Fœderatæ Duce, lexit et descripsit* JACOBUS D. DANA—(Proceedings of the American Academy of Arts and Sciences, Boston, May 4, 1847, vol. i, p. 150–154, and Nov. 8, 1849, vol. ii, pp. 9–61.)—This *Conspectus* includes descriptions of 183 new species of Entomostraca, collected by Mr. James D. Dana during the cruise of the Exploring Expedition. We here cite the descriptions of the genera and families introduced, as they contain some modifications of those received, and mention only the names of the new species included in the *Conspectus* under each genus. As elsewhere stated, the full Report on the Crustacea of the Expedition is in course of preparation and will be illustrated by drawings of these and the other new species collected.

ORDO 2. ENTOMOSTRACA.

SUBORDO 1. GNATHOSTOMATA.*

Tribus I.—CRUSTACEA CYCLOPACEA (vel Copepoda).†

Familia I. CYCLOPIDÆ.

Oculi duo simplices tantum. *Palpi* mandibularum maxillarumque breves aut obsoleti. *Sacculi ovigeri* duo.

Genus I. CYCLOPS.—*Antennæ maris anticæ* subcheliformes aut articulo geniculante instructæ.

Sp. C. brasiliensis, curticaudus, pubescens, MacLeayi, vitiensis.

* See this Journal, 2nd Ser., i, 225.

† Cyclopaeorum membra sunt:—

Cephalothorax 4–7-articulatus. *Abdomen* 1–6-articulatum, carapace non tectum. *Frons* sæpissimè rostrata, rostro aut simplice, aut furcato, aut transversim emarginato, aut appendicibus instructo.

Oculi duo simplices, pigmento aut connati aut disjuncti; quoque in quibusdam oculi duo coaliti sub capite insistentes; aliis, oculi maximo lenticulo prolato et corneâ latè oblatâ constructi.

Antennæ anticæ 4–28-articulatæ, aut simplices, aut appendiculatæ; *posticæ* 2–5-articulatæ et sæpe ramum ferentes, aliis ad apicem setigeræ, aliis subcheliformes.

Mandibulæ ad apicem dentatæ, sæpius palpigeræ:—membra cephalothoracis ad normam quarta; itaque breviter denominata et. iv.

Macillæ duæ (et. v.) setosæ; sæpe palpigeræ, palpo sive parvulo et vix discernendo, sive setas diffusas ferente.

Maxillipedes (vel *Maxillæ*, et. vi.) duo, aliis parvi et parcius setigeri, aliis crassiores et valde setigeri.

Pedes anticæ (et. vii) duo simplices, aut obsolescentes aut elongati, aliis setigeri, aliis subcheliformes.

Pedes biremes decem (et. viii, ix, x, xi, xii); octo anteriores sæpius natatorii, sed duo anticæ interdum subprehensiles; duo posteriores plurimum obsoleti aut parvuli; in quibusdam masculinis pergrandes et uno ambove prehensiles.

Abdominis ad basin pertinentes sæpissimè *pedes spurii*, sive obsolescentes sive oblongi et setis armati; ad extremum, styli caudales duo, unusquisque 4–6 setis plerumque plumosis instructus.

Cephalothorace septem-articulato, ad segmentum primum antennæ quatuor pertinent; ad secundum, mandibula, maxillæ, et maxillipedes (et. iv, v, vi); ad tertium,

Familia II. HARPACTIDÆ.

Oculi duo simplices tantum. *Palpi* mandibulorum maxillarumque parvuli, aut obsoleti, setis diffusis non instructi. *Sacculus ovigerus* unicus. *Antennæ posticæ* setis habitu digitorum ad apicem instructæ.

Genus I.—HARPACTICUS. (*Milne Edwards.*)—*Frons* subrostrata, appendicibus nullis. *Antennæ anticæ maris* subcheliformes, aut articulo geniculante instructæ; *feminæ* basi 2-5 articulata et quasi flagello curto sæpius minutè 5-articulato compositæ, ad apicem basis appendicem brevem ferentes. *Cephalothorax* 4-articulatus. *Pedes antici* subcheliformes mediocres.

SYN.—Arpacticus, et Cyclopsina partim (*C. castor* excluso), *M. Edwards.*—*Nauplius*, *Philippi.*—*Canthocarpus*, *Westwood.*—*Doris*, *Koch.*—*Canthocarpus* et *Arpacticus*, non *Cyclopsina*, *Baird.*

Sp. *H. virescens*, *concinus*, *sacer*, *linearis*, *roseus*, *acutifrons*.

Genus II. CLYTEMNESTRA. (*Dana.*)—*Frons* subrostrata, appendicibus nullis. *Antennæ anticæ* flexiles; *maris*, non subcheliformes. *Pedes antici* (ct. vii,) permagni, subcheliformes.

Obs. Non *Arpacticus Bairdii*: *Cyclops chelifera* Arpacticis pertinet. Magnitudo pedum anticorum character genericum non bene validum, nisi pedes pergrandes, quoque pro antennis geniculatis in coitu usitati sunt; ideoque est *antennæ maris* *Clytemnestræ* non subcheliformes.

Sp. *C. scutellata*.

Genus III. SETELLA. (*Dana.*)—*Corpus* angustissimum fere lineare, anticè attenuatum et subacutum, et fronte appendices duas parvulas falciformes subtus gerens. *Antennæ anticæ* flexiles, appendice brevi instructæ, setis brevibus; *maris* non subcheliformes. *Pedes antici* (ct. vii) mediocres aut parvi. *Pedes proximè sequentes* lateraliter porrecti, ad apicem breviter setigeri. *Pedes abdominis* elongati et longè setigeri. *Setæ caudales* duæ longissimæ, (in speciebus scrutatis corpore valde longiores, spinulosæ, et strictè appressæ,) reliquæ brevissimæ. (Tubum cibarium sæpius lætè rubrum.)

Sp. *S. tenuicornis*, *longicauda*, *gracilis*, *crassicornis*, *aciculus*.

Familia III. CALANIDÆ.

Oculi simplices; etiam sæpe alii duo inferiores deorsum spectantes. *Pedes mandibulares maxillaresque* articulati et longè setigeri. *Sacculus oviger* unicus. *Antennæ anticæ* elongatæ, non appendiculatæ. *Antennæ posticæ* ad apicem setigeræ.

Genera notis sequentibus distinguenda:—

pedes quatuor antici (ct. vii, viii); (cephalo-thorace quadri-articulato, hæc tota adhuc enumerata ad segmentum anticum pertinent;) ad segmenta sequentia, singulatim, duo pedes biremes, (ct. ix, x, xi, xii).

Mandibula est articulus pedis mandibularis primus, et "palpus" articuli sequentes pedis reliqui.

Setæ antennarum plerumque valent ad species distinguendum, et præcipuè illæ articulorum ultimorum. Articulos 2, 3, aut 4, ultimum præcedentes, *subultimos* sæpe vocamus; et eorum setæ, *anteriores* et *posteriores*, scrutandæ et comparandæ.

Oculis inferioribus nullis.	Antennis anticis nec angulo flexis nec articulatione geniculatis.	Pedibus posticis (ct. xii.) non prehensilibus, sæpe obsoletis.	{	Pedibus anticis (ct. vii.) majoribus quam maxillipedes (ct. vi.), lateraliter porrectis, non geniculatis.	1. CALANUS.
			}	Pedibus anticis minoribus quam maxillipedes; maxillipedibus sub corpore geniculatis; abdomine longissimo.	2. SCRIBELLA.
			{	Pedibus posticis elongatis, subulatis, uno subprehensili; pedibus anticis duplo geniculatis, sub corpore gestis, ad apicem deflexis.	3. EUCHÆTA.
			}	Antennis anticis angulo levissimè flexis, nunquam articulatione geniculatis; pedibus posticis <i>maris</i> prehensilibus.	4. UNDINA.
	Antennâ <i>maris</i> anticâ dextrâ geniculante.		{	Maxillipedibus duplo geniculatis, inflexis, setis longis, nudis.	5. CANDACE.
		}	Max. rectis, setis longis, setulosis.	6. CYCLOPSINA.	

Oculis superioribus nullis, inferioribus grandibus; antennâ *maris* anticâ dextrâ geniculante; aliis *Calano* affinibus. 7. CATOPIA.

Oculis inferioribus et superioribus.	{	Antennâ <i>maris</i> anticâ dextrâ non geniculante, ambabus flexilibus, setis diffusis; pedibus posticis parvulis, uniaarticulatis.	8. ACARTIA.
		Antennâ <i>maris</i> anticâ dextrâ geniculante; setis non diffusis; pede postico dextro crasso, prehensili.	9. PONTELLA.

Genus I. CALANUS. (*Leach.*)—*Rostrum* furcatum. *Antennæ anticæ* sive leviter curvatæ sive rectæ, *maris* non geniculantes. *Pedes postici* (ct. xii.) obsolescentes, *maris* non prehensiles. *Pedes antici* (ct. vii.) elongati, latè porrecti, maxillipedibus (ct. vi.) majores, non geniculati. *Oculi inferiores* nulli. Cephalothorax 4-5-articulatus. *Rami antennarum posticarum* subæqui, ramo brevior ad apicem 3 setis instructo, in dorso setigero.*—Hab. in maribus Atlantico et Pacifico.

SYN.—Cyclops, *Müller.*—Calanus, *Leach.*—Cetochilus? *Roussel de Vauzime.*

Sp. C. rotundatus, comptus, nudus, magellanicus, crassus, furcicaudus, arcuicornis, turbinatus, stylifer, curtus, scutellatus, pavo, levis, medius, placidus, repticornis, setuligerus, pellucidus, affinis, flavipes, tenuicornis, sanguineus, mundus, inauritus, simplicicaudus, appressus, communis, amænus, bellus, gracilis, elongatus, attenuatus, rostrifrons, cornutus.

* Species optimè distinguendæ sunt:—

1. Per gustum antennarum anticarum; etiam per discrimina setarum, præcipuè apicalium et subapicalium; per longitudinem et numerum articularum:

2. Per structuram maxillipedum, et pedum anticorum:

3. Per pedes posticos thoracicos:

4. Per numerum segmentorum cephalothoracis, et characteres segmentorum antici posticique:

5. Per stylos caudales et eorum setas:

Articulatio cephalothoracis non character *generica*. Numerus segmentorum abdominis per ætatem variat, et vix valet *species* distinguere.

Genus II. SCRIBELLA. (*Dana.*)—*Antennæ anticae* elongatæ, pauci-articulatæ, longè setigeræ, setis diffusis, *maris* non geniculantes. *Antennæ posticæ* simplices (?). *Maxillipedes* (ct. vi.) maximi, pedibus proximis majores, 4-articulati, geniculati et prorsum flexi. *Oculi inferiores* nulli. *Cephalothorax* 4-5-articulatus, capite non discreto. *Abdomen* valde elongatum, cephalothorace non brevius. *Styli caudales* oblongi, divaricati. [Sæpius, e basi pedis biremis, seta grandis lateraliter porrecta.]—Hab. in maribus Atlantico et Pacifico.

SYN.—Scribella, *D.*, Amer. Jour. Sci., Ser. 2da, i, 227.

Sp. S. scriba, setiger, abbreviata.

Genus III. EUCHÆTA. (*Philippi.*)—*Frons* acuta. *Rostrum* transversim emarginatum. *Antennæ anticae* duplo leviter curvatæ, nunquam minimè angulo flexæ, *maris* non geniculantes. *Pedes maris postici* (ct. xii.) ambo valde elongati, subulati. *Pedes antici* (ct. vii.) maxillipedibus (ct. vi.) majores, duplo geniculati et sub corpore gesti, penecillum setarum nudarum reflexum ferentes. *Oculi inferiores* nulli. *Cephalothorax* 4-5-articulatus, capite non discreto.—Hab. in maribus Atlantico et Pacifico.

SYN.—Euchæta, *Philippi*, Archiv für Naturgeschichte, vol. ix, p. 55.—Euchirus, *Dana*, Amer. Jour. Sci., Ser. 2da, i, 228.

Sp. E. communis, concinna, pubescens, diadema.

Genus IV. UNDINA. (*Dana.*)—*Antennæ anticae* ante medium angulo leviter flexæ, ad apicem fronte posteriores, *maris* non geniculantes. *Pedes postici* (ct. xii.) *maris* grandes, dextro subcheliformi. *Pedes antici* (ct. vii.) elongati, maxillipedibus sæpe majores et valde porrecti, non geniculati. *Oculi inferiores* nulli. *Cephalothorax* 4-5-articulatus, capite non discreto.—Hab. in maribus Atlantico et Pacifico.

Sp. U. vulgaris, simplex, inornata.

Genus V. CANDACE. (*Dana.*)—*Frons* quadrata. *Oculi inferiores* obsoleti. *Antennæ anticae* regulariter et breviter setigeræ, transversæ; dextrâ *maris* articulatione geniculante. *Maxillipedes* (ct. vi.) pedibus proximis majores, duplo geniculantes et inflexi, 4-articulati, setis nudis, longis. *Pedes maris postici* dispares, dextro prehensili. *Abdomen* mediocre. *Styli caudales* breves, setis strictè appressis. [Animal sæpius partim nigrescens.]—Hab. in maribus Atlantico et Pacifico.

SYN.—Candace, *D.*, Amer. Jour. Sci., Ser. 2da, i, 228. 1846.

Sp. C. ornata, pachydactyla, ethiopica, curta, acuta, truncata.

Genus VI. CYCLOPSINA. (*Milne Edwards.*)—*Rostrum* furcatum. *Antennæ anticae* sive rectæ sive leviter curvatæ, *maris* dextrâ articulatione geniculante. *Maxillipedes* (ct. vi.) pedibus proximis majores, non geniculati, setis longis spinulosis instructi. *Oculi inferiores* nulli. *Cephalothorax* 4-7-articulatus, capite sæpe discreto. *Antennæ posticæ* iisdem *Calani* similes. *Pes maris posticus dexter* grandis et prehensilis. [Maxillipedes, et antennam *maris* anticam pedemque posticum dextrum, *Pontellæ* affinis; antennam posticam, oculos, et habitum, *Calano* similis. Si *oculi inferiores* adsunt, species *Pontellæ* pertinent.]—Hab. in maribus Atlantico et Pacifico.

SYN.—Cyclopsina (*C. castor*), *Milne Edwards*.—Cetochilus? *Roussel de Vauzème*.—Monoculus (*M. castor*), *Jurine*.—Cyclops (*C. castor*), *Desmarest*.—Dioptomus (*D. castor*), *Westwood*.—Non Cyclopsina *Bairdii*.

Sp. C. longicornis, calanina, tenuicornis, gracilis.

Genus VII. CATOPIA. (*Dana.*)—Antennas posticas et antennarum habitum anticarum *Calano* affinis. Antennam *maris* anticam dextram *Pontellæ* affinis. *Oculi* superiores nulli; oculus inferior unicus (?)—Hab. in mari Sinensi.

Sp. C. furcata.

Genus VIII. ACARTIA. (*Dana.*)—*Antennæ anticæ* rectiusculæ, flexiles, setis irregulariter diffusis, dextrâ *maris* non geniculante. *Maxillipedes* (ct. vi.) pedibus proximis majores, recti, setis setulosis longis instructi. *Pedes postici* (ct. xii.) parvuli, uni-articulati, 2 setas divaricatas gerentes. *Oculi* duo inferiores et duo superiores. *Setæ caudales* mediocres.—Hab. in maribus Atlantico et Pacifico.

Sp. A. limpida, negligens, tonsa, laxa.

Genus IX. PONTELLA.—*Rostrum* furcatum. *Oculi* duo superiores, pigmentis sive coalitis sive remotis; duo inferiores coaliti. *Antennæ anticæ* multiarticulatæ, setis non diffusis, antennâ dextrâ *maris* geniculante. *Cephalothorax* 4-7-articulatus, segmento cephalico sæpe discreto. *Maxillipedes* (ct. vi.) grandes, recti, setis longis, setulosis. *Pedes antici* (ct. vii.) minores. *Pes maris posticus* (ct. xii.) *dexter* crassus, prehensilis.—Hab. in maribus Atlantico et Pacifico.

SYN.—*Pontia*, *Milne Edwards*.—*Irenæus*, *Goodsir*.—*Broteas*, *Lovén*.

Sp. P. elliptica, brachiata, plumata, turgida, curta, contracta, media, crispata, detruncata, simplex, exigua, agilis, acutifrons, acuta, rubescens, emerita, regalis, perspicax, strenua, protensa, hebes, frivola, detonsa, argentea, speciosa, princeps, fera.

Familia IV. CORYCÆIDÆ.

Oculi duo grandes plus minusve remoti, lenticulis duobus prolatis maximis, et corneis oblatis instar conspicillorum, constructi; quoque duo oculi connati minutissimi. *Antennæ anticæ* pauci-articulatæ, simplicissimæ. *Antennæ posticæ* simplicissimæ. *Pedes mandibulares maxillaresque* brevissimi. *Sacculi ovigeri* duo.

Genus I. CORYCÆUS. (*Dana.*)—*Corpus* crassum, anticè rotundatum. *Conspicilla* fronte affixa. *Antennæ posticæ* pedibus anticis majores. *Pedes antici* sexu vix dissimiles digito subuncinato tenuique confecti. *Abdomen* pauci-articulatum, appendicibus basis nullis, stylis caudæ styliformibus.—Hab. in maribus Atlantico et Pacifico.

SYN.—*Corycæus*, *D.*, Proc. Acad. Nat. Sci. Philad., 1847; Am. Jour. Science, Ser. 2da, i, 228.

Sp. C. gracilis, decurtatus, deplumatus, varius, longistylis, obtusus, crassiusculus, laticeps, vitreus, agilis, orientalis, lautus, speciosus, remiger, latus, venustus, pellucidus, concinnus, productus, longicaudatus.

Genus II. ANTARIA. (*Dana.*)—*Corpus* crassum, antice rotundatum. *Conspicilla* fronte affixa. *Antennæ posticæ* parvæ, ad apicem breviter setigeræ, pedibus anticis (ct. vii.) non majores, carpo posticè angulato. *Pedes antici* sexu vix dissimiles (?), digito tenui subuncinato. *Abdomen* pauci-articulatum. [*Cephalothorax* postice obtusus.]—Hab. in maribus Atlantico et Sinensi.

Sp. A. crassimana, gracilis, obtusa.

* *Pontia* Papilionum generis vocabulum, itaque *Pontella* nobis scripsa.

Genus III. COPILIA. (*Dana.*)—*Corpus* depressum, fronte latè quadratum, et conspicilla ad angulos anticos gerens. *Antennæ posticæ* digitiformes, digito elongato, subulato. *Abdomen* pauci-articulatum, appendicibus ad basin nullis.—Hab. in mari Pacifico.

Sp. C. mirabilis, quadrata.

Genus IV. SAPPHIRINA. (*Thomson.*)—*Corpus* depressum. *Sexus* antennas posticas stylosque caudales similes, et abdomen pedesque anticos (ct. vii., vere maxillipedes,) dissimiles. *Antennæ posticæ* pediformes, digito tenui, 2-articulato, ad apicem unguiculato. *Abdomen* *feminæ* 5-6-articulatum, thorace subito angustius, appendices breves ad basin latere gerens; *maris* 4-5-articulatum, thorace subito non angustius, appendicibus nullis. *Pedes maris antici* digitum elongati, *feminæ* breves. *Styli* caudales laminati.—*Mares* sæpe latè opalini aut fulgidè metallini, interdum cærulei. *Feminæ* sæpius incoloratæ, plus minusve pellucidæ; interdum opacæ et azuleæ.—Hab. in maribus Atlantico et Pacifico.

Sp. S. iris, angusta, elongata, metallina, coruscans, inæqualis, ovata, splendens, ovalis, detonsa, indigotica, orientalis, ovato-lanceolata, gemma, bella, opalina, versicolor, tenella, obesa, obtusa.

Familia V. MIRACIDÆ.

Oculi duo conspicillis maximis constructi. *Antennæ posticæ* ad apicem setigeræ. *Pedes mandibulares maxillaresque* brevissimi. *Abdomen* *feminæ* (an *maris*?) 6-articulatum. *Sacculus origerus* unicus.

Genus MIRACIA. (*Dana.*)—*Corpus* elongatum, non depressum, ad frontem duas appendices falciformes subtus gerens. *Antennæ anticæ* appendiculatæ, flexiles et non geniculantes. *Pedes antici* (ct. vii.) mediocres, uni-unguiculati; *pedes* duo sequentes biremes, lateraliter porrecti. *Pedes abdominis* longè setigeri. *Setæ caudales* elongatæ.—*Setellæ* affinis, sed conspicilla oculorum diversæ.—Hab. in maribus Atlantico et Pacifico.

Sp. M. efferata, gracilis.

Tribus II. DAPHNIACEA (vel Cladocera).

Corpus testâ plerumque tectum, capite antennisque posticis sæpius exclusis. *Pedes* plures natatorii. *Antennæ anticæ* sæpe obsoletæ, raro elongatæ. *Oculus* compositus. [Membra tota cephalothoracis mandibularia, maxillaria, pediformiaque, numero 12-16.]

Familie sunt:—

1. PENILIDÆ.—*Pedes* duodecim. *Antennæ anticæ* obsolescentes.
2. DAPHNIDÆ.—*Pedes* decem. *Antennæ anticæ* sive obsoletæ sive uni-articulatæ.
3. BOSMINIDÆ.—*Pedes* decem. *Antennæ anticæ* elongatæ, multi-articulatæ.
4. POLYPHEMIDÆ.—*Pedes* octo. *Antennæ anticæ* obsolescentes.

Familia I. PENILIDÆ.

Genus PENILIA. (*D.*)—*Caput* discretum, longè rostratum. *Antennæ posticæ* grandes, ramis duobus 2-articulatis. *Abdomen* non inflexum, stylis duobus corneis confectum.—Hab. in maribus prope oras.

Sp. P. avirostris, orientalis.

Familia II. DAPHNIDÆ.

Genus I. DAPHNIA.—*Abdomen* inflexum. *Antennæ anticæ* obsolescentes. *Antennæ posticæ* birameæ, ramis 3-4-articulatis. *Intestina* non convoluta.—Hab. in stagnis.

Sp. D. *textilis*, *australiensis*, *macrura*.

Genus II. SIDA.—*Abdomen* rectum. *Antennæ anticæ* fere obsoletæ. *Antennæ posticæ* birameæ, uno ramorum 2-articulato. *Intestina* non convoluta.—Hab. in stagnis.

Sp. S. *angusta*.

Genus III. LYNCEUS.—*Abdomen* inflexum. *Intestina* convoluta. *Antennæ anticæ* fere obsoletæ. *Antennæ posticæ* parvæ.

Sp. L. *latifrons*.

Familia IV. POLYPHEMIDÆ.

Pedes octo. Oculus maximus.

Genus POLYPHEMUS.—*Caput* discretum magnum. *Antennæ* birameæ, validæ.—Hab. in mari.

Sp. P. *brevicaudis*.

Tribus III. CYPRIDACEA (vel Ostracoda).

Corpus testâ bivalvi omnino tectum, posticè incurvatum, capite antennisque nunquam exclusis. *Pedes* nulli biremes nec natatorii. *Oculi* vel simplices vel compositi. *Antennæ* quatuor. [Membra cephalothoracis mandibularia, maxillaria, pediformiaque numero decem.]

Genus I. CYPRIS. (*Müller.*)—*Testa* integra ad frontem nec perforata nec incisa. *Oculus* unicus. *Antennæ anticæ* setigeræ, subnatatoriæ. *Antennæ posticæ* subpediformes, setigeræ. *Pedes mandibulares* 3-5-articulati. *Maxillæ* quatuor, breves. *Pedes* quatuor, duo uncinis longè confecti, duo sequentes graciles, 4-5-articulati, ad ova pertinentes.—Hab. in stagnis.

Sp. C. *speciosa*, *albida*, *chilensis*, *pubescens*, *vitiensis*.

Genus II. CYPRIDINA. (*Milne Edwards.*)—*Testa* breviter rostrata corpus omnino tegens, et clausa. *Oculi* duo compositi, remoti. *Antennæ anticæ* setis paucis inæquis ad apicem instructæ, setis rectis, sæpe divaricantibus, vix natatoriis. *Antennæ posticæ* 5-7 articulis brevissimis longè et plumosè setigeris confectæ. *Pedes mandibulares* 5-articulati, digitiformes, apicem unguiculati. *Maxillæ* sex, breves, breviter setigeræ, paris secundi laminam ciliatam ad basin gerentes, setis longis, plumosis. *Pedes* duo, longissimè vermiformes, omnino flexiles, ad ova pertinentes, ad apicem setis spinulosis partim reversis armati. *Abdomen* spinulis biseriatis confectum.—Hab. in maribus Pacifico et Atlantico.

Sp. C. *luteola*, *punctata*, *olivacea*, *gibbosa*, *formosa*.

SYN. *Asterope*, *Philippi*.

Genus III. CONCHÆCIA. (*Dana.*)—*Testa* interdum breviter rostrata, corpus omnino tegens, fronte apertâ. *Oculi* simplices. *Antennæ anticæ* 3-4-articulatæ, apicem longè setigeræ. *Spiculum* inter antennas sarcosum, simplex, exsertile. *Antennæ posticæ* 5-7-articulatæ, articulis brevissimis longè setigeris confectæ, ramo altero brevi. *Pedes man-*

dibulares fermè 5-articulati, non unguiculati, apice articuli primi interno et sæpius basi secundi interno simul corneis (instar mandibulæ) et denticulatis. *Maxillæ* quatuor. *Pedes* quatuor, tenues. *Abdomen* spinulis biseriatis confectum.—Hab. in maribus Pacifico et Atlantico.

Sp. C. *agilis*, *rostrata*, *brevirostris*, *inflata*.

SUBORDO 2. CORMOSTOMATA.

Os rostriformis.—Tribus quatuor sequentes :—

I. MONSTRILLACEA.—Corpus elongatum (Cyclopiforme). *Maxillæ* pedesque antici obsoleti. *Pedes* postici octo natatorii.

II. CALIGACEA.—Corpus sæpius depressum. *Maxillæ* pedesque toti numero 12–14, octo pedes ultimi plerumque natatorii, plurimi testâ tecti.

III. LERNÆACEA.—Corpus depressum aut vermiforme. *Antennæ* pedesque partim obsoleti.

IV. NYMPHACEA.—Corpus breve, araneiforme, abdomine obsolescente.

Tribus I. MONSTRILLACEA.

Genus MONSTRILLA. (*Dana*).—*Cephalothorax* fere cylindricus, 4-articulatus. *Abdomen* 5–6-articulatum. *Antennæ* duæ. *Oculi* duo simplices; quoque oculus inferior sicut *Pontellis*. *Truncus buccalis* parvulus subconicus, maxillis pedibusve non munitus. *Pedes* octo, natatorii.—Hab. in mari "Sulu."

Sp. M. *viridis*.

Tribus II. CALIGACEA.

Familie quinque sequentes :—

1. ARGULIDÆ.—Corpus anticè latè peltatum. *Ovarium* externum nullum. *Pedes* antici largè tubulati, suctatorii.

2. CALIGIDÆ.—Corpus anticè latè peltatum. *Ovarium* externum tubiforme, rectum, ovis uniseriatis. *Pedes* quatuor antici subprehensiles. *Antennæ* posticæ carapace tectæ.

3. DICHELESTIDÆ.—Corpus depressum, valde angustum. *Antennæ* posticæ carapace non tectæ. *Ovarium* externum tubiforme, ovis uniseriatis.

4. ERGASILIDÆ.—*Corycæis* affines. Corpus vix depressum, plus minusve Cyclopiforme. *Antennæ* posticæ carapace non tectæ. *Ovarium* externum elongatum aut sacculiforme, ovis non uniseriatis.

5. NICOTHOIDÆ.—Corpus plerumque Cyclopiforme, sed e lateribus longissimè alatum. *Ovarium* externum sacculiforme, ovis non uniseriatis.

Familia II. CALIGIDÆ.

Subfamilie Caligidarum nobis sunt :—

1. CALIGINÆ.—*Truncus buccalis* subovatus, obtusus. *Maxilla* truncato buccali remotiusculæ, posticè aculeo-elongatæ. *Tubum ovigerum* externum rectum. Corpus anticè latius. (Genera sunt *Caligus*, *Lepeophtheirus*, *Chalimus*, *Caligeria*, *Calistes*.)

2. PANDARINÆ.—*Truncus buccalis* tenuis acuminatus. *Maxillæ* ad truncum buccalem appressæ, parvulæ, lamellatæ. *Tubum ovigerum* externum rectum. Corpus posticè interdum latius. (Genera sunt *Pandarus*, *Trebius*, *Nogagus*, *Specilligus*, *Dinematura*, *Phyllophora*, *Euryphora*, *Lepidopus*.)

3. CECROPINÆ.—Truncus buccalis tenuis, acuminatus. Maxillæ ad truncum buccalem appressæ. Tubum ovigerum externum sub testam convolutum. Corpus posticè latius. (Genera sunt *Cecrops*, *Lamargus*.)

Caligaceorum segmenta corporis auctoribus sæpe malè data. Segmentum *abdominis* anticum, ovarium externum gestans, *thoracis* posticum sæpe vocatum.* In Cyclopaeis Caligaceisque ovarium externum ad segmentum secundum abdominis *normalem* semper pertinet. His animalibus et Cyclopaeis Crustaceisque aliis comparatis, affinitates verè educuntur. Tabula sequens, membris ordine enumeratis, hæc comparisonem exhibet.

SEGMENTA.	ASTACUS.	LUCIFER.	CYCLOPS.	PONTELLA	CALIGUS.	PENILIA.	DAPHNIA.	CYPRIS.
1. <i>Cephalothoracis.</i>								
I.	Oculi	Oculi	00	00	00	00	00	00
II.	Ant. I.	Ant. I.	Ant. I.	Ant. I.	Ant. I.	Ant. I.	00	Ant. I.
III.	Ant. II.	Ant. II.	Ant. II.	Ant. II.	Ant. II.	Ant. II.	Ant. II.	Ant. II.
IV.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.	Mand.
V.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
VI.	Max.	Max.	Maxd.	Maxd.	P. verg.	P. nat.	P. nat.	Maxd.
VII.	Maxd.	Maxd.	P. preh.	P. preh.	P. preh.	P. nat.	P. nat.	P. verg.
VIII.	Maxd.	Maxd.	P. nat.	P. nat.	P. nat.	P. nat.	P. nat.	P. ovar.
IX.	Maxd.	P. subnat.	P. nat.	P. nat.	P. nat.	P. nat.	P. nat.	00
X.	P. chel.	P. subnat.	P. nat.	P. nat.	P. nat.	P. nat.	P. nat.	00
XI.	P. verg.	P. subnat.	P. nat.	P. nat.	P. nat.	P. nat.	00	00
XII.	P. verg.	P. subnat.	0 vel 00	P. genit.	00	00	00	00
XIII.	P. verg.	0	00	00	00	00	00	00
XIV.	P. verg.	0	00	00	00	00	00	00
2. <i>Abdominis.</i>								
I.	P. rud.	P. rud.	0 vel P. rud.	0 vel 00	0 vel 00	P. rud.	0 vel P. rud.	0 vel 00
II.	P. rud.	P. rud.	0	0	0	0	0	0
III.	P. rud.	P. rud.	0	0	0	0	0	0
IV.	P. rud.	P. rud.	0	0	0	0	0	0
V.	P. rud.	P. rud.	0	0	0	0	0	0
VI.	Ap. caud.	Ap. caud.	Ap. caud.	Ap. caud.	Ap. caud.	Ap. caud.	Ap. caud.	Ap. caud.
VII.	0	0	00	00	00	00	00	00

In hæc tabulâ abbreviationes sequentes:—

<i>Ant.</i>	Antennæ.	<i>P.</i>	Pedes.	<i>Preh.</i>	Prehensiles.
<i>Ap.</i>	Appendices.	<i>Chel.</i>	Cheliformes.	<i>Ovar.</i>	Ovariani vel ovarium.
<i>Mand.</i>	Mandibulæ.	<i>Verg.</i>	Vergiformes.	<i>Rud.</i>	Rudimentarii.
<i>Max.</i>	Maxillæ.	<i>Nat.</i>	Natatorii.	<i>Caud.</i>	Caudales.
<i>Maxd.</i>	Maxillipedes.	<i>Subnat.</i>	Subnatatorii.		

0. Membra segmenti obsoleta.

00.. Segmentum ejusque membra simul obsoleta.

Subfamilia 1. CALIGINÆ.

Genus I. CALIGUS.—*Cephalothorax* 2-articulatus; segmento antico latè peltato, fronte discis duobus suctatoriis plerumque instructâ; postico parvulo, non alato. *Oculi* simplices pigmento unico conjuncti. *Antennæ posticæ* prehensiles, et extus basin spinâ crassâ sæpius munitæ. *Pedes* duo antici vergiformes, bifidi;† duo proximi sequentes subprehensiles digito acuto confecti; sex sequentes natatorii; duo reliqui simplices, vergiformes. Venter furculâ parvulâ armatus. *Abdomen* 2-3-articulatum, appendicibus caudalibus sublamellatis, marginem setigeris. [Sexus antennas posticas, pedes paris secundi et formam abdominis, valde dissimiles.]

Sp. C. thymni, productus, gracilis, (*Lepeophtheirus*) bagri.

* Vide "*Hist. Nat. des Crustacés*, par M. Milne Edwards," iii, 445 et seq.

† Extremitas bifida articulo tertio et apice secundi elongato composita.

Genus II. CALISTES. (*Dana.*)—*Caligo* similis. *Cephalothorax* 2-articulatus, segmento postico non alato. *Pedes duo postici* biramei, subnatorii.

Trebio affinis, sed cephalothorax non 3-articulatus et maxillæ nec lamellares, nec ad truncum buccalem appressæ.

Sp. C. trigonis.

Genus III. CALIGERIA. (*Dana.*)—*Caligo* similis. *Cephalothorax* 2-articulatus, segmento postico bialato. *Pedes duo postici* biramei, setis brevibus, non natoriiis.

Sp. C. bella.

Subfamilia 2. PANDARINÆ.

Genus I. NOGAGUS. (*Leach.*)—*Cephalothorax* 4-articulatus, fronte arcuatâ, segmento secundo ad latera posticè producto, duobus sequentibus non alatis. *Abdomen* stylis brevibus sublamellatis setigerisque confectum. *Oculi* simplices, remotiusculi: (an quoque oculus subtilissimus intermedius?). *Pedes* paris secundi crassè cheliformes; pedes natorii octo, grandes.

Sp. N. validus.

Genus II. SPECILLIGUS. (*Dana.*)—*Nogago* segmenta cephalothoracis pedesque affinis. *Oculi* duo remotiusculi, et *conspicillis grandibus* instructi, eisque Sapphirinæ similes.

Sp. S. curticaudus.

Genus III. PANDARUS. (*Leach.*)—*Cephalothorax* 4-articulatus, carapace grandi, segmentis sequentibus transversis, secundo ad latera alatè producto, tertio quartoque posticè alatis, et bilobatis. *Abdomen* 2-3-articulatum, segmento ultimo tecto, secundo posticè rotundato et utrinque stylis caudalibus sæpius munito. *Pedes* paris secundi crassè cheliformes; natorii octo, setis brevissimis. *Oculi* duo, remotiusculi. *Styli caudales* styliformes, acuti, subnudi.

Sp. P. concinnus, satyrus, brevicaudus.

Genus IV. DINEMATURA. (*Latreille.*)—*Cephalothorax* 3-articulatus, segmento secundo parvo, testâ tertii dorsali posticè valde expansâ et profundè bilobatâ, eoque elythroideâ. *Abdomen* 2-articulatum, carapace paulo angustius, oblongum, segmento antico maximo, posticè bilobato, postico parvulo, celato. *Styli caudales* lamellati, terminales.

Sp. D. braccata.

Genus V. LEPIDOPUS. (*Dana.*)—*Corpus* anticè non latius. *Cephalothorax* 3-articulatus, carapace minore quam abdomen, segmentis duobus sequentibus posticè largè bialatis. *Abdomen* 2-articulatum, segmento postico parvulo, celato, antico maximo et posticè bilobato. *Antennæ posticæ* articulo tenui falciformi confectæ. *Pedes paris secundi superficie terminali latâ prehensili squamatâ instructi. Pedes natorii* quatuor ultimi similes, latè lamellati.

Sp. L. armatus.

Tribus IV. NYMPHACEA.

Genus ASTRIDIUM. (*Dana.*)—*Pycnogono* affinis. *Caput* duobus maxillipedibus subtus instructum parvulis, debilibus, ad apicem obtusis, non prehensilibus. *Pedes* octo unguiculo confecti. *Abdomen* perbreve.

Sp. A. orientale.

the carbonate of lime previously noticed, when the solution of this phosphate met with the silicates of potash or soda, whilst percolating amid the rocks, the silicates would be decomposed by the carbonic acid, and the phosphate of lime thrown down. We should expect,—in the same manner as carbonate of lime often replaces the original matter of a shell which has been decomposed and removed from the body of a rock, leaving those cavities commonly termed casts,—that phosphate of lime, in localities where from accidental circumstances it was somewhat abundantly filtering through rocks, would also enter these and other cavities, filling them under the needful conditions of deposit. In like manner as we find carbonate of lime separating itself from mud and silt in which it was disseminated, forming the nodules so common in calcareo-argillaceous deposits, should we also expect disseminated phosphate of lime to do the same under fitting conditions; so that it would not necessarily follow, however true in numerous cases, that nodules containing much phosphate of lime were coprolitic. We can readily imagine circumstances very favorable for the solution and spread of these phosphates amid layers of mud and silt. We find such phosphates surrounding some fossils, such as crustaceans from the London clay, leading us to infer a connexion between the animal matter and this substance.

8. *Arkose*, (Bib. Univ., March, 1848.)—The arkose of the Vosges, according to Delesse, is a metamorphic quartzite, consisting essentially of hyaline quartz and crystals of orthose (feldspar.)

III. ZOOLOGY.

1. *Conspectus Crustaceorum, &c.*, Conspectus of the Crustacea of the Exploring Expedition; by J. D. DANA,—continued.

CRUSTACEA ISOPODA.

Appendices abdominales, duobus posticis exceptis, plerumque branchiiformes, stylis caudalibus duobus aut nullis. Pedes thoracis 6 antici ad eandem seriem pertinent, 8 postici ad seriem alteram,* exceptionibus raris (in *Isopodis brachiatis*.)

I ISOPODA BRACHIATA.

Pedes seriei posticæ sex.†—Species Amphipodis affines (præcipuè Dulichiis); habitum Caprelloideæ; sæpius algas, corallinas, etc. a pedibus sex posticis affixæ cum corpore arrecto.

Familia 1. ARCTURIDÆ. (Idotæoideæ.)

Pedes sex postici inter sese unguiculati similes.—Abdomen pauciararticulatum, laminis operculiformibus infra opertum (sicut Idotæis), stylis caudalibus carens.

* Amphipodis (etiam Isopodis rarissimis) series antica octo pedes, et sex postica; quoque, styli caudales sex, et alii appendices abdominales *natatorii*. Hæc discrimina optima et non negligenda.

† Hæc caractere species illæ aliis Isopodis remotæ et Amphipoda osculant.

Genus 1. *LEACHIA*,* *Johnston*.—Pedes 8 antici ciliati, non unguiculati. Antennæ superiores perbreves, 4 articulatae; inferiores longæ, pediformes, ungue 1-3 articulo confectæ. Segmentum thoracis quartum prælongum.

LEACHIA NODOSA.—Corpus tuberculatum. Segmentum thoracis quartum valde elongatum anticè latius et utrinque cuspidatum. Abdomen 2-articulatum, segmento primo transverso, secundo oblongo, prope apicem latiore, posticè rotundato, prope basin utrinque emarginato. Antennæ superiores tenues, articulis duobus inferiorum primis parce longiores; inferiores pediformes, 6-articulatae, fere corporis longitudine, articulo quinto brevioribus quam quartus, sexto (ultimo) brevi, unguiformi, fere recto, infra parce setuloso.—Long. 6'''.

Hab. prope insulas Mangsee in freto Balabac.

Familia 2. *TANAIDÆ*.

Pedes 2 antici, manu validâ instructi, reliqui unguiculati, mediocres, sex posticis inter sese similibus. Abdomen 5-6-articulatum, appendicibus decem subnatoriis, stylis caudalibus articulatis.

Genus 1. *TANAIS*, *Edwards*.—Corpus lineare. Caput perbreve. Segmentum thoracis primum oblongum. Antennæ quatuor, breviusculæ, superiores flagello non confectæ. Abdomen 5-6-articulatum. Pedes antici breves, crassè cheliformes.

1. *TANAIS BRASILIENSIS*.—Pedes antici crassi, manu ad basin paulo angustiore, pollice non crassiore quam digitus. Antennæ primæ paulo majores, corpore quadruplo breviores, 5-articulatae; secundæ 6-articulatae, articulis duobus basalibus paulo crassioribus. Abdomen 6-articulatum, posticè rotundatum et medio apiculatum, segmentis subæquis, ultimo non majore, ad apicem apiculato. Styli caudales 6-articulati. Segmentum thoracis septimum sexto brevius.

Hab. in portu Rio de Janeiro.

2. *TANAIS ELONGATUS*.—Gracilior. Pedes antici crassi, manu ad basin non angustiore, pollice crassiore quam digitus intus angulato et setam gerente. Antennæ primæ 4-articulatae; secundæ 4-articulatae, paulo breviores. Abdomen pubescens, 6-articulatum, posticè rotundatum, segmento ultimo majore, semicirculari. Styli caudales biramei ramo longiore 2-articulato, altero 1-articulato. Segmenta thoracis quatuor postica subæqua, fere quadrata.

Hab. in mari Sulu.

Genus 2. *LEPTOCHELIA*, *Dana*.—*Tanai* similis. Pedes antici longissimi, tenuissimi, manu valde elongatâ. Antennæ superiores longæ, flagello confectæ. Abdomen 6-articulatum, stylis caudalibus articulatis.

LEPTOCHELIA MINUTA.—Corpus lineare. Pedes antici corpore valde longiores, manu fere corporis longitudine, digito polliceque tenuissimis, incurvatis, nudis, pollice prope apicem intus dentigero. Antennæ superiores corpore paulo longiores, basi elongato, 4-articulato, articulo secundo longiore, flagello 6-7-articulato, vix longiore quam articulus basalis secundus.

Hab. prope insulas "Viti" in mari Pacifico.

* *Arcturo*, antennis inferioribus flagello non confectis et segmento thoracis quarto prælongo, differt.

II. ISOPODA AMBULATORIA.*

Pedes seriei posticæ octo in his et totis Isopodis normalibus. Membra buccalia nullo modo suctoria. Abdominis appendices sexti sive operculiformes sive styliformes, nunquam ad natandum apti.

Familia 1. IDOTÆIDÆ.

Abdomen pauci-articulatum, articulo ultimo maximo, laminis duobus operculiformibus infra opertum, stylis caudalibus carens. Mandibulæ non palpigeræ.

Subfamilia 1. IDOTÆINÆ.

Pedes toti subsimiles, plerumque ambulatorii.

Genus IDOTÆA, *Fabricius*.—Segmenta thoracis subæqua. Antennæ externæ (vel inferiores) valde longiores, non geniculatæ, flagello multiarticulato confectæ. Abdominis opercula simplicissima, prope apicem articulati. Pedes quarti tertiique non valde inæqui.

1. IDOTÆA ARGENTEA.—Angusto-subelliptica anticè truncata vel obsoletè excavata, superficie æqua et lævis. Epimeræ latiusculæ. Abdomen 3-articulatum, segmentis duobus transversis, tertio oblongo, ad apicem paulo angustiore et truncato-rotundato, prope basin utrinque suturâ notato. Antennæ internæ dimidio basis externarum vix longiores. Antennæ externæ fere dimidii corporis longitudine, flagello 7-articulato, breviorè quam basis, articulis 2 ultimis minutis.—Long. 5^{'''}. Argentea et ad latera cærulescens.

Hab. in mare Pacifico, lat. aust. 77°, long. occid. 109°, super Porpitam.

2. IDOTÆA ANNULATA.—Angusto-subelliptica, fronte truncata, obsoletè arcuata, superficie annulatâ segmentis prominulis. Epimeræ latiusculæ. Abdomen 3-articulatum, segmentis duobus transversis, tertio oblongo, lateribus fere parallelis, ad apicem truncato cum angulis rotundatis, prope basin suturâ utrinque notato. Antennæ internæ dimidio basis externarum non longiores. Antennæ externæ fermè dimidii corporis longitudine, flagello breviorè quam basis, 7-articulato, articulis 2 ultimis non breviores.—Long. 9^{'''}. Brunnescens.

Hab. in mare Antarctica.

3. IDOTÆA BREVICAUDA.—Angustè ovato-elliptica, anticè posticèque truncata et medio minutè apiculata. Caput transversum, posticè segmento proximo amplexum. Abdomen 3-articulatum, segmentis duobus breviter transversis, tertio oblongo, posticè paulo angustiore, angulis rotundatis, prope basin suturâ notato. Antennæ internæ dimidio basis externarum non longiores. Antennæ externæ dimidium corporis longitudine vix superantes, articulo secundo brevi et ad apicem externum producto, flagello 9-10-articulato, paulo longiore quam basis.—Long. 6^{'''}—9^{'''}. Brunnescens.

Hab. in portu "Rio de Janeiro."

Genus EPELYS, *Dana*.—Antennæ breves subæquæ, externæ non geniculatæ, flagello non confectæ. Pedes subæqui, quarti tertiique non valde inæqui. Oculi minuti, remoti.

* "Isopodes Marcheurs," Edwardsii, *Arcturo*, *Leachiâ*, *Tanai* et affinibus exclusis.

EPELYS ANNULATUS.—Angusto-subelliptica. Caput transversum, mediâ fronte apiculatâ, angulis rotundatis. Segmenta thoracis transversa, subæqua, prominentia. Abdomen 2-articulatum; segmento primo brevissimo, fere obsoleto, valde angustiore quam secundum; secundo scutellato, posticè triangulato, obtuso, lateribus mediis fere parallelis. Antennæ breves, latitudine capitis non longiores; internæ parce breviores, 4-articulatæ; externæ 5-articulatæ.—Long. $2\frac{1}{2}'''$.

Hab. ad oras prope Valparaiso, super corpus speciei Asterias.

Genus **CLEANTIS**, *Dana*.—Antennæ externæ valde longiores, non geniculatæ, 5–6-articulatæ, flagello non confectæ. Pedes quarti paris tertiis valde breviores, et parium quatuor ultimorum sensim longitudine increscentes. Abdominis opercula prope apicem articulata et ad articulationem laminam parvulam internam gerentia.

CLEANTIS LINEARIS.—Angusto-linearis, fronte truncata et parce excavata. Caput paulo transversum, posticè profundè arcuatum, segmento proximo amplexum. Oculi mediocres, reniformes, remoti. Segmenta thoracis paulo transversa. Abdomen 3-articulatum, segmentis duobus transversis, tertio lineari, angulis posticis truncatis, apice truncato aut obsoletè excavato, prope basin suturâ notato. Antennæ internæ parvulæ, dimidio externarum valde breviores; externæ crassiusculæ, articulo ultimo ovato, pubescente. Pedes tertii primis duplo longiores.

Hab. ad oras prope Rio Negro Patagoniæ.

Genus **ERICHSONIA**, *Dana*.—Antennæ externæ valde longiores, geniculatæ, 6-articulatæ, flagello nullo. Pedes subæqui, similes.

ERICHSONIA ANGULATA.—Elongato-elliptica. Caput et segmenta thoracis ad margines angulata, transversa. Frons excavata, duobis tuberculis supra armata. Segmenta thoracis quatuor antica tuberculum medianum gerentia. Oculi laterales. Abdomen uni-articulatum, oblongum, subscutellatum, margines sinuosum, posticè paulo latius, deinde triangulatum, obtusum. Antennæ internæ fere quadruplo breviores, 4-articulatæ; externæ clavatæ, dimidio corporis longiores, 5–6-articulatæ, articulis tribus ultimis subæquis, penultimo brevioribus, ultimo obtuso clavato breviter hirsuto. Pedis articulus basalis crassus et tuberculatus.

Hab. in portu Rio de Janeiro.

Subfamilia 2. CHÆTILINÆ.

Pedes sexti longissimi, setiformes et multiarticulati, non unguiculati; septimi fere similes.

Genus **CHÆTILIA**, *Dana*.—Antennæ primæ super secundas insitæ; superiores longiores; inferiores flagello multiarticulato confectæ. Pedes septimi sextis valde breviores, non unguiculati, parce multiarticulati. Abdominis opercula prope apicem articulata et ad articulationem lamellam parvulam internam gerentia.

CHÆTILIA OVATA.—Ovata, posticè acuminata. Thorax 7-articulatus, segmento septimo parvulo et partim celato, sexto utrinque acuto. Abdomen 4-articulatum, tribus segmentis transversis, quarto angusto-triangulato, ad apicem subacuto et ciliato. Antennæ lateraliter reflexæ; superiores fere dimidii corporis longitudine, 5-articulatæ, articulis duobus perbrevis et crassis, tribus reliquis tenuibus, longis, ultimo extus subtiliter setuloso. Antennæ inferiores valde breviores, flagello fermè 10-articulato, articulis basis duobus ultimis anticè setulosis, posticè

pubescentibus. Pedes sexti corpore fere duplo longiores, minutè multiarticulati. Pedes septimi perbreves.—Long. 9'''.

Hab. in mari prope Rio Negro Patagoniæ.

New Haven, October, 1849.

2. *Gammaracea*.—The following recent genus is not included in the Synopsis of Gammaracea given in this volume, p. 135.

“EPHIPPHORA, White, (*Phil. Mag.*, [3], i, 226, 1848.)—Head rather large; antennæ distant from each other, the upper pair with the basal joints very thick and corneous, inserted in a deep notch in front of head; two setæ at the end of each, the outer the thicker. Lower pair of antennæ with the basal joint somewhat elongated and furnished with hairs.

“Body much compressed, the lateral appendages on the first eight joints very large, and nearly concealing the legs; the appendage of the fourth joint much dilated behind at the end; eighth to eleventh joints slightly keeled on the back; appendages of the three last joints of the abdomen longish, with short spines on the edge behind.

“A genus allied to *Orchestia* and *Talitrus*.

“Sp. *Ephippora Kröyeri*.” * * * *

The description is hardly full enough to decide whether the genus is related most closely to the *Orchestidæ* or *Gammaridæ*. The large size of the basal joint of the upper antennæ, together with the large epimerals appear to show that it belongs with the *Callianassinæ*; and it may be identical with one of the genera in which the superior antennæ are appendiculate.

J. D. DANA.

IV. ASTRONOMY.

1. *Elements of the planet Hygeia*, (*Comptes Rendus*, July 2, 1849.)—M. GASPARIS, of Naples, who discovered this planet April 12, 1849, has furnished the following elements of its orbit, derived from the observations of April 29, May 7 and 16, 1849.

Epoch, May 1, 1849.

Mean Anomaly,	326° 34' 22''·44
Longitude of perihelion,	242 47 3 44
“ “ node,	285 32 29 72
Inclination,	3 46 51 27
Log. <i>a</i> ,	0·5192506
Log. <i>c</i> ,	9·2478343
Mean daily motion,	590''·3784

2. *Second Comet of 1849*, (*Comptes Rendus*, May 14, 1849.)—The telescopic comet discovered April 11, 1849, by Geo. P. Bond of the Cambridge (Mass.) Observatory, (vii, 449) was detected the same night by M. Schweizer of Moscow. From the observations of April 14, 20 and 24, M. Sonntag has computed the following parabolic elements:

Perihelion passage, 1849, June	8·20514 Berl. m. t.
Longitude of perihelion,	267° 7' 6''
“ “ asc. node,	30 32 36
Inclination,	66 54 5
Perihelion distance,	0·89391
Motion,	Direct.

These elements agree quite well with those of the second comet of 1748.