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INDEX TO VOLUME VI.

- Abell, John, deposit in museum, lxiv.
 Abert, Col. J. J., don. to lib., xxviii., xxxii., lxxiii.
 Acad. C. L. C. Nat. Curiosorum, don. to lib. xiv., xlix., lix., lxxvi.
 Acad. Nationale des Sci. &c. de Lyon, don. to lib. lxix.
 Adams, Prof. C. B., don. to lib., xxxvi., xlvi.
 Agardh, J. G., don. to lib., xlv.
 Agassiz, Prof., communication from, in relation to *Cambarus Gambelii*, 375.
 Agnew, Rev. Wm. G., don. to mus. lxxv.
 Albany Institute, don. to lib., lvi.
 American Academy of Arts and Sci., don. to lib., lxix.
 American Philosophical Society, don. to lib., ix., xxv., lxxvi.
 American Pomolog. Society, don. to lib., xlix.
 Anatomical Collection of the late Dr. S. G. Morton, presented by members and others, lxiv.
 Annals of Science, don. of by Editor, lxv, lxvi, lxix, lxxi, lxxii, lxxiii, lxxviii.
 Andrews, Israel D., don. to lib., lxxvi.
 Ashmead, Chas. C., don. to mus., xxxv. lix.
 Ashmead, Samuel, don. to mus., xvi., xxxv., xlv., lxxii. Remarks on a collection of Marine Algæ, 147.
 Audubon and Bachman, description of a new American Fox, 114.
 descriptions of new species, 300;
 Descriptions of some new Fishes from the River Zuni, 368; Description of new species of Fishes, collected by Mr. John H. Clark, on the U. S and Mexican Boundary Commission, 387; Description of new species of Fishes, collected by Capts. Marcy and McClellan in Arkansas, 396.
 Bache, Prof. F., don. to lib., lxxviii.
 Bailey, Prof. J. W., (see Harvey.)
 Barry, Rev. A. C., don. to mus., lxviii.
 Bathygnathus borealis, lower jaw of, presented by Dr. Leidy, Mr. Lea and W. S. Vaux, lxxiv.
 Bischoff, Dr. G. G., don. to lib., xxxviii.
 Blagge, Benj., don. to mus., xlv.
 Bland, Thomas, don. to lib., xlv.
 Boston Soc. of Nat. History, don. to lib. by, ii., vi., xi., xiv., xvii., xxviii., xxxiii., xlix., lvi., lviii., lxvii., lxx.
 Botto, G. D., don. to lib., ii.
 Boué, Dr. Ami, don. to lib., lxxvii.
 Brasier, A. J., don. to lib., lxvii.
 Bridges, Dr. R., don. to lib., xiv.
 Brown, F., Jr., don. to mus., lxiv.
 Browne, Peter A., don. to lib., xxii.
 Budd, Dr. C. H., don. to mus., viii., xvi. xvii.
 Burt, Dr., U. S. N., don. to mus., i., viii., xvi., xvii., xxvii., xxxii.; don. to lib., xxii.; on the influence of Sulphuretted Hydrogen arising from the Bay of Callao on Fishes in its waters, i.
 Butler, Pierce, don. to mus., liii.
 By-Laws, amendments to, 375, 403.
 Baird, Prof. S. F., note in reference to *Vulpes Utah*, 124.
 Baird, Prof. and C. Girard, on the characters of some new Reptiles in the Museum of the Smithsonian Institution, 68, 125, 173; Descriptions of new species of Reptiles, collected by the U. S. Expl. Exp., Capt. Wilkes, 174, 420; List of Reptiles collected in California by Dr. J. Le Conte, with
 Carson, Prof. Jos., don. to lib., xiv. l.
 Carter, Dr. Charles, don. to mus., lxiv.
 Cassin, John, don. to mus., i.; remarks on the Birds from the Arctic regions, presented by Dr. Kane, 107; announcement of Dr. Heermann's return from California, 147; Description of new species of Birds in the collection of the Acad. Nat. Sci., 184;

- Catalogue of Halcyonidæ, 188; Remarks on a new species of Scalops from Oregon, 242; Catalogue of Hirundinidæ in Collection of Acad. Nat. Sci., 369; Description of new species of Hirundinidæ and Psittacidæ, in Collection of A. N. S., 369; Synopsis of Falconidæ of America north of Mexico, 450.
- Charleston Med. Journal and Review, don. of, by Editors, vii., xiv., xxx., xxxviii., l., lviii., lxvii., lxx., lxxii., lxxviii.
- Clapp, Dr. A., don. to lib., lxv.
- Clay, Jos. A., don. to mus., lxiv.
- Coates, Dr. B. H., don. to mus., vii.; correction of an error in Dr. Smyth's work on the Unity of the Human Races, 191.
- Cole, Mrs., don. to lib., lxxviii.
- Committee on Proceedings, Report by, 219.
- Committee on Mammalogy, Report by, 220.
- Committee to communicate with Com. Perry, in relation to making collections in India, by the U. S. Japan Exp., 55.
- Committee on the purchase of Dr. Morton's Anatomical collection, 304.
- Committee on the occasion of the decease of J. Price Wetherill, 376.
- Committees, Standing, for 1852, 30; for 1853, 239.
- Committees on Scientific Papers: By Dr. Wetherill; Examination of Molybdate of Lead, from Phoenixville, Penna., 52 and 117; Chemical Investigation of the Honey Ant, 107; on the food of the Queen Bee, 117; on Mr. Sumner's Analyses of the Cotton Plant and Seed, as communicated by Dr. Wetherill, 195: By Mr. Lea; description of a new species of Symphynote Unio, 52; description of a fossil Saurian, from the New Red Sandstone of Penna., 72; on some new fossil Molluscs in the Carboniferous Slates of Penna., 72; Description of a new species of Eschara, 106; Notice of the Mya nodulosa Wood, 325: By Col. G. A. McCall: description of a new species of Carpodacus, 56: By Dr. Woodhouse; Description of new species of Vireo and Zonotrichia, 56; Description of a new species of Lepus, 72; of a new species of Ectopistes, 72; Description of a new species of Sciurus, 106; description of a new species of Numenius, 192; new species of Geomys and Perognathus, 195; new species of Struthus, 196; a new species of Dipodomys, 224; a new species of Hesperomys, 240: By Dr. Leconte; Remarks on Coleoptera from Arkansas and New Mexico, 58; Synopsis of the Anthicites of the United States, 71; Synopsis of the species of Pterosticus, 107; on the Coccinellidæ of the U. S., and on a new species of Trombidium, 124; notice of fossil Dicotyles from Missouri, and on some fossil Pachyderms from Illinois, 1; Hints towards a natural classification of the family Histriini, 34; Synopsis of the Parnidæ of the U. S., 34; Synopsis of the Eucnemidæ of temperate N. America, 34; Description of a new species of Sciurus, 147; Catalogue of Melyridæ of the U. S., 147; Synopsis of the Scydmanidæ of the U. S., 148; Synopsis of the genus Geomys Raf., 148; description of 20 new species of Coleoptera of the U. S., 223; Synopsis of the Silphales of America north of Mexico, and Synopsis of the Scaphidilia of the U. S., 240; Synopsis of the species of Abreus inhabiting the U. S., 241; Synopsis of the Meloïdes of the U. S., and Synopsis of the Endomychidæ, Rhipiceridæ and Cyphonidæ of the U. S., 323; Description of new Coleoptera from Texas, 438: By C. Girard: Observations on N. American Astaci, 58; descriptions of new Nemerterans and Planarians from the coast of Carolina, 325; Observations on the American species of Esox, and note on a nest constructed by Catfishes, 377; Researches upon Nemerterans and Planarians, 434: By Prof. Baird and C. Girard; On new Reptiles in the Museum of the Smithsonian Institution, 59, 117 and 148; description of new Reptiles collected by U. S. Expl. Exp., Capt. Wilkes, 171; description of new species of Reptiles from California, collected by Dr. Le Conte, 241; description of new fishes from the River Zuni, 326; description of Fishes collected in Arkansas by Capts. Marcy and McClelland, and descriptions of Fishes collected by Mr. Clarke on the U. S. and Mexican Boundary Survey, 379: By Dr. Hallowell; on new species of Reptiles from Western Africa, 58; descriptions of new Reptiles from Oregon, 172; on some new Reptiles inhabiting North

- America, 172; on a new genus and two new species of Reptiles inhabiting N. America, 195; on a new genus and new species of African Serpents, 198; on new Reptiles from California, 225: By Prof. Dana; Crustacea of Expl. Exp., 59: By Dr. Leidy; on the Osteology of the head of the Hippopotamus, &c., 59; description of *Bathynathus borealis*, 438. By Dr. Owen; notice of a Mineral from California, 72: By Dr. Genth, on some minerals which accompany Gold from California, 107; on Rhodophyllite, 118; on a probably new element with Iridosmene and Platinum from California, 198; on a new variety of gray Copper, and on Owenite, a new mineral, 241: By the Rev. Mr. Longstreth; on the impregnation of the eggs of the Queen Bee, 34: By Mr. Cassin; Catalogue of Halcyonidæ, in the Collection of the Acad. Nat. Sci., 172; on new species of Birds in the Collection of the Academy, 172; description of a new species of Scalops from Oregon, 241; Catalogue of Hirundinidæ in the Collection of the Acad. Nat. Sci., and on new species of Swallows and Parrots in same collection, 326; Synopsis of the Falconidæ of America north of Mexico, 439: By Mr. Tuomey; descriptions of fossil shells from the Tertiary of the Southern States, 192: By Dr. Heermann; Notes on the Birds of California, 195; Catalogue of the Oological Collection of the Acad. Nat. Sci., 241: By Mr. Conrad; description of new fossil shells of the United States, and remarks on the Tertiary Strata of St. Domingo and of Vicksburg, Miss., 196; Notes on Shells and descriptions of new species, 197; Synopsis of the N. American Naiades, 240; description of a new species of *Unio*, 315, and monograph of the genus *Fulgur*, 315; Monograph of the genus *Argonauta*, and synopsis of the genus *Cassidula*, and description of a new genus *Athleta*, 438; omissions and corrections to Synopsis of North American Naiades, 438: By Dr. Hoy; descriptions of Owls from Wisconsin, 197; Notes on the Ornithology of Wisconsin, 240: By Major Le Conte; on the Vines of N. America, 395; description of a new species of *Pacane nut*, 395; description of three new species of *Arvicola*, &c., 403; Observations on *Crotalus durissus* and *C. adamanteus*, 404: By Dr. F. Greene; on the chemical investigation of the remains of fossil Mammalia, 241: By the Rev. Mr. Berkeley and Rev. M. A. Curtis; on the Exotic Fungi from the Schweinitz Herbarium in the Acad. Nat. Sci., 242: By Lieut. Maury; Observations on Atmospheric Pressure, 304: By Prof. Haldeman; description of new species of Insects, 325: By Dr. M. C. Read; Notes on the Birds of northern Ohio, 395: By Professors Harvey and Bailey; Description of new species of Diatomaceæ, collected by U. S. Exploring Exp., Capt. Wilkes, 430: By Dr. S. Weir Mitchell; On the influence of the Respiration on the Pulse, 435.
- Conrad, T. A., don. to mus., xvii., xlv. Remarks on the Tertiary Strata of St. Domingo, and of Vicksburg, Miss., 198; Notes on Shells, 199, 320; Synopsis of the Naiades of North America, 243; Monograph of the genus *Fulgur*, 316; Synopsis of the genus *Cassidula* and of a proposed new genus *Athleta*, 448; Omissions and corrections to Synopsis of N. A. Naiades, 449.
- Correspondents elected.—
- Antisell, Dr. Thos., New York, 171.
 Barry, Rev. A. C., Wisconsin, 403.
 Dalton, Dr. H. G., Demerara, 124.
 Daniel, Dr. Wm. F., Africa, 146.
 De Candolle, Prof. Alphonse, Geneva, 324.
 Ford, Dr. H. A., Africa, 56.
 Foster, J. W., New York, 50.
 Fox, Rev. Charles, Michigan, 403.
 Hartlaub, Dr. G., Bremen, 315.
 Hartmann, Dr. Wm. D., Westchester, Pa., 373.
 Hoy, Dr. Philo R., Wisconsin, 403.
 Kennedy, Dr. H. W., Buenos Ayres, 195.
 Le Conte, Prof. John, Georgia, 458.
 Lynch, Commander Wm. F., U. S. N., 146.
 Maury, Lieut. M. F., U. S. N., 239.
 Marsh, Dexter, Mass., 146.
 Newberry, Dr. J. S., Ohio, 403.
 Perley, M. H., St. John's, N. B., 171.
 Porter, Rev. Thos. G., Penna., 394.
 Potter, Rt. Rev. Alonzo, Penna. 171.
 Schaum, Dr. H., Berlin, 315.
 Smith, J. Broome, California, 195.
 Wagner, Prof. A., Munich, 315.
 Webber, Dr. Samuel, N. H., 30.

- Whitney, J. D., New York, 50.
 Cotting, Dr. B. E., don. to lib., xlviii.
 Costa, Achille, don. to lib., lxxviii.
 Cramér, Charles, don. to mus., lxi.
 Creot, Alfred, don. to mus., lxxii.
 Curators, Report of, for 1852, 218; for 1853, 456.
 Curtis, Rev. M. A., don. to mus., xvii., don. to lib., v.
 Cuttle, John, don. to mus., i.
- Dalton, Dr. H. G., don. to mus., xvii.
 Dana, Prof. J. D., *Conspectus of the Crustacea of the Exploring Expedition*, Capt. Wilkes, 73.
 Daniel, Dr. Wm. F., don. to lib., xviii.
 Darlington, Dr. Wm., don. to lib., lxxv.
 Daubree, Wm. A., don. to lib., xxiv.
 Dawson, J. W., don. to mus., lxxiv., don. to lib., lxxviii.
 De la Berge, M., don. to mus., xxxv.
 Delafield, Dr. E., don. to lib., lii.
 Dowler, Dr. B., don. to lib., xxx. lxxix.
 Durand, Elias, don. to lib., lii.
- Ecole des Mines, don. by, of *Annales des Mines*, ix., xxxi., lv., lxxix., lxxxii.
 Edwards, Amory, don. to mus., vii.
 Edwards, Mr., don. to mus., liii., lviii., lxxviii.
 Elwyn, Dr. A. L., don. to lib. xiii.; deposit in lib. xxxvi.
 Engelmann, Dr. Geo., don. to mus. xlv., lxxiv.
 Eschricht, Dr. D. E., don. to lib. lxxvi.
- Fahnestock, G. W., don. to mus. xxxvi., xlv., liii.
 Faraday, M., don. to lib. xv.
 Fisher, Dr. J. C., remarks on the aurora borealis 51; don. to lib. vi.
 Fisher, Thomas, don. to mus. i., xvii, xlv.; don. to lib. lxxiii.
 Flourens, M., don. to lib. lxxviii.
 Ford, Dr. H. A., don. to mus. i., lxxviii.; on the characteristics of the *Trogodytes gorilla*, 30.
 Foster, J. W., don. to lib. l.
 Frazer, Prof., don. to lib. lxxii.
- Gambel, Mrs., letter from, presenting the MSS. of the late Dr. Gambel, of his last overland journey to California, 439.
 Geological Society of London, don. to lib., ii., xiv., xxiii., xxiv., liv, lxxvii., lxxix., lxxxv.
 Geological Society of Germany, don. to lib., lxxvi., lxxvii.
 Genth, Dr. F. A., don. to mus. xvii.; on some minerals which accompany gold in California, 113; on Strontiano-calcite, 114; on Rhodophyllite, 121; on some salts of Cobalt and Ammonia, 147; on a probably new element with Iridosmine and Platinum from California, 209; on a new variety of Gray Copper, 296; on Owenite, 297.
 Germain, L. J., don. to mus. lxxii.
 Gibbes, Dr. R. W., don. to mus. lxxiv.; don. to lib. lxxii.; letter from, presenting an aboriginal cranium from South Carolina, 433.
 Gibbons, Dr., don. to mus. lix.
 Gilliams, H., don. to mus. viii.
 Gilliams, J., don. to mus. xxxvi.
 Gillou, Constant, don. to mus., liii.
 Girard, Charles, don. to lib., vi., xxx., lxxii.; *Revision of the North American Astaci*, 87; description of New Nemerteans and Planarians from the Carolina Coast, 365; observations on a species of *Rana*, and of *Bufo*, from Oregon, 378; description of a supposed new species of *Salmo*, 380; remarks on Professor Agassiz' commutation on *Cambarus Gabbellii*, &c., 380; on the American species of *Esox*, 386; on a nest constructed by Catfishes, 387.
 Gistel, Dr. J., don. to lib. xxx.
 Graham, Col. J. D., don. to lib. lvi.
 Grant, Wm., don. to mus. xvii.
 Greene, Dr. F. V., *Chemical investigation of the remains of fossil Mammalia*, 292.
 Gries, Wm., don. to lib. xxiii.
 Grube, Prof. E., don. to lib. lxxv.
- Haidinger, Wm., don. to lib. xlv., xlvi.
 Haldeman, Prof. S. S., don. to mus. xxvii., xxviii., lxiv., lxxviii.; don. to lib. xxiii.; remarks on some albino specimens of *Tamias Lysteri*, 198; description of new species of insects, 361; proposition to change *Meloc parvus* to *M. parvulus*, 404.
 Hollowell, Dr. E., don. to mus. lxxii.,

- lxxiv.; on new reptiles from Western Africa, 62; on some new reptiles inhabiting N. America, 177; on new species of reptiles from Oregon, 182; on a new genus and new species of African Serpents, 203; on a new genus and new species of reptiles inhabiting N. America, 206; on some new reptiles from California, 236.
- Hanley, M., don. to mus. viii.
- Harris, Edward, don. to mus. xvii.
- Harris, Mr., don. to mus. viii.
- Hartmann, Dr. Wm. D., don. to mus. i., viii., xxvii.; don. to lib. lxii.
- Harvey, Profs. W. H., & J. W. Bailey, on new species of Diatomaceæ, collected by the U. S. Exploring Expedition, Capt. Wilkes, 430.
- Hayes, Dr. Isaac, remarks on a tooth of the fossil Tapir, 53; don. to mus. i., vii., lxviii.
- Henderson, Dr. A., don. to mus. i., viii.
- Heermann, Dr. A. L., don. to mus., xxviii., xxxv., xxxvi., xliv., liii., lviii., lxiv.; Catalogue of the Oological Collection of the Acad. Nat. Sci., 313.
- Henry, Dr. T. Charlton, don. to mus., viii.
- Hiester, Dr., don. to mus. xvi.
- Hildreth, Dr. S. P., don. to lib., lxxvi.
- Historical Society of Penna., don. to lib., lxxiii.
- Histoire Nat., &c., de l'Île de Cuba, don. of by members, xi., lxxxiii.
- Holmes, Prof. F. S., don. to mus., xxxvi., circular from 124.
- Hoopes, B. H., don. to mus., xliv.
- Hooper, John, don. to lib., xiii.
- Hopkins, Wm., don. to lib., xxiv.
- Horsfield, Dr. Thomas, don. to lib., xxviii., lvi.
- Hoy, Dr. Philo R., description of new Owls, from Wisconsin, 210; Notes on the Ornithology of Wisconsin, 304, 381, 425.
- Imperial Geological Institute of Vienna, don. to lib., lxx., lxxvii.
- Jackson, Dr. Charles T., don. to lib., iii., l.
- Jackson, Dr. J. B. S., don. to lib., lxix.
- Janney, Dr. A., don. to mus., xvi.
- Jessup A., don. to mus., xvi., lix., lxiv.
- Journal of the Indian Archipelago and Eastern Asia, don. of by editors, vii., xv., xxiv., xxxii., xxxvi., xlv., lviii., lxviii., lxix., lxxv.
- Kane, Dr. E. K., don. to mus., xvii., liii., lxviii., don. to lib., lxviii., lxxviii.; announcement by, of a new Amer. Arctic Expedition, in search of Sir John Franklin, 196.
- Keefer, T. C., don. to lib., lix.
- Kennedy, Dr. H. W., don. to mus., xxxvi., don. to lib., xl., xlii., xliv.
- Kern, E. L., don. to mus., viii.
- Kern, R. H., don. to mus., vii., xxvii.
- Kilvington, Robert, don. to mus., viii., xvii., xxvii.
- King, Dr. A. T., don. to mus., lxiv.
- Kirtland, Dr. J. P., don. to mus., xxvii., lxviii.
- Kneeland, Dr. S., Jr., don. to lib., lx.
- Krider, John, don. to mus., i., xviii., xxvii., lix., lxviii., lxxv.
- Lambert, John, don. to mus., viii.
- Langstroth, Rev. L. L., don. to lib., lxix.; on the Honey Ant, of Mexico, 71; on the impregnation of the eggs of the Queen Bee, 49.
- Latham, R. T., don. to lib., liii.
- Latour, M. Huguet, don. to lib., liii., liv., lv., lviii., lxi., lxiv.
- Lawrence, Geo. N., don. to mus. viii.
- Lea, Isaac, don. to mus., viii., xvii., lxxv., don. to lib., vi., ix., xxii.; on *Dipsas plicatus* Leach, 53; periodicity of the family Unionidæ, 54; description of a new species of *Symphynote unio*, 54; definition of the term "Species," 57; on some impressions of human feet in sandstone, from Illinois, 106; on some shells from the Drift, near Philadelphia, 106; description of a new species of *Eschara*, 109; notice of *Mya nodulosa*, 368; on the *Castalia sulcata* Krauss, and other *Naiades*, 376; on the *Mulleria Ferussac*, *Acostæa D'Orbigny*, 435; on a specimen of *Gneiss* bored by *Pholas dactylus*, 438.
- Lea, L., don. to lib., xviii.
- Leasure, Dr. D., don. to lib.; xviii.
- Le Conte, Prof. J., don. to lib., lxxvi.
- Le Conte, Major John, don. to mus., viii., xvii., xxvii., liii., don. to lib., lvi.; enumeration of the Vines of N. America, 269; remarks on a specimen of *Dipsas plicatus* containing artificial pearls, 326; description of a new species of *Pacane Nut*, 402; description of nine new species of *Arvicola*, with remarks on other North American Rodents, 404; observations

- on the so-called *Crotalus durissus*, and *C. adamanteus* of authors, 415.
- Le Conte, Dr. John L., don. to mus., i., vii., viii., xvi., xxvii., xliv.; don. to lib., lxvi.; on some fossil *Suiline Pachyderms*, from Illinois, 3; notice of a fossil *Dicotyles*, from Missouri, 5; on the difference between primordial and introduced races, 35; on a natural classification of the *Histrini*, 36; synopsis of the *Parnidæ* of the United States, 41; synopsis of the *Eucnemides* of temperate N. America, 45; remarks on a new locality for *Casteroides Ohioensis*, 53; on some fossil *Pachyderms*, from Illinois, 56; on some *Coleoptera*, from Missouri and New Mexico, collected by Dr. Woodhouse, 65; synopsis of the *Anthicites* of the United States, 91; on the *Coccinellidæ* of the U. States, 129; description of a new species of *Trombidium*, 145; description of a new species of *Sciurus*, 149; synopsis of the *Scydmanidæ* of the United States, 149; attempt at a synopsis of the genus *Geomys* Raf., 157; Catalogue of the *Melyrides* of the United States, 163; remarks on the genus *Dipodomys*, 224; on the Mexican Ant, 225; descriptions of twenty new species of *Coleoptera* inhabiting the United States, 226; synopsis of the *Silphales* of America, north of Mexico, 274; synopsis of the species of *Abraeus* inhabiting the U. States, 287; remarks on the specimens of *Scalops* in the collection of the Academy, 326; synopsis of the *Meloides* of the U. States, 328; synopsis of the *Atopidæ* *Rhipiceridæ* and *Cyphonidæ* of the United States, 350; synopsis of the *Endomychidæ* of the United States, 357; description of new *Coleoptera* from Texas, collected by the Mexican Boundary Commission, 439.
- Leidy, Dr. Joseph, don. to mus., xxvii., lxviii.; don. to lib., v., xviii., xxviii., liv., lv., lix., lxii., lxvii.; remarks on a fossil vertebra, from Ouachita, La., 52; osteology of the *Hippopotamus*, 52, 53; on the fossil *Tortoises*, from Nebraska, 59; on "Red Snow," from the Arctic regions, 59; on two crania of extinct species of *Ox*, 71; on the Honey Ant, of Mexico, 72; reference to a fossil tooth of a *Tapir*, 106; remarks on the fossil *Ox*, 117; remarks on the fossil *Edentata* of N. America, 117; remarks on some fossil teeth of *Rhinoceros*, from Nebraska, 2; on a fossil *Turtle*, from Nebraska, 34; remarks on a fossil *Delphinus*, from the Miocene of Virginia, and a fossil *Crocodylean* reptile, from New Jersey, 35; remarks on *Tapirus Haysii*, 148; remarks on various fossil teeth, 241; on some fossil fragments from *Natchez*, Miss., 303; observations on remains of extinct *Cetacea*, from the green sand of New Jersey, and from South Carolina and Virginia, 377; remarks on a collection of fossil *Mammalia* and *Chelonia*, from the *Mauvaises Terres* of Nebraska, 392; remarks on a fragment of a jaw of an extinct *Saurian*, from Prince Edward's Island, 404; character explained of nodular bodies found in the tails and fins of fishes, from Cold Pond, N. H., 433.
- Le Gal, E., don. to lib., xiv.
- Lepsius, Dr. R., don. to lib., xxxi.
- Letters from Individuals—
- Adams, Com., U. S. N., 71.
- Bache, Prof. A. D., 105.
- Baird, Prof. S. F., 438.
- Barry, Rev. C., 433.
- Bischoff, Dr. G. G., 147.
- Blanding, Dr. Wm., 240.
- Boué, Dr. M., 435.
- Boyd, Lieut., U. S., 125.
- Chambers, Dr. R. C., 241.
- Costa, Sig. Achille, 325.
- Cresson, Prof. J. C., 323.
- Curtis, Rev. M. A., 105.
- Daniel, Dr. Wm. F., 71.
- Davis, J. Barnard, 395.
- Dawson, J. W., 325.
- Ducachet, Rev. Dr., 71.
- Dunglison, Dr. R., 240.
- Durand, E., 191.
- Edwards, Amory, 52.
- Ehrlich, Prof., 125.
- Espinoza, Signor Juan, 324.
- Fahnestock, G. W., 147.
- Ford, Dr. H. A., 375.
- Fox, Rev. Charles, 433.
- Frazer, Prof. J. F., 223.
- Gibbes, Dr. R. W., 403.
- Gilman, Charles, 438.
- Gibbons, Dr. H., 304.
- Gistel, Dr. J., 117.
- Grube, Prof. E., 433.
- Haidinger, Wm., 189.
- Hamilton, James M., 378.
- Hartlaub, Dr. G., 325.
- Hoy, Dr. Philo R., 404.
- Kane, Hon. J. K., 438.

- Kennedy, Hon. J. P., 223.
 Kennedy, Dr. H. W., 196.
 Kirkbride, Dr. T., 172.
 Kirtland, Prof. J. P., 117.
 Lapham, J. P., 223.
 Laporte, M., Sr., 125.
 Lawson, Thomas, U. S. A., 51.
 Lea, Isaac, 325.
 Lepsius, Prof., 118.
 Marsh, Dexter, 195.
 Maury, Lieut. U. S. N., 304.
 Marston, Com'r. U. S. N., 433.
 McCluney, Capt. U. S. N., 59.
 Merrick, S. V., 378.
 Miller, Jacob S., 304.
 Moore, Wm. E., 433.
 Ord, George, 1.
 Paine, Dr. Martyn, 172.
 Peale, T. R., 1.
 Perry, Commodore, U. S. N., 58.
 Prescott, Wm. H., 58.
 Potter, Rt. Rev. Alonzo, 196.
 Ravenel, H. W., 323.
 Retzius, Prof. A., 71.
 Sheafer, P. W., 323.
 Shumard, Dr. B. F., 1.
 Troschel, Dr. F. H., 56.
 Tschudi, Dr. J. J., 434.
 Wagner, Dr. 433.
 Webber, Dr. Samuel, 51, 433.
 Wood, Richard D., 375.
 Letters from Societies, &c.—
 Acad. C. L. C. Nat. Curiosorum, 192,
 240, 303, 433.
 Acad. of Sciences, Belles Lettres,
 &c., of Lyons, 375.
 Advocates' Library, Edinburgh, 195.
 Agricultural Soc. of Lyons, 375.
 Albany Institute, 240.
 Amer. Acad. of Arts and Sciences,
 107, 325.
 Amer. Philosoph. Soc., 1, 51, 117,
 147, 240, 323, 326, 395, 433.
 Asiatic Soc. of Bengal, 189.
 British Museum, 53, 105, 189.
 Ecole des Mines, 303.
 Faculty of Harvard University, 53.
 Geological Soc. of London, 34, 107,
 223.
 Geolog. Soc. of Germany, 403.
 Historical Soc. of Penna., 315, 404,
 435.
 Imperial Geolog. Institute of Vienna,
 323, 435.
 Leeds Literary & Philosoph. Society,
 172.
 Linnean Soc. of London, 51, 124.
 Linnean Soc. of Lyons, 375.
 Lyceum of Nat. History of N. York,
 58, 316, 403.
 Manchester Library & Museum, 172.
 Naturwissen. Verein in Hamburg,
 172.
 Naturwissen. Verein in Halle, 195.
 New York State Library, 1, 34, 72,
 107, 147, 172, 196, 240, 323, 325,
 395, 403.
 Royal Acad. of Sci. of Brussels, 59,
 324.
 Royal Acad. of Sci. of Naples, 56,
 325.
 Royal Acad. of Sci. of Stockholm,
 34, 303, 435.
 Royal Acad. of Sci. of Vienna, 56,
 189, 323, 433, 435.
 Royal Acad. of Sci. of Amsterdam,
 303, 381.
 Royal Bavarian Academy, 379, 433,
 437.
 Royal Asiatic Soc. of London, 240.
 Royal Geograph. Soc. of London, 241.
 Royal Geograph. Institute of Vienna,
 435.
 Royal Mineralog. Society of St. Pe-
 tersburg, 403.
 Royal Soc. of Sciences of Liege, 172.
 Smithsonian Institution, 51, 71, 107,
 225, 303, 323, 434.
 Theological Society of London, 172.
 Troy, (N. Y.) Young Men's Associa-
 tion, 303.
 Wurtemberg Soc. of Sciences, 324,
 433.
 Zoological and Botanical Soc. of Vi-
 enna, 437.
 Le Vaillant, Gen., don. to mus., xxxv.
 Lewis, Dr. F. W., don. to mus., lviii.
 Lewis, Dr. Samuel, don. to mus., xlv.
 Librarian, Report of for 1852, 216; for
 1853, 455.
 Linnean Society of London, don. to lib.,
 xxxiii., lxxvi.
 Linnean Soc. of Lyons, don. to lib.,
 lxix.
 Lyceum of Nat. History of New York,
 don. to lib., xxxii., xxxvi., lxvii.,
 lxx., lxxiii.
 Lyell, Sir Charles, don. to lib., xxxix.
 Lynch, Commander W. F., don. to lib.,
 xxxii.
 Mantell, Gideon A., don. to lib., xxxii.
 Marston, Capt., U. S. N., don. to mus.,
 lxxiv.
 Maury, Lieut. M. F., observations on
 atmospheric pressure, 313.
 Maximilian, Prince de Wied, don. to
 lib., xiii., lxix.

- McAndrew, Mr., don. to mus., viii., xxxv.
- McCall, Col. G. A., don. to mus., xlv., lxiv.; on *Carpodacus familiaris*, &c., 61.
- McEuen, Dr. Thomas, announcement by, of decease of J. Price Wetherill, 376.
- Mears, James, don. to mus., lxiv.
- Meigs, Dr. C. D., don. to mus., xvi., lxiv.; don. to lib., lxx.; remarks on the structure of the uterus of the Porpoise, 316.
- Members elected:—
- Agnew, Wm. G. E., 324.
- Allen, J. M., M. D., 70.
- Ashhurst, Lewis R., 324.
- Benton, Dr. Charles C., 322.
- Biddle, Henry J., 146.
- Biddle, Dr. John B., 458.
- Biddle, Thomas, 324.
- Bischoff, Dr. G., 124.
- Boller, Henry J., 70.
- Booth, Prof. J. C., 171.
- Brown, David S., 324.
- Brown, John A., 324.
- Brown, Joseph D., 324.
- Budd, Dr. C. H., 56.
- Buckley, Edward S., 105.
- Bullitt, John C., 376.
- Camac, Dr. Wm., 70.
- Claghorn, James L., 124.
- Collet, Dr. M. W., 171.
- Collins, Percival, 403.
- Corse, Dr. James M., 195.
- Cresson, Prof. J. C., 322.
- Da Costa, Dr. J., 50.
- Draper, Edmund, 324.
- Dunglison, Dr. R., 239.
- Durand, Elias, 70.
- Ducachet, Rev. Dr., 70.
- Edwards, Amory, 56.
- Emerson, Dr. G., 394.
- Fahnestock, G. W., 146.
- Farnum, John, 324.
- Fisher, Charles Henry, 324.
- Fisher, J. Francis, 324.
- Gardette, Dr. E. B., 324.
- Genth, Dr. F. A., 70.
- Graff, Frederick, 324.
- Greene, Dr. F. A., 171.
- Grigg, John, 324.
- Griffith, R. E., 171.
- Hallowell, Morris L., 324.
- Hanson, H. Cooper, 302.
- Hewson, Dr. Addinell, 239.
- Hopkinson, Dr. Joseph, 50.
- Hutchinson, J. Pemberton, 324.
- Jeanes, Joseph, 324.
- Keim, George M., 124.
- Lang, Dr. Edmund, 322.
- Lea, Joseph, 116.
- Lea, Thomas T., 324.
- Lesley, Peter, 373.
- Lewis, A. J., 324.
- Lippincott, Joshua B., 373.
- Logan, Dr. J. Dickinson, 315.
- Meigs, Dr. J. Aitken, 70.
- Meigs, Dr. J. F., 70.
- Mercer, Singleton A., 324.
- Merrick, Samuel V., 324.
- Meyers, John B., 324.
- Mitchell, Dr. S. Weir, 403.
- Morris, Jacob G., 70.
- Page, Dr. Wm. B., 322.
- Pepper, Henry, 324.
- Phillips, Dr. Dinwiddie B., 188.
- Platt, William, 324.
- Price, Richard, 324.
- Remington, Thomas P., 324.
- Sanderson, Edward F., 403.
- Schaffirt, F., 315.
- Seal, Thomas F., 105.
- Sequard, Dr. E. Brown, 146.
- Sharpless, Caspar W., 30.
- Sheafer, P. W., 315.
- Struthers, William, 50.
- Swift, Joseph, 324.
- Taggart, Dr. Wm. H., 322.
- Tingley, Dr. H., 116.
- Trautwine, J. C., 70.
- Welsh, William, 324.
- Whelen, Edward S., 373.
- Wood, Richard D., 324.
- Wythes, Rev. Joseph H., 437.
- Yeager, George, 70.
- Merrick, John, don. to lib., xi.; don. to mus., lxxiv.
- Mitchell, Dr. J. K., don. to lib., ii.
- Mitchell, Dr. S. Weir, on the influence of some states of Respiration on the Pulse, 435.
- Moore, Isaac W., don. to mus., viii.
- Morris, Miss M., don. to mus., lxxviii.
- Morton, Mrs. Dr., don. to mus., i.
- Morton, Dr. T. G., don. to lib., lxxi.
- Naturwissenschaftliche Verein in Hamburg, don. to lib., xlii.
- Naturwissen. Verein in Halle, don. to lib., i.
- Newcomb, Dr. W., don. to lib., lxxviii.
- Norris, O. A., don. to mus., lxxiv.
- Officers for 1853, 221; do. for 1854, 458.
- Oliver, Dr. Geo. P., don. to mus., xlv.

- Owen, Dr. D. D., don. to mus., xxvii., xliv.; don. to lib., liv.; remarks on human foot prints in limestone, 106; notice of a new mineral from California, 108; remarks on Fusilina limestone and Tutenmergel, 118; remarks on his geological map of Wisconsin, Iowa and Minnesota, 189; communication in relation to his description of a supposed new Earth, 379.
- Ord, George, don. to lib., ix., xix., xxii., xxviii., lix., lxiv.
- Page, Geo. W., don. to mus., lxiv.
- Paine, Dr. Martyn, don. to lib., xl.
- Pearsall, Robert, don. to mus., vii.
- Peirce, Jacob, reference to a Hybrid between the Peacock and Guinea Fowl, 50.
- Penna. Farm Journal, don. of, by Editors, ii., ix., xi., xiv.
- Perley, M. H., don. to lib., xxxiii.
- Peterson, R. E., don. to mus., xxviii.
- Phillips, John, don. to mus., viii., lxxv.
- Piddington, Henry, don. to lib., lix.
- Powel, Samuel, don. to mus., vii., xxxvi., lxxiv.
- Prescott, Wm. H., don. to lib., xiv.
- Proceedings, Committee on, Report by, 219.
- Publication Committee, Reports by, 28, 238; announcement by, of publication of Part 2, Vol. 2, new series of Journal, 29; do. of Part 3, 225; don. to lib., vi.
- Quetelet, M. A., don. to lib., xv.
- Rand, Dr. B. H., don. to mus., xxvii., lxiv., lxviii.; don. to lib., lv., lxvii.
- Ravenel, H. W., don. to mus., lxviii.; don. to lib., lxvi.
- Read, Dr. M. C., Catalogue of the Birds of Northern Ohio, 395.
- Recording Secretary, Report of for 1851, 28; do. for 1852, 214; do. for 1853, 453.
- Regents of the University of State of New York; don. to lib., lxi., lxix., lxx.
- Reports of Committees: on Dr. Leidy's paper on the Hippopotamus, 70; on Mr. Lea's description of a fossil Saurian from the new Red Sandstone of Penna., and on some new fossil Molluscs, &c., 105; on Dr. Le Conte's Synopsis of genus *Pterostichus*, 116; on Dr. Owen's description of a new Mineral and a new Earth, 3; on Dr. Heermann's notices of California Birds, 197; on a paper by the Rev. Drs. Berkeley and Curtis, on the Exotic Fungi from the Schweinitzian Herbarium, 302; on Mr. Conrad's description of a new species of *Unio*, 316; on Mr. Girard's "Researches on Nemerteans and Planarians, 435; on Dr. Leidy's description of *Bathynathus borealis*, 448; on Mr. Conrad's Monograph of *Argonauta*, &c., 448.
- Report of Committee appointed to confer with Dr. Kane on the subject of his proposed American Arctic Expedition, 196.
- Report of Committee appointed to collect subscriptions for enlarging the Hall, 238.
- Report of Committee appointed to procure funds for the purchase of the Anatomical Collection of the late Dr. S. G. Morton, 321.
- Resolutions; to present a copy of the Proceedings to Dr. H. A. Ford, of Liberia, 55; to appoint a committee to communicate with Com. Perry in relation to making collections in India by the U. S. Expedition, 55; of thanks to Major Le Conte for his Herbarium of N. A. Plants, 58; inviting the State Medical Society to visit the Museum, 105; giving to subscribers of \$100, and upwards, to the fund for enlarging the Hall, the right during life to visit the collections and give orders of admission to Museum, 28; directing the income from the Stott legacy to be applied to the Journal fund, 30; in reference to Dr. Ruschenberger's "Notice of the Academy," 33; appointing a Committee to confer with Dr. Kane in relation to his proposed Arctic Expedition, 196; urging upon Congress an appropriation for the geological survey of Oregon and the Mauvaises Terres of Nebraska, 239; directing a special meeting of the Academy to consider the expediency of erecting a new Hall, 321; in relation to latter, 323; of thanks to Chas. Henry Fisher and Thos. Biddle, 325; of thanks to W. S. Vaux, Dr. C. D. Meigs and John Cooke, 324; in reference to the decease of J. Price Wetherill, 376; granting the privilege

- of endorsing tickets of admission to Museum to Mrs. Maria K. Wetherill, 457.
- Retzius, Prof. A., don. to lib., xix.
- Richardson, Dr. John, don. to lib., xix.
- Riddell, Dr. J. L., don. to lib., xxxii.
- Roberts, Percival, don. to mus., viii.
- Robinson, John, don. to mus., xxvii.
- Robinson, Ludlow, don. to mus., xxviii.
- Royal Acad. of Sciences of Brussels, don. to lib., xv., lxvi.
- Royal Acad. of Sci. of Liege, don. to lib., lxxvii.
- Royal Acad. of Sci. of Madrid, don. to lib., lxx.
- Royal Acad. of Sci. of Stockholm, don. to lib., lix.
- Royal Acad. of Sci. of Vienna, don. to lib., xiii., xlv.
- Royal Bavarian Academy, don. to lib., lxix., lxxi., lxxvi.
- Royal Mineralog. Soc. of St. Petersburg, lxxiii.
- Royal Saxon Soc. of Sciences, don. to lib., lxxvii.
- Royal Soc. of Edinburgh, don. to lib., vi., lxxv.
- Ruschenberger, Dr. W. S., "Notice of the Acad. Nat. Sci. of Philada.," read by, 33; don. to mus., i., xlv., liii., lxx.
- Say, Mrs. Lucy W., don. to mus., xxvii.
- Saussure, H. F. de, don. to lib., lvi.
- Senseny, Dr., don. to mus., xlv.
- Sergeant, J. D., don. to mus., viii., xlv.
- Sharpless, Dr., don. to mus., i.
- Sheafer, P. W.; don. to lib., xlii.
- Shumard, Dr., don. to mus., xxxvi.
- Silliman's Journal, don. of, by Editors, ii., ix., xviii., xxviii., xxxvi., xlv., liii., lx., lxiv., lxix., lxxii., lxxvi., xxxvi.
- Smith, Aubrey H., don. to mus., xvii., xxxvi.
- Smith, Charles E., don. to mus., xxxv., don. to lib., xviii., xlvi., lxiii.
- Smithsonian Institution, don. to mus., lxxiv.; don. to lib., xxviii., lvi., lix., lxii., lxviii., lxix.
- Société d'Agriculture du Bas-Canada, don. to lib., vii., ix., xiv., xxii., xxviii., xxxii., xxxix., liii.
- Society of Arts, &c., of London, don. to lib., lxiii., lxv., lxvii., lxix., lxx., lxxvi., lxxviii., lxxx.
- Société de Physique et d'Hist. Nat. de Genève, don. to lib., xlvi.
- Société des Sciences de Neufchatel, don. to lib., lxvi.
- Société Nat. des Sciences de Lille, don. to lib., xxxii.
- Société Nationale d'Agriculture, &c., de Lyon, don. to lib.; lxix.
- Societa Reale Borbonica Academia delle Scienze, don. to lib., lxvii.
- Société Royale des Sciences de Liege, don. to lib., xlii.
- Spackman, Dr. Geo., don. to mus., xxxv.
- Squier, E. Geo. don. to lib., xlvi.
- Stansbury, Capt. Howard, don. to lib., xxxiv.
- Stewardson, Dr. T., don. to mus., xvii.
- Storer, Dr. D. H., don. to lib., lxvi.
- Strickland, H. E., don. to lib., xxiv., xxxviii., xlix.
- Struthers, Wm., don. to mus., xvii.
- Taylor, J., don. to mus., liii.
- Thomas, Dr. R. P., don. to mus., lxxii.
- Trautwine, J. C., don. to mus., xlv.
- Troschel, Dr. F. H., don. to lib., xiv., lxvi.
- Trustees of New York State Library, don. to lib., xxiii., lxi.
- Tschudi, Dr. J. J., don. to lib., lxxvii.
- Tuomey, M., description of fossil shells from the Tertiary of the Southern States, 192.
- Turnbull, Dr. L., don. to lib., xlv.
- Updegraff, Dr. J. J., don. to mus., vii.
- U. S. Departments, don. to mus., xxxv., lx., lxxiii., lxxviii.; don. to lib., xxii., xxviii.
- Vaux, William S., don. to mus., xxxvi., lxviii.
- Verreaux, M. Jules, don. to mus., viii., xxxv.
- Virginia Med. and Surg. Journal, don. of, by Editors, lxvii., lxix., lxxi., lxxii., lxxiii., lxxviii.
- Warren, Dr. J. C., don., to mus., lxxv.
- Watmough, J. H., U. S. N., don. to mus., xxxvi.
- Watson, J. G., don. to mus., xvi.
- Watson, Dr. G., don. to mus., xxvii., liii., lix., lxviii., lxxv.
- Watson, Lieut., U. S. N., don. to mus., lix.

January 13th.

Vice-President WETHERILL in the Chair.

Dr. Leidy presented an additional portion of Mr. Dana's communication on the Crustacea of the late American Exploring Expedition; which was referred as before to the original Committee.

Mr. Wetherill stated that the Phosphate of Lime, a specimen of which he presented this evening, was being much used for agricultural purposes, after being decomposed by the action of sulphuric acid.

Mr. Wetherill also stated that the Adipocire, also presented this evening, was the result of decomposition of the bodies of a number of sheep, which had been buried fifteen years since in a wet soil, on a farm in an adjoining county.

Dr. Leidy, referring to the Cretaceous remains characterized by him at the meeting of December 9th, remarked that they were the first relics of Mammals that have been found in the Cretaceous Group.

On leave granted, the Committee to which was referred Dr. D. D. Owen's paper describing a new Mineral and a new Earth, presented a report, recommending the same for publication in the forthcoming No. of the Journal, which was adopted.

—
January 27th.

MR. ORD, President, in the Chair.

The Committee, to which was referred the following papers of Dr. Le Conte, reported in favor of publication in the Proceedings.

Notes on some Fossil Suiline Pachyderms from Illinois.

By JOHN L. LE CONTE, M. D.

DICOTYLES DEPRESSIFRONS.

Hyops depressifrons Lec. Am. Journ. Sc. 2d series, Vol. 5, 103 (1848.)

After a careful comparison of the fragments of this animal with *Dicotyles torquatus*, I have come to the conclusion that the differences are by no means of such a nature as to admit of the formation of a peculiar genus.

The differences in the cranium which distinguish this animal from *D. torquatus* are: 1st, the greater depression of the front; 2d, the greater expansion and less sudden declivity of the malar plates; 3d, the less convex nasal bones. In consequence of this last character, the groove running forward from the frontal foramen is more or less superior in its whole extent and never lateral, as in the anterior part of the head of *D. torquatus*.

The lower part of the skull and the anterior part of the nose are broken away, so that no teeth remain in the fragment.

Accompanying this fragment are four teeth from the upper jaw, which differ from the corresponding teeth of *Platygonus compressus* Lec., from the same locality, by having the transverse ridges more distinctly connected with the basal margin; this is especially the case at the posterior margin; the ridges also show a tendency to unite together, and thus the transverse valley is rendered a little narrower than in *Platygonus*. In all these points the teeth agree exactly with *Dicotyles torquatus*, and on a careful comparison nothing worthy of notice, even as a specific difference, could be detected. A part of the socket of the left superior canine, with the adjoining portion of the palatal plate, shows no difference on comparison with *D. torquatus*.

The base of the inferior left canine was found in its socket; the remainder was found broken; the fragments were put together so as to make almost a complete tooth, which presents no specific characters of any importance; the anterior margin is more rounded than in *D. torquatus*, and the grooves on the posterior, external, and internal faces of the fang are deeper; the young of *D. torquatus* in the depth of the grooves agrees perfectly with our fossil, which, however, from the wearing of the tooth, must have been an adult.

The condyloid process of the right lower jaw was found broken off just below the neck; in comparison with *D. torquatus*, it is less concave in its external outline, and there is a slight depression externally just below the end of the articular surface; the posterior face a little below the articular part is more compressed and less flattened than in *D. torquatus*.

The inferior extremity of the humerus is perforated; the articular faces are in no respect different from those of *D. torquatus*.

The same is the case with the innominatum and the femur.

Of the left posterior foot is preserved the calcaneum, the outer metatarsal, the first and second phalanges of the outer toe and the first phalanx of the inner toe; all these bones completely resemble the corresponding parts of *D. torquatus*.

As compared with *Platygonus compressus*, the calcaneum shows important characters, which may be used in separating the bones of these animals, if they should again be found mixed together.

In *Platygonus* the astragalian face is not distinctly defined at its supero-external part, but is confluent with the depression existing in that part of the bone behind the fibular process.

In *Sus* and *Dicotyles* this face is distinctly separated from the valley between the two processes, and the inferior part of the astragalian process is much less thickened than in *Platygonus*; the whole bone is more slender and less flattened than in *Platygonus*.

My reasons for considering the cuboides figured by me* as belonging to *Platygonus*, are as follows:

From teeth there was evidence of two specimens of *Platygonus* of different ages; portions of three calcaneal bones of the left side were found, two of which were precisely similar; the third is the one here mentioned as belonging to *Dicotyles*. The larger of the two similar bones fitted perfectly with the extremity of a tibia, an astragalus and a cuboides forming a considerable portion of the tarsus; to this cuboides, however, the metatarsal bone above described cannot be adapted.

This will be the proper place for correcting an important error in the memoir on *Platygonus* already quoted: on page 270, pl. 4, figs. 23 and 24, is represented what was considered the *inner metatarsal*. On comparison this bone is found to correspond accurately with the inner right metacarpal of *Dicotyles*; there are two specimens of this bone, differing slightly in size, and the smaller one of which has lost its lower extremity, and evidently belonged to a young animal. We have therefore the same reason to refer this to *Platygonus* as the tarsal bones above mentioned.

I should also notice here, that the superior canines of very young *Dicotyles* resemble very closely those of *Platygonus*, but are not so much compressed, and have only a single angulated line at the anterior part of the base of the tooth.

On account of the very strong resemblance between the dentition of *Platygonus* and *Dicotyles*, I am inclined to consider the former as rather *Suiline* than *Tapiroid* in its affinities; the undulated outline of the lower jaw in the *Dicotyles* group, reaches its maximum in the great dilatation of the angle of the jaw in *Platygonus*; the compression of the canines is carried to a greater degree than in any other genus, and the molar structure is reduced to the simplest *Pachydermal* form by the absence of all accessory tubercles.

The dimensions of the fragments of *Dicotyles depressifrons* indicate an animal

* *Memoirs Am. Acad. of Science and Arts, New Series, Vol. 3, pl. 4, figs. 25, 26.*

a little larger than the adult *D. torquatus*; the only measurements that can be given are the following, in English inches :

Distance between the frontal foramina 1·2.

Third premolar : lateral diameter ·45 : antero-posterior diameter ·4.

Fourth premolar : lateral diameter ·46 : antero-posterior diameter ·5.

First molar : lateral diameter ·55 ; antero-posterior diameter ·63.

Inferior canine : length 3·75 ; posterior breadth ·48 ; radius of curvature 2·75.

Humerus : diameter of inferior extremity 1·52 ; breadth of larger articular groove, ·75 ; smaller groove ·4 ; least distance from lower margin of larger groove to foramen ·67.

Innomminatum : diameter of acetabulum 1·2 ; least breadth of ilium 1·0.

Femur : length 6·85 ; from fovea on head, to extremity of trochanter major 1·72 ; breadth of tibial articular groove anteriorly ·8 ; transverse diameter of condyles posteriorly 1·55.

Metatarsal : length 2·87 ; of inferior articular surfaces, lateral diameter ·46 ; antero-posterior diameter ·57 ; length of first phalanx 1·25 ; second phalanx ·95.

Calcaneum : length 2·45 ; greatest breadth 1·12 ; from fibular to apical process ·91.

Condyle of lower jaw ; breadth 1·2 ; antero-posterior diameter of articular surface ·6.

PROTOCHÆRUS PRISMATICUS Lec. Am. Journ. Sc. 2nd series 5,105.

To the description of the teeth of this animal, I have only to add that the fang of the canine is very similar to that of *Sus babiroussa* ; the posterior molar bears considerable resemblance to that of *Sus babiroussa*, as represented by Blainville, (plate VIII.) although the student will fail to find the resemblance in nature. The Anthracotherium tooth figured in Owen's Odontography, with which I formerly compared this tooth, differs in having the lobes connected by an elevated ridge.

The dimensions of the teeth are as follows, and indicate an animal smaller than a Peccary.

Inferior canine : length of worn surface 1·35 ; breadth ·3 ; radius of curvature of posterior face and margin 2·46.

First inferior molar : lateral diameter ·39 ; antero-posterior diameter ·52.

Last inferior molar : breadth ·5, from posterior lobe to middle lobe ·26 ; to summit of anterior lobe ·58.

Notice of a fossil Dicotyles from Missouri.

By JOHN L. LE CONTE, M. D.

The Tooth which forms the subject of this communication, was found with some mastodon bones in Benton County, Missouri, and was presented to me by Dr. R. W. Gibbes.

It is a right lower canine, wanting the fang, and attached to a small piece of jaw, containing alveoli of three incisors.

The tooth has precisely the same direction as in *D. torquatus*, but is somewhat less compressed ; the anterior edge is very acute ; on the part of the fang which remains, no vestige of external and internal grooves exists ; the posterior groove is well marked as in *D. torquatus* ; on the outer surface of the tooth, nearer the posterior than the anterior margin is an elevated ridge, acute at summit, which extends along the whole of the enamelled part of the tooth. This character is not to be found in *D. torquatus* ; the very obsolete elevation which exists there being a consequence of the continuation of the grooves impressed on the internal face of the fang ; I have also failed to discover a similar elevated line on the canine of any species of *Sus* which has come under my observation.

As this seems to be a character of sufficient importance to separate the species co-existent with the Mastodon, from any now living, I would give to it the name of *Dicotyles costatus*.

Although there is no character in this canine to make a reference to *Dicotyles* more certain than to *Sus*, yet as the latter genus has not been distinctly proved to

have inhabited this continent, and as in the existing creation *Dicotyles* is the true equivalent of *Sus* in America, the probability of our very distinct fossil species belonging to *Dicotyles* is much increased; this probability is rendered almost certain, when we consider that remains of true *Dicotyles* have been found in Illinois in company with other singular forms, (*Platygonus* and *Anomodon*) which by their great peculiarities would seem to indicate a period anterior to that of the *Mastodon*.

The measurements of the canine are : length of enamelled surface along anterior curvature 2·2; breadth of posterior surface ·37; radius of curvature of posterior edge 2·0; of anterior edge 2·1.

The Committee to which was referred Mr. Dana's papers on the Crustacea of the Exploring Expedition, reported in favor of publication in the Proceedings.

Conspectus Crustaceorum, &c. Conspectus of the Crustacea of the Exploring Expedition under Capt. Wilkes, U. S. N. By JAMES D. DANA.

PAGURIDEA, continued, and Subtribe MEGALOPIDEA.

I. PAGURIDEA, continued.

Among the species of the genus *Pagurus*, as restricted in my former paper on the Paguridea, there are still three groups of distinct character; one, having no trace of a beak, the front being truncate, and also having the fingers opening in a vertical plane, the hands being usually compressed, with commonly the left the larger; a second, having a short beak or triangular point in front, and the fingers opening like the preceding, with the hands subequal; a third, having a beak like the last, but the fingers opening in a *horizontal* plane, the hands being subequal and more or less depressed, and never compressed. The first group has *Pagurus punctulatus* for its type; the second, *P. aniculus*; the third, *P. clibanarius*. They form three genera with the following characters:—

1. *PAGURUS*.—Frons non rostratus, truncatus. Manus anticæ sæpius compressæ, interdum subæquæ, sæpius sinistrâ majore, digitis apice corneis, in plano verticali claudentibus.

2. *ANICULUS*, D.—Frons triangulatè rostratus. Manus anticæ subæquæ, digitis apice corneis, in plano verticali claudentibus.

3. *CLIBANARIUS*, D.—Frons triangulatè rostratus. Manus anticæ subæquæ, plus minusve depressæ, digitis apice corneis, in plano horizontali claudentibus. Species *P. aqualis*, *zebra*, *humilis*, *globosi-manus*, *Clibanario* pertinent.

The species *Pagurus aniculus* may hereafter be named *Aniculus typicus*; the *P. clibanarius*, *Clibanartus vulgaris*; and the *P. Bernhardus*, *Bernhardus streblonyæ*. The name *Bernhardus pubescens*, (see preceding volume, p. 270,) we propose to change to *B. scabriculus*, as Krøyer* has described a *Pagurus pubescens*, which is probably a *Bernhardus*.

Descriptiones Pagurideorum adhuc ineditæ.

BERNHARDUS OBESI-CARPUS.—Frons medio prominulus, obtusus. Regio carapacis antica paulo transversa, nudiuscula. Oculi crassi et perbreves, aciculo longiores, squamâ basali ovatâ, subacutâ, integrâ. Antennæ externæ nudæ, basi multo longiore quam oculus, aciculo crasso, brevi, apicem articuli 3tiii attingente. Pedes toti fere nudi et granulosi, non armati; anticæ inæqui; manu majore oblongâ, convexâ, symmetricâ, granulis nitidis partim seriatis, carpo multo crassiore, parce latiore. Pares 2di et 3tiii crassiusculi, articulo 3tio supra

* Tidsk. ii, 251, 252.

scabri-rugato et breviter hirsuto, tarso curvato, canaliculato. *Hab.* Valparaiso? *Long.* 2".

BERNHARDUS ÆQUIMANUS.—Carapax sparsim pilosus, regione anticâ non oblongâ, fronte ad medium angulato, vix rostrato. Oculi cylindrici, aciculum antennalem longitudine æquantes, squamâ basali apice productâ et 3—4-denticulatâ. Antennarum externarum flageillum infra elongatè ciliatum. Pedes superficie granulati partim sparsim hirsuti, marginibus hirti; antici æqui, mediocres, manu breviter ellipticâ, parce latiore et longiore quam carpus, non costatâ, marginibus subspinulosi, carpo supra subspinuloso et hirtio. Pedum 4 sequentium tarsi bene canaliculati, infra ciliati. *Hab.* Valparaiso. *Long.* 1½".

BERNHARDUS CRINITICORNIS.—Frons medio parce angulatus. Regio carapacis antica non transversa. Oculi mediocres, aciculo antennali paulo longiores, squamâ basali apicem rotundatâ. Flagellum antennarum externarum infra crinitum non ciliatum. Pedes antici valde inæqui, nudiusculi, manu majore oblongâ, paulo longiore et latiore quam carpus, scabriculâ, spinulis subtilissimis 4—5-seriatis, margine inferiore fere recto, carpo minutè spinuloso. Pedes 2di 3tii laxè pubescentes, non spinulosi, tarso non canaliculato. *Hab.* portu "Rio Janeiro." *Long.* 9—10".

PAGURUS EUOPSIS.—*P. punctulato* affinis. Oculi fronte carapacis valde longiores, crassiusculi. Flagellum antennarum externarum nudum, articulis versus antennæ extremitatem latere interno gibbosis; aciculum parvulum. Pedes antici sat inæqui, manu majore carpoque oblongis, extus spinulosi et hirsutis. Pedes 2di 3tii marginibus multo hirsuti, articulo 5to spinulis supra paulo armati, tarsis totis subteretibus, undique divaricatè hirsutis. *Hab.* ad insulam "Upolu" et in freto "Balabac." *Long.* 2¼".

CLIBANARIUS STRIOLATUS.—Regio carapacis antica fere quadrata. Oculi graciles, margine carapacis antico vix breviores, squamâ basali angustâ, acuminatâ, bidentatâ. Pedes antici subæqui, manubus brevibus carpisque supra spini-tuberculatis et pilosis, manu sinistrâ maris paulo majore. Pedes 2di 3tii supra infraque paulo hirsuti, multis lineis brunneis longitudinalibus ornati, tarso subterete, non breviorè quam articulus penultimus, sinistro 3tii paris articulo 5to extus parce convexo, acie rectangulatâ superne instructo. *Hab.* insulâ "Tongatabu," et archipelago "Viti." *Long.* 2". *Paguro lineato*, Edw. propinquus.

CLIBANARIUS BRASILIENSIS.—Regio carapacis antica paulo oblonga. Rostrum bene triangulatum. Oculi gracillimi, margine carapacis antico non breviores, squamâ basali valde truncatâ et brevissimâ, pilis longis, margine apicali transverso instructâ. Pedes antici æqui, manu dextrâ parce majore. Pedes 2di 3tiique persparsim hirsuti, subnudi, tarso perbrevis, articulo 5to paris 3tii extus subcomplanato, parce convexo, supra subcarinato. Pedes colore pauci-lineati. *Hab.* portu "Rio Janeiro." *Long.* 1¼".

Clibanarius globosi-manus (*Pag. globosi-manus*, D.) *P. corallino*, Edw. adhuc partim descripto an differt? In specimine globosi-mani non attritâ, pedes 2di 3tii marginibus hirsuti non nudiusculi. Clibanariis aliis totis nobis lectis differt, superficie externâ articuli 5ti sinistri paris 3tii omnino hirsutâ.

II. MEGALOPIDEA.

The question of the maturity or immaturity of the Megalopæ and that of their true place in the natural system, still remain in doubt. Without touching on these points, at this time, I propose to describe some new genera and species pertaining to the group.

The species, however diverse, agree in the structure of the abdomen and its caudal appendages; in the position of the four antennæ *between* the eyes; in the articulations of the outer antennæ; in the inner antennæ folded longitudinally or obliquely either side of the beak; in the general form of the outer maxillipeds; in the large size and lateral position of the eyes without orbits; in the general structure of the legs; and in their habits. The beak is either horizontal or

flexed downward, and has usually a sharp prominent tooth either side of it, exterior to the inner antennæ.

The genus *Megalopa*, *Leach*, as now accepted, embraces two distinct sets of species—the *M. Montagu* and *armata* for which it was instituted by *Leach*, and the *M. mutica* of *Desmarest*. The former (the true *Megalopæ*) have the beak nearly horizontal, with rarely a tooth either side, and there is a reflexed spine on the ventral surface of the first joint of the 8 posterior legs. The latter has the beak bent downward vertically, and either side of it there is a prominent spine or tooth; the ventral surface of the base of the legs is unarmed. The *M. mutica* is very closely related to *Monolepis spinitarsus* of *Say*, the only difference being that the extremity of the posterior legs in this species of *Monolepis* bear 3 or 4 setæ rather longer than the tarsus, while the descriptions of the *mutica* make mention of no such setæ. The posterior legs in *Monolepis* fold up and overlie the carapax: but these legs are otherwise like the preceding, though somewhat smaller, and it is probable that this habit in the *M. mutica* has been overlooked, as these animals almost always swim with the posterior legs extended like the others, when taken and kept in a jar for examination, and they also have them extended when walking. These legs do not resemble at all the posterior pair in *Porcellana* or *Galathæa*. I had examined several species before I discovered this habit with regard to the posterior legs. The animal also throws the fourth pair of legs forward along or over the borders of the carapax, so that the extremity overlies the bases of the eyes and the tarsi hang down in front; and at the same time the two preceding pair are folded up and lie against the sides of the carapax outside of the 4th pair, or the 3d pair may be thrown forward like the 4th. A *Sooloo* species, and another common off Cape of Good Hope, were observed swimming with the legs thus disposed.

Say's genus *Monolepis** also embraces two groups, alike in the deflexed front and the longish setæ at the extremity of the posterior tarsi. In one division, including the *M. inermis*, the tarsi are flattened styliform, and unarmed, with either lateral edge sparsely furnished with minute hairs; the fossa of the sternum, along which the abdomen lies when inflexed, has a prominent trenchant border; the depression on the carapax for the posterior legs is rather abrupt and somewhat neatly defined; the body is very convex and obese, with the sides high and vertical, and much wider behind than before, being gradually narrowed forward.

The other division has the tarsi unguiform, compressed, and spinous below, the antepenult spine always longest; the fossa of the sternum with flaring borders; the depression of the carapax for the posterior legs shallow concave; the body more flattened above, with the sides more oblique. This division corresponds to *Monolepis spinitarsus*.

Besides the preceding, there is another group of *Megalopidea*, examined by the author, resembling *Megalopa* of *Leach*, except that the tarsus of the posterior legs is narrow lamellar instead of unguiculate, and edged with longish setæ somewhat shorter than the tarsus.

There is still another group in which the front is horizontal and tricuspidate, the inner antennæ when retracted being exposed in the interval between the beak or inner cusp and either outer, lying in view as in *Plagusia*.

With these explanations we give the characters of the genera.

1. *MONOLEPIS*, *Say*.—Carapax fronte tricuspidatus sed valde deflexus ideoque frons superne visus medio non acutus sed truncatus. Pedes 5ti minores, super carapacem sæpe restantes, depressione ad eos recipiendos abruptâ, tarsis inermibus, depressis styliformibus, paris postici non depressis, apice 3—4 setis longiusculis (tarso paulo longioribus) instructo. Sterni fossa abdominalis marginibus bene prominens et subacuta.—*Monolepis inermis*, *Say*, typus est.

2. *MARESTIA*, *Dana*.—Carapax fronte uti in *Monolepi*. Pedes 8 postici ad basin infra non armati; 5ti minores, super carapacem sæpe restantes, depressione ad eos recipiendos parce concavâ; tarsis styliformibus, unguiculatis, spinis infra

**Journ. Acad. Nat. Sci., Philad., i. 155.*

armatis, paris postici apice setis longiusculis instructis.—Typus est *Monolepis spinitarsus*, Say. Hic pertineret quoque *Meg. mutica*, Desm. si ejus pedes postici setis longiusculis confecti; aliter genus alterum instituendum. Verbum “*Marestia*” clarissimum Desmarest commemorat.

3. MEGALOPA, *Leach*.—Carapax fronte simpliciter rostratus, rostro vix deflexo, acuto. Pedes 8 postici ad basin infra uni-spinigeri: 5ti minores, tarso styliformi.—Typus *Meg. Montagu*, Leach.*

4. CYLLENE, *Dana*.—Carapacis frons uti in *Megalopa*. Pedes 8 postici ad basin infra uni-spinigeri; 5ti minores, tarso anguste lamellato, setis longiusculis partim ciliato.

5. TRIBOLA, *Dana*.—Carapax fronte horizontalis tricuspidatus, rostro (vel cuspidè medianâ) tenui, cuspidibus (vel dentibus) externis vix longiore. Antennæ internæ inter rostrum et cuspidè externas apertè inflexæ. Pedes postici minores, tarso unguiculato setisque longis non instructo.

Descriptiones Megalopideorum adhuc inedita.

MARESTIA ELEGANS.—Carapax antice angustus et superne visus bilobatus, lateribus fere parallelis, pone oculos vix salientibus. Pedes antici parvi, manu oblongâ, margine inferiore et partim superficie internâ remotè hirsutis. Pedes 2di marginibus sparsim ciliati, tarso infra 7-spinoso, ad basin tuberculum infra non gerente. Tarsi postici infra 6-spinosi, apice unguiculati et 4 setis longis instructi. *Hab.* Promontorio Bonæ Spei. *Long.* Carapacis 4—5". An *Megalopa mutica Kraussii* (Südaf. Crust. p. 54) et *De Haanii* (Faun. Japon. p. 167)? Sed pedes postici extremitate setis tarso paulo longioribus instructi.

MARESTIA ATLANTICA.—Carapax antice angustus et superne visus bilobatus, lateribus postice paulo divergentibus, pone oculos vix salientibus. Pedes antici parvi, manu oblongâ, nudâ aut nudiusculâ. Pedes 6 sequentes nudiusculi, tarso infra quinque spinas tuberculumque ad basin instar calcis gerente. Tarsi postici parvuli, sed setularum duabus paribus infra instructi, non spinosi, apice unguiculati et tribus setis longis armati.—*Hab.* lat. aust. 6°, long. occ. 24°.

MARESTIA PERVALIDA.—Carapax antice latus et superne visus obsolete quadri-lobatus, lobis subæquis, lateribus postice non divergentibus, prope medium undentatis. Pedes antici pervalidi, manu valde crassâ, tumidâ. Tarsi postici infra spinosi, apice tribus setis longiusculis armati.—*Hab.* lat. bor. 6°, long. orient. 173°.

MONOLEPIS ORIENTALIS.—Sterni segmenta fossam sterni includentia antica margine inferiore fere truncata, vix triangulata; segmenta proxima convexa, non tuberculigera. Tuberculum medianum inter aream buccalem et fossam sterni simpliciter subtriangulatus, antice acutus, postice hemisphericus, utrinque depressione deinde septo brevi antice et oblique producto cinctus. Tarsus pedis postici brevis, non unguiculatus, apice tribus setis longiusculis armatus, infra setulis paucis perbrevis necque spinis instructus. *Hab.* in mari Suluensi. *Long.* carapacis 4".—*M. inermis* differt, sterni segmentis anticis intus non subtruncatis sed prominenter triangulatis, proximis unituberculatis, tuberculo mediano inter aream buccalem et fossam sterni tuberculis tribus composito.†

CYLLENE HYALINA.—Rostrum parce prominens. Carapax subovatus, lateribus pone oculos paulo saliens, postice inermis. Thorax infra ad extremitatem pos-

* Malac. Pod. Brit. pl. 16. Leach describes three other species, (not noticed by Edwards,) in Tuckey's Exped. to the Zaire, (London, 1818,) p. 404. The *M. Cranchii* may be a true *Megalopa*; the others have a deflexed beak.

† The author is indebted to Prof. L. R. Gibbes, of Charleston, S. C., for the privilege of examining specimens of the *M. inermis*. They were obtained by him from the stomach of a fish off the Atlantic coast between New York and Charleston, in 1846. See Rep. Crust. in U. S. Collections, by Prof. Gibbes, in Proc. Amer. Assoc. Charleston, 1850, vol. iii. p. 192.

teriolem inermis. Pedes antici mediocres, carpo inermi, manu paulo tumidâ, supra subgibbosâ, digitis hiantibus, apice inflexis et acutis. Pedes 2di 3tii 4tique subæqui, tarsis fere rectis, longis, articulo penultimo longioribus. *Hab.* in mari Atlantico juxta "Rio Negro" Patagoniæ, et in mari Pacifico prope "Valparaiso." *Long.* carapacis 3-4".

CYLLENE FURCIGER.—Rostrum elongatum, spiniforme, frontis latitudine non brevior. Thorax infra ad extremitatem posteriorem duabus spinis longis divergentibus postice productis armatus. Pedes antici angusti, carpo articuloque secundo spinâ brevi curvatâ armatis, brachio inermi. Tarsi 2di 3tii 4tique parce armati, styliformes.—*Hab.* in mari Suluensi.

TRIBOLA LATA.—Carapax late ovatus non pubescens, paulo longior quam latus, lateribus pone oculos parce undulatis, rostro lineari, dentibus frontis lateralibus rostro remotis, apice acutis et paulo divaricatis. Pedes antici parvuli, tenues, manu pedibus sequentibus vix crassiore. *Hab.* in mari Atlantico, prope insulas "Canary;" e stomacho piscis "Bonito" lecta. *Long.* corporis fere ½".

TRIBOLA PUBESCENS.—Carapax oblongus, subovatus, pubescens, lateribus pone oculos undulatis, rostro lineari, dentibus frontis lateralibus rostro minus remotis. Pedes toti densè brevissimèque pubescentes; antici rostrum paulo superantes, angusti, inæqui, manu dextrâ non latiore quam carpus. Pedes 8 sequentes fere duplo longiores, 2dis brevioribus quam 3tii. *Hab.* in Archipelago "Paumotu" mari Pacifico.

Conspectus Crustaceorum, &c. Conspectus of the Crustacea of the Exploring Expedition under Capt. C. Wilkes, U. S. N. By JAMES D. DANA.

MACROURA.

We follow De Haan in placing the genus *Galathæa* with the *Anomoura*; and near it we arrange *Æglea*, which widely differs from most other related species in having penicillate instead of foliose branchiæ.

The *Macroura*, excluding these groups, includes three distinct sections or subtribes.

One, the "Fossores" of authors, or the *THALASSINIDEA*, has close relations on one side with the *Paguri*, and on the other with the *Squillidæ*. They constitute a line of gradation between these extremes, independent mostly of the other *Macroura*, and osculating only with the *Astaci*, although removed from them in general habit and structure. There is a diversity among the legs as to form and position, which is not found in any other *Macroura*, and calls to mind the *Paguri*. Moreover, there is in general a looseness of structure, a length of abdomen, and sluggish habit of body, unlike the trim compact forms of the typical *Macroura*. The anterior feet are thrown directly forward and are thus fitted for the burrowing habits of the species.

The second subtribe—the *ASTACIDEA*—is composed of the highest grade of *Macroura*, approaching in some points of structure the *Brachyura*. This is seen in the fact that the sides of the carapax fold under and unite to the epistome, as is well shown in *Scyllarus* and less perfectly in *Astacus*; also in the absence or small size of the basal scale of the outer antennæ. The *Astaci* are the transition species between the other *Astacidea* and the *Caridea*, and in the genus *Paraneuphyrops*, White, the antennary scale is not smaller than is common in the latter group. Yet they properly form part of the same section with the *Scyllari* and *Palinuri*, rather than a separate division as made by Milne Edwards; they differ from all the *Caridea* in the transverse suture across the carapax near its middle.

The third section—the *CARIDEA*—includes the typical *Macroura*, which have the sides of the carapax not soldered to the epistome, and a large basal scale to the outer antennæ.*

* The *Cumæ* would constitute another section—*Cumideæ*—if mature animals. But according to recent researches of Prof. Agassiz, as he has informed the author, they are in some cases, and probably in all, immature forms of *Palæmon*, *Crangon*, and other known *Macroural* genera.

These subtribes may be divided into families.

Subtribe 1. Thalassinidea. This section, as Milne Edwards observes, includes two strongly marked divisions; *one*, with only the ordinary thoracic branchiæ, and a *second* with the addition of *abdominal* branchial appendages, as in the Squillidæ. The former we name the *Thalassinidea Eubranchiata*, the latter, the *Thalassinidea Anomobranchiata*. The first group embraces three families, differing strikingly in outer maxillipeds and abdomen, as explained beyond. The second contains only two genera, *Callianidea*, Edw., and *Isœa*, Guerin—the last name was changed by Edwards to *Callianisea*; but as this word is so near Callianassa and Callianidea, a contraction to *Callisea* would be preferable.

Subtribe 2. Astacidea.—In this subtribe, we adopt De Haan's sections, except that we exclude the Megalopidea, and we do not associate the Thalassinidea with the Astacidea. The sections or families are *Scyllaridæ*, *Palinuridæ*, *Eryonidæ* and *Astacidæ*.

Leach in 1819 divided the old genus *Astacus*, naming the marine species (*Homarus Edw.*) *Astacus*, and the fresh water (*Astacus Edw.*) *Potamobius*. Edwards' division, of like character, now generally accepted, was not published till 1837. Leach hence has the priority. But according to Leach, the name *Astacus* is appropriated, not to the typical part of the group, that including the *Astacus fluviatilis* of old authors, or *Cancer Astacus* of Linnæus, and which embraces at the present time numerous species, but to that including the *Cancer Gammarus* of Linnæus, still but a small group. There is hence much objection to the names of Leach, and moreover much confusion would now ensue from their adoption. There seems therefore to be sufficient reason for rejecting them, if it be of no weight that they have remained for 30 years unrecognised by British authors. They are adopted in the Catalogue of British Crustacea of the British Museum, published in 1850, but not in the general catalogue of 1847.

Subtribe 3. Caridea.—In arranging the Caridea into groups, much stress is usually laid upon external form and length of beak. The unimportance of these characters is inferrible from the fact that they involve no essential variations of structure. Moreover, in a single natural group we may find both the long and short beak. In the Crangon group, for instance, in which the beak is usually very short and the body depressed, we have a species with the beak and habit of a Hippolyte.

There are other characters of more fundamental value; and these have been brought forward by De Haan. The mandibles afford the distinctions alluded to. In one section they are very slender and are bent nearly at a right angle, without enlargement at the crown. In another they are very stout, and somewhat bent above with a broad dilated crown. In a third, they are stout, but not bent, and have a dentate summit. In a fourth they have, in addition to a projecting lateral crown, a large summit process, which is often oblong and very prominent. These forms are characteristic of different sections of the Caridea.

The fact that the mandibles bear a palpus or not is of much less importance; for the portion of the mandible which is most essential to its functions is the crown. Among the Palæmoninæ, there are genera having a mandibular palpus, and others without one; while the two kinds in other respects are remarkably close in their relations. We have found moreover that in this group, the length of the palpus varies with the disjunction of the 2d and 3d flagella of the inner antennæ. If these flagella are separate to their bases nearly, (as in Palæmon,) the palpus is long and 3-jointed; if united for some distance up, the palpus becomes short and finally only 2-jointed (Palæmonella;) if united nearly or quite to their summits, there is no palpus.*

In the arrangement of the genera into families, the fact *whether the 1st or 2d*

* In our genus *Palæmonella*, the palpus of the mandible is 2-jointed, and in *Anchistia*, which is closely like Palæmon in habit in some of its species, there is no palpus, as in the Pontoniæ; and thus the transition to the Pontoniæ from Palæmon is exceedingly gradual. Harpilius and Cædipus (Pontoniæ of authors) fill up the interval between Anchistia and the true Pontoniæ. They are all similar in having the 2d pair of legs largest, and in other prominent characteristics.

dair of legs is the stouter, is of great weight, much greater than previous authors have recognised. In the Brachyura, the anterior pair is uniformly the strong pair; and this uniformity through so extensive a group shows that the variations from it must be of importance in classification. This peculiarity of the Brachyura is a consequence of the concentration of force in the cephalic or anterior portion of the cephalothorax; and the diffusion of this force posteriorly, which in different degrees marks the Macrourea, is especially exhibited in the legs. It is therefore of no little interest to observe whether the first or the second pair is the larger, or whether the degradation is still greater and the 3d pair is chelate like the 2d and even stouter, as in the Penæi. By regarding this character we are led to place Hippolyte and Rhyncocinetes with Alpheus, instead of with Palæmon; also Hymenocera and Pontonia with Palæmon, instead of with Alpheus; Pasi-phæa in a distinct group from the Penæi, &c. Moreover, the Penæinea, viewed in this light and stripped of some unrelated genera, make a natural group, for they are characterized by having the third pair of legs *like the second*, instead of like the fourth. In the lowest forms among the Penæinea, there are *no* chelate or didactyle legs, and the species approach the Schizopods.

In the preceding paragraphs we have but hinted at some of the more prominent principles involved in the classification of the Macrourea here presented, a fuller exposition of which will be given in another place. Below is a synopsis of the arrangement thus arrived at, and following this synopsis, are our descriptions of new species.

Synopsis Familiarum Crustaceorum Macrourorum.

I. THALASSINIDEA, vel MACROURA PAGURO-SQUILLIDICA.

Carapax suturâ transversâ notatus, posticeque sæpe suturis duabus longitudinalibus. Abdomen sæpius multo elongatum. Antennæ externæ squamâ basali sive nullâ sive parvulâ instructæ. Pedes 2 antici prorsum projecti; 6 postici habitu raro consimiles. *Species fossores.*

Legio I. THALASSINIDEA EUBRANCHIATA.

Branchiis thoracicis instructa tantum.

Fam. 1. GEBIDÆ.—Maxillipedes externi pediformes. Appendices caudales et aliæ abdominales latæ.

Fam. 2. CALLIANASSIDÆ.—Maxillipedes externi operculiformes. Appendices caudales latæ.

Fam. 3. THALASSINIDÆ.—Maxillipedes externi pediformes. Appendices caudales lineares.

Legio II. THALASSINIDEA ANOMOBANCHIATA.

II. ASTACIDEA vel MACROURA SUPERIORA.

Carapax suturâ transversâ sæpius notatus, lateribus anterioribus epistomate connatis. Antennæ externæ squamâ basali sive nullâ sive parvâ instructæ. Abdomen sat breve vel mediocre. Branchiæ penicillatæ. Pedes 2 antici oblique projecti; 6 postici directione consimiles.

1. *Antennæ externæ squamâ basali non instructæ. Pedes antici monodactyli.*

Fam. 1. SCYLLARIDÆ.—Carapax valde depressus, marginibus lateralibus sat tenuibus, carapace lateraliter subito inflexo. Antennæ externæ laminatæ, breves. Sternum trigonum.

Fam. 2. PALINURIDÆ.—Carapax subcylindricus, lateraliter late rotundatus. Antennæ externæ basi subcylindricæ, longæ. Sternum trigonum.

2. *Antennæ externæ squamâ basali instructæ. Pedes antici didactyli.*

Fam. 3. ERYONIDÆ.—Carapax non oblongus, depressus, lateribus subito inflexis, abdomine multo angustiore.

Fam. 4. ASTACIDÆ.—Carapax oblongus, subcylindricus, abdomine parce angustiore. Sternum angustum.

III. CARIDEA.

Carapax suturâ transversâ non notatus, cephalothoracem plerumque tegens, lateribus anterioribus liberis, epistomate non connatis. Antennæ externæ squamâ basali grandi instructæ. Corpus sive subcylindricum sive paulo compressum. Branchiæ sæpius foliosæ.

Legio I. PALÆMONINEA.

Pares 1mi 2dique pedum, unus vel ambo, chelati; 3tii 4tis similes. Maxillipedes 2di breves, lamellatæ.

Fam. 1. CRANGONIDÆ.—Mandibulæ graciles, valde incurvatæ, non palpigeræ, coronâ angustâ et non dilatatâ. Pedum pares 1mi 2di inter se valde inæqui.

Fam. 2. ATYIDÆ.—Mandibulæ crassæ, non palpigeræ, coronâ latâ, parce bipartitâ, processu terminali brevi et dilatato. Pedum pares 1mi 2dique inter se æqui, carpo nunquam annulato.

Fam. 3. PALÆMONIDÆ.—Mandibulæ crassæ, sive palpigeræ sive non palpigeræ, supra profunde bipartitæ, processu apicali oblongo, angusto.

Legio II. PASIPHÆINEA.

Pedes 1mi 2dique chelati, 3tii 4tis similes. Maxillipedes 2di tenuiter pediformes.

Fam. 1. PASIPHÆIDÆ.—Mandibulæ uti in *Atyidis*.

Legio III. PENÆINEA.

Pedes 3tii 2dis similes, sæpius chelati, 3tiis majoribus; nisi chelati, toti vergiformes et debiles.

Fam. 1. PENÆIDÆ.—Pedes 3tii bene didactyli, validiores, 2dis similes. Palpus mandibularis latus.

Fam. 2. SERGESTIDÆ.—Pedes 3tii 2dique sive vergiformes sive obsolete chelati, 1mis vergiformibus. Palpus mandibularis gracilis.

Fam. 3. EUCOPIDÆ.—Pedes 3tii 2dique vergiformes; 1mi maxillipedesque externi æque monodactyli et subprehensiles, digito in articulum penultimum claudente. Palpus mandibularis gracilis.

Synopsis Subfamiliarum Generumque Crustaceorum Macrourorum Viventium.

Subtribus I. THALASSINIDEA.

Legio I. THALASSINIDEA EUBRANCHIATA.

Fam. I. GEBIDÆ.

- G. 1. GEBIA, *Leach*.—Digitus manus inferior obsolescens. Pedes 2di 3tii 4ti 5tique monodactyli. Rostrum tridentatum. Antennæ externæ squamâ basali carentes.
- G. 2. AXIUS, *Leach*.—Manus lata, digito inferiore elongato. Pedes 2di minores, sublamellati, didactyli; 3tii 4ti 5tique monodactyli. Rostrum simplex, triangulatum. Oculi pigmento perfecti. Antennæ externæ squamâ basali parvâ instructæ.
- G. 3. CALOCARIS, *Bell*.—Manus gracilis, digito inferiore elongato. Pedes 2di minores, cheliformes, 3tii 4ti 5tique monodactyli. Rostrum ac in *Axi*. Oculi pigmento corneâque carentes. Antennæ externæ squamâ basali parvâ instructæ. Segmentum caudale oblongum.
- G. 4. LAOMEDIA, *De Haan*.†—Manus ac in *Axi*. Pedes 2di monodactyli, quoque 3tii et 4ti; 5ti obsoleti.

* "British Crustacea," p. 231.

† Faun. Japon. Crust., p. 162.

- G. 5. *GLAUCOTHOE*, *Edw.*—Manus ac in *Azio*. Pedes 2di 3tiique pediformes ac in *Paguro*; 4ti 5tiique subcheliformes. Antennarum internarum flagella articulo precedente breviora.

Fam. 2. *CALLIANASSIDÆ*.

- G. 1. *CALLIANASSA*, *Leach.*—Oculi sublamellati, corneâ medianâ et non marginali. Flagella antennarum internarum articulo precedente longiora. Pedes 1mi grandes, bene didactyli; 2di didactyli minores, 3tii articulo penultimo late lamellati.
- G. 2. *TRYPÆA*, *Dana.*—Pedibus *Callianassæ* affinis. Flagella antennarum internarum articulo precedente breviora, antennis subpediformibus.

Fam. 3. *THALASSINIDÆ*.

- G. 1. *THALASSINA*, *Latreille.*—Manus validæ, multo inæquæ, digito immobili majoris brevi. Pedes 2di articulo penultimo lamellati, 3tii 4ti 5tiique angusti, monodactyli.

Legio 2. *THALASSINIDEA ANOMOBRANCHIATA*.

- G. 1. *CALLIANIDEA*, *Edw.*—Pedibus *Callianassæ* affinis, anticis bene didactylis, 2dis et 3tiis minoribus, didactylis, compressis, 4tis 5tisque subcylindricis. Oculi ac in *Callianassa*.
- G. 2. *CALLISEA*.—(Isæa, *Guerin*. *Callianisea*, *Edw.*) Forsan a *CALLIANIDEA* nihil differt, teste Edwardsio (Crust. ii. 321.)

Subtribus II. *ASTACIDEA*.

Fam. 1. *SCYLLARIDÆ*.

1. *Carapax oblongus vel subquadratus, non transversus. Oculi versus cephalothoracis angulos externos insiti.*
- G. 1. *SCYLLARUS*, *Fabr.*—Rostrum valde saliens. Latera carapacis non incisa. Antennæ externæ inter se fere contiguæ. Palpus maxillipedis externi flagello confectus. Branchiæ numero 21. Species, *Sc. sculptus, latus, squamosus, equinozialis, Haanii, Sieboldi*.
- G. 2. *ARCTUS*, *Dana*, (Scyllari subgenus 5tum, *De Haan.*)—Rostrum perbreve, truncatum. Antennæ externæ inter se remotæ. Palpus maxillipedis flagello carens. Branchiæ 19. Sp. *A. ursus*, *D.* (Scyllarus arctus, *Auct.*)
2. *Carapax plus minusve transversus, lateribus non incisus. Oculi in angulis externis.*
- G. 3. *THENUS*, *Leach.*—Oculi oblongi. Rostrum bilobatum. Branchiæ 21. Species. *T. orientalis*.
3. *Carapax plus minusve transversus, lateribus incisus. Oculi in angulis externis valde remoti.*
- G. 4. *PARRIBACUS*, *Dana*, (Scyllari subgenus 2dum, *De Haan.*)—Rostrum subtriangulatum. Antennæ externæ inter se fere contiguæ. Oculi fere in medio inter antennis internas et angulos cephalothoracis externos. Branchiæ 21. Species. *P. antarcticus et P. Parræ* (Ibacus antarcticus et *I. Parræ*, *Auct.*)
- G. 5. *IBACUS*, *Leach.*—Rostrum bilobatum. Antennæ externæ inter se paulo remotæ. Oculi versus rostrum insiti. Branchiæ 21. Species. *I. Peronii, I. ciliatus*, *De Haan*, et *I. novementatus*, *Gibbes*.*

* Species Scyllaridarum enumeratæ in "Hist. Nat. des Crustacés," Edwardsii editæ, sequentibus exceptis: *Sc. Haanii*, Siebold (Faun. Japon. 152, pl. 38, f. 1.) *Sc. Sieboldi*, De Haan (Faun. Jap. 152, pl. 36, f. 1.) *Ibacus ciliatus*, Siebold, (Faun. Jap. 153, pl. 36, f. 2.) *Ibacus novementatus*, Gibbes, (Nuntius Assoc. Sci. Amer. 1850, Charleston, iii, 193.)

Fam. 2. PALINURIDÆ.

- G. 1. PALINURUS, *Fabr.* (Palinuri communes, *Edw.*)—Carapax vix rostratus. Annulus antennalis supra angustissimus, curvatus. Antennæ externæ basi fere contiguæ. Antennæ internæ flagellis breves.—*Linuparus*, Gray, hic inclusus.
- G. 2. PANULIRUS, *Gray*, (Palinuri longicornes, *Edw.*)—Carapax rostratus. Annulus antennalis supra latus, subquadratus et horizontalis. Antennæ externæ basi non contiguæ; antennæ internæ flagellis longæ.

Fam. 3. ERYONIDÆ.

Genus ERYON, *Desmarest*.

Fam. 4. ASTACIDÆ.

1. *Manus crassæ et latae, marginibus arcuata, superficie convexæ* (ASTACINÆ.)
A. Branchiæ 19. Segmentum thoracis ultimum non mobile.—Species marinæ.
- G. 1. HOMARUS, *Edw.*—Rostrum tenue, utrinque paucidentatum. Squama basalis antennarum externarum perbrevis.
- B. Branchiæ 17—18. Segmentum thoracis ultimum mobile. Rostrum integrum vel utrinque unidentatum.—Species fluviales.
- G. 2. ASTACOIDES, *Guerin*.—Segmentum abdominis maris 1mum appendicibus carens.—Hic referemus subgenera Erichsoni *Astacoides*, *Engæus* et *Cheraps*.
- G. 3. ASTACUS.—Segmentum abdominis maris 1mum appendicibus instructum. Hic referemus subgenera Erichsoni *Astacus* et *Cambarus*, illo branchiis 18, hoc branchiis 17, instructo.
2. *Manus prismatica lateribus fere rectæ.* (NEPHROPINÆ.)
- G. 4. NEPHROPS, *Leach*.—Rostrum utrinque dentatum vel spinosum. Squama basalis antennarum externarum basi vix longiores.—Species marinæ.
- G. 5. PARANEPHROPS, *White*.†—Rostrum uti in *Nephrope*. Squama basalis antennarum externarum basi dimidio longiores.—Species fluviales ?

Subtribus III. CARIDEA.

Legio I. PALÆMONINEA.

Fam. I. CRANGONIDÆ.

- Subfam. 1. CRANGONINÆ.—Pedes 1mi 2dis crassiores. Maxillipedes externi pediformes. Digitus mobilis in palmam claudens, immobilis spiniformis. Pedes 2di non annulati.
- G. 1. CRANGON, *Fabr.*—Rostrum brevissimum. Oculi liberi. Pedes 2di chelis armati, 4ti 5tique acuminati, gressorii.

* Archiv. f. Nat. 1846, p. 86 et 375. Astaci Subgenera Erichsono instituta sequentia sunt.

1. ASTACOIDES. Pedes abdominales ramis membranacei, 1mis maris obsoletis. Antennæ externæ internis exteriores.

2. ASTACUS. Pedes abdominales (lamellis caudalibus inclusis) calcarei, 1mis maris elongatis. Antennæ externæ internis exteriores. Pedes 5ti branchias gerentes, branchiis numero 18.

3. CAMBARUS. Pedes abdominales (lamellis caudalibus inclusis) calcarei, 1mis maris elongatis. Antennæ externæ internis exteriores. Pedes 5ti branchias non gerentes, branchiis numero 17.

4. CHERAPS. Pedes abdominales calcarei, 1mis maris obsoletis; lamellæ caudales partim membranacei. Antennæ externæ internis exteriores. Pedes 5ti branchias non gerentes, branchiis numero 17.

5. ENGÆUS. Antennæ externæ sub internis. Pedes 5ti branchias gerentes, branchiis numero 18.

Textura appendicium abdominalium discrimen genericum justum non videtur, necque situs antennarum externarum. An auctoritatis gravis numerus branchiarum ? non credimus

† A. White, in Misc. Zool. Gray 79, 1842 et "Voy. Erebus and Terror," pl. 3, f. 1.

- G. 2. SABINEA, *Owen*.*—Rostrum brevissimum. Oculi liberi. Pedes 2di chelis carentes; 4ti 5tique acuminati, gressorii.
- G. 3. ARGIS, *Kröyer*.†—Rostrum nullum. Oculi sub carapace fere occulti. Pedes 2di chelis armati.
- G. 4. PARACRANGON, *Dana*.—Rostrum elongatum. Oculi liberi. Pedes 2di obsoleti, 4ti 5tique acuminati, gressorii.
- Subfam. 2. LYSMATINÆ.—Pedes 1mi 2dis crassiores. Maxillipedes externi pediformes. Digniti alter ad alterum claudentes. Pedes 2di annulati.
- G. 1. ΝΙΚΑ, *Risso*.—Rostrum breve. Antennæ internæ duobus flagellis connectæ. Pedes antici impares, uno chelato, altero monodactylo. Carpus paris 2di elongatus annulatus.
- G. 2. LYSMATA, *Risso*.—Rostrum elongatum, subsensiforme. Antennæ internæ tribus flagellis connectæ. Pedes antici ambo chelati. Carpus paris 2di elongatè filiformis.
- G. 3. CYCLORHYNCHUS, *De Haan*.‡—Rostrum sat breve, compressum et suborbiculare. Carpus 2dus brevis, pauci-annulatus.
- Subfam. 3. GNATHOPHYLLINÆ.—Pedes 2di 1mis crassiores. Maxillipedes externi lati, operculiformes.
- G. 1. GNATHOPHYLLUM, *Latreille*.

Fam. 2. ATYIDÆ.

- Subfam. 1. ATYINÆ.—Pedes thoracici palpo non instructi.
- G. 1. ΑΤΥΑ, *Leach*.—Rostrum breve, depressum. Antennæ internæ flagellis duobus connectæ. Pedes 4 antici sat breves, carpis sublunatis, cuspidè inferiore manum ferente, digitis penecillo setarum longo ad apicem armatis; 3tii 5tis multo longiores et crassiores.
- G. 2. ΑΤΥΟΙΔΑ, *Randall*.§—Rostrum, antennis pedibusque anticis *Atya* affinis. Pedes 3tii tenues, 5tis breviores. [An distinctio valida?]
- G. 3. CARIDINA, *Edwards*.—Rostrum sat breve sat longum. Antennæ internæ flagellis duobus connectæ. Pedes 2di 1mis longiores, digitis parium amborum apice penecillatus, carpis 1mis perbrevis et antice excavatis, 2dis subcylindricis, oblongis.
- Subfam. 2. EPHYRINÆ.—Pedes thoracici palpo instructi.
- G. 1. ΕΦΥΡΑ, *Roux, De Haan*.||—Rostrum dentatum. Antennæ internæ flagellis duobus connectæ. Pedes 4 antici parvi, nudi vel nudiusculi. Pedes 6 postici graciles.

Fam. 3. PALÆMONIDÆ.

- Subfam. 1. ALPHEINÆ.—Pedes 1mi crassiores, chelati, 2di filiformes, carpo sæpius annulati et chelati. Mandibuli palpigeri.
- G. 1. ALPHEUS, *Fabr*.—Rostrum brevissimum. Antennæ internæ flagellis duobus connectæ. Oculi sub carapace occulti. Manus paris 2di major non inversa, digito mobili superiore. Pedes 2di carpo filiformes, annulati. Maxillipedes externi subtenuis, mediocres. Species maris calidioris.
- G. 2. ΒΕΤÆΥΣ, *Dana*.—Rostrum nullum. Oculis et ceteris *Alpheo* plerumque affinis. Manus paris 2di major fere inversa, digito mobili inferiore vel exteriore.—Species maris frigidioris.

* Owen, Append. "Voy. Capt. Ross," p. 82.—*Crangon septemcarinatum*, Sabine.

† Tidskrift, iv. 1843, p. 217.

‡ Faun. Japon. Crust., p. 174.

§ Journ. Acad. Nat. Sci. Philad. viii, p. 140.

|| De Haan, Faun. Japon. p. 185, pl. 46, f. 7.

- G. 3. *ALOPE*, *White*.—Rostrum breve, inter spinas duas longas insitum hisque sæpe partim celatum. Antennæ internæ flagellis duobus confectæ. Maxillipedes externi longissimi. Oculi paulo salientes.
- G. 4. *ATHANAS*, *Leach*.—Rostrum breve. Antennæ internæ flagellis tribus confectæ. Oculi paulo salientes. Pedes 2di carpo annulati.
- G. 5. *HIPPOLYTE*, *Leach*.—Rostrum sat longum, plus minusve ensiforme, non mobile. Abdomen medio deflexum. Antennæ internæ flagellis duobus confectæ. Oculi salientes. Pedes 2di carpo annulati.
- G. 6. *RHYNOCINETES*, *Edw*.—Rostrum ensiforme, mobile, fronte articulo conjunctum. Oculi antennæque uti in Hippolyte. Pedes 2di carpo non annulati.

[Ubi pertinet genus sequens ?

- G. *AUTONOMEA*, *Risso*.—Pedes antici crassi, chelati. Pedes 2di non chelati et carpo non annulati, 3tiis similes. Maxillipedes externi tenues. Rostrum breve. Oculi salientes. Antennæ internæ flagellis duobus confectæ; externæ squamâ basali non instructæ.]

Subfam. 2. *PANDALINÆ*.—Pedes antici gracillimi, non chelati, 2di filiformes, carpo annulati.

G. *PANDALUS*, *Leach*.—

Subfam. 3. *PALÆMONINÆ*.—Pedes 4 antici chelati, 2di 1mis crassiores. Carpis nullis annulatis. Pedes nulli palpigeri.

1. *Antennæ internæ duobus flagellis confectæ. Mandibulæ non palpigeræ.*

- G. 1. *PONTONIA*, *Latr*.—Corpus depressum. Rostrum breve. Oculi parvuli. Maxillipedes suboperculiformes, articulo 2do lato, 3tio 4toque simul sumtis longiore, his subcylindricis.
- G. 2. *ÆDIPUS*, *Dana*.—(Pontonia, *Auct.*) Corpus plus minusve depressum. Rostrum longitudine mediocre. Oculi permagni. Maxillipedes externi latiusculi, articulis totis latitudine fere æquis. Tarsi infra elongatè gibbosi.
- G. 3. *HARPILIUS*, *Dana*. (Pontonia, *Auct.*)—Corpus non depressum. Rostrum longitudine mediocre. Oculi magni. Maxillipedes suboperculiformes, articulo 2do lato, 3tio 4toque simul sumtis breviorè, his subcylindricis. Tarsi uncinati, infra non gibbosi.
- G. 4. *ANCHISTIA*, *Dana*.—Rostrum tenue, sæpius ensiforme et elongatum. Corpus vix depressum, sæpe compressum. Oculi mediocres; antennæ duobus flagellis instructæ, unâ parce bifidâ. Maxillipedes externi omnino tenues, pediformes.
2. *Mandibulæ palpigeræ.*
- a. Oculi aperti.
- G. 5. *PALÆMONELLA*, *Dana*.—Corpus non depressum. Rostrum sat longum, dentatum. Oculi mediocres. Mandibularum palpus bi-articulatus, perbrevis. Antennæ internæ flagellis duobus confectæ, uno apicem bifido. Maxillipedes externi tenues.
- G. 6. *PALÆMON*, *Fabr.*—Corpus non depressum. Rostrum longum, dentatum. Oculi mediocres. Palpus mandibularum 3-articulatus. Antennæ internæ flagellis tribus confectæ. Maxillipedes externi tenues. Pedes 2di nunquam lamellati.

* Ann. and Mag. Nat. Hist. [2], i, 225.

† Periclimenes, *Costa*, (Ann. dell' Acad. degli Aspir. Nat. di Napoli, ii, 1844,) Hippolyto affinis et vix differt, teste Erichsono. Arch. f. Nat. 1846, p. 310.

‡ Pontoniæ verè Ædipis et Harpiliis habitu multo differt; Pontoniarum oculis parvulis, abdomine valde inflexo, et modo vitæ sæpius uti in Pinnotheris: aliorum oculis pergrandibus, abdomine minus inflexo, animalibus modo vitæ liberis. inter ramos coraliorum sæpe natantibus. Pontonia macrophthalma, *Edw.*, Ædipo pertinet.

|| *Leander*, *Desmarest*, (Ann. Ent. Soc. France, 1849, p. 87,) a Palæmone vix differt, abdomine ad articulationem 3-tiam inflexo non discrimine valido.

G. 7. *HYMENOCERA*, *Latr.*—Corpus non depressum. Rostrum sat longum. Oculi mediocres. Pedes 2di tenuiter laminati, latissimi; 1mi tenuissimi, manu minutâ. Maxillipedes externi subfoliacei.

δ. Oculi sub carapace celati.

G. 8. *CRYPHIOPS*, *Dana.*—Rostrum longitudine mediocre. Oculi parvuli, omnino occulti. Antennæ internæ flagellis tribus confectæ. Maxillipedes externi subtenues.

[Ubi pertinet Genus *TYPTON*, *Costa*, (Annal. dell' Acad. degli Aspir. Nat. di Napoli, ii, 1844); squamâ basali antennarum externarum carens; Pontoniæ affinis.]

Subfam. 4. *OPLOPHORINÆ*.—Pedes 1mi sive didactyli sive vergiformes; 2di chelati, crassiores. Squama antennarum externarum acuminata, extus spinis armata.

G. 1. *OPLOPHORUS*, *Edw.*—Corpus non compressum. Rostrum longum, dentatum. Antennæ internæ flagellis duobus confectæ. Pedes toti palpigeri, 4 antiqui chelati. [Abdominis dorsum processibus spiniformibus uno vel pluribus armatum.]

G. 2. *REGULUS*, *Dana.*—Rostrum longum, dentatum. Antennæ internæ flagellis duobus confectæ. Pedes nulli palpigeri, 2 antiqui non chelati, 2di crassè chelati. Mandibularum palpi 3-articulatus. [Abdominis segmentum 3tium dorso postico instar spinæ longæ productum.]

Legio II. PASIPHÆINEA.

Fam. I. PASIPHÆIDÆ.

G. 1. *PASIPHÆA*, *Savigny.*—Rostrum obsolescens. Antennæ internæ flagellis duobus confectæ. Pedes palpigeri, palpis elongatis. Pedes 4 antiqui subæqui, manibus gracilibus.

Legio III. PENÆINEA.

Fam. I. PENÆIDÆ.

G. 1. *SICYONIA*, *Edw.*—Pedes 6 antiqui lineares, 4 postici non annulati. Carapax breviter rostratus, semicalcareus, dorso carinato. Pedes abdominales laminâ unâ instructi. Maxillipedes 2di 3tisque non palpigeri. Antennæ internæ perbreves.

G. 2. *PENÆUS*, *Latr.*—Pedes 6 antiqui lineares, 4 postici non annulati. Carapax elongato-rostratus, rostro ensiformi. Pedes abdominales laminis duabus instructi. Maxillipedes externi bene palpigeri.—Hic referemus genus "*Aristæus*" [Duvernoy, Ann. des Sci. Nat. xv, 1841, pl. 4.]

G. 3. *STENOPUS*, *Latr.*—Pedes 6 antiqui lineares, 3 postici longi, annulati. Rostrum longitudine mediocre. Maxillipedes externi brevissimè palpigeri.

G. 4. *SPONGICOLA*, *DeHaan.**—Pedes 4 antiqui filiformes, 2 sequentes unus vel ambo crassissimi; 4 postici non annulati. Carapax bene rostratus, rostro subensiformi. Maxillipedes externi non palpigeri.

Fam. 2. SERGESTIDÆ.

G. 1. *SERGESTES*, *Edw.*—Carapax brevissime rostratus. Pedes thoracis non palpigeri, 2di 3tisque obsoletè didactyli, 5ti parvuli.

G. 2. *ACETES*, *Edw.*—Carapax minute rostratus. Pedes thoracis non palpigeri, 2di 3tisque obsoletè didactyli, 5ti obsoleti.

G. 3. *EUPHEMA*, *Edw.*—Carapax bene rostratus. Pedes thoracis elongato-palpigeri, 6 antiqui didactyli, manibus parvulis, 4 postici filiformes, ciliati, non annulati. Branchiæ foliosæ. Abdomen dorso uni-spinosum—An hujus sedis est?

* Faun. Japon. Crust. p. 189, tab. 46, f. 9.

Fam. 3. EUCOPIDÆ.

- G. 1. EUCOPIA, *Dana*.—Carapax non rostratus, fronte integro. Pedes thoracis elongato-palpigeri, palpis natatoriis. Maxillipedes 2di 3tii et pedes 1mi monodactyli et prehensiles, unguiculo ad articulum precedens claudente.

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Descriptiones Crustaceorum Macrouorum adhuc inedita.

Subtribus I. THALASSINIDEA.

Legio I. THALASSINIDEA EUBRANCHIATA.

Fam. GEBIDÆ.

GEBIA PUGETTENSIS.—Frons tridentatus, dente mediano triangulatus, superficie supernâ usque ad suturam dorsi transversam scabrâ et hirsutâ. Manus marginibus pilosa, non spinulosa nec dentata, superficie externâ lævis non costata, lineâque densè hirsutâ longitudinaliter notata, digito inferiore dentiformi, crasso, acuto, non incurvato, digito mobili elongato, inermi, margine piloso. Pedes 2di infra longissimè ciliati. Antennæ externæ quoad basin partim pilosæ, flagellis paulo hirsutis. Segmentum caudale transversum, rectangulatum, integrum. *Hab.* in freto Pugettensi, Oregoniæ. *Long.* 2".

Fam. CALLIANASSIDÆ.

CALLIANASSA GIGAS.—Frons paulo triangulatus. Oculi complanati. Manus major valde compressa, lævis, carpo non duplo longior, digitis brevibus, dimidio manus brevioribus, sparsim hirsutis, consimilibus, non hiantibus, superiore arcuato, acuto, brachio angusto, ad basin infra dentigero sed vix latiore, paulo longiore quam corpus, intus vix dentato. Segmentum caudale appendicibus caudalibus vix brevius. *Hab.* in freto Pugettensi, Oregoniæ. *Long.* 4½".

TRYPÆA AUSTRALIENSIS.—Frons non triangulatus. Pedes antici valde compressi, brachio carpo manque pedis majoris supra acutis. Manus major lata, lævis, carpo paululo longior; digitis fere dimidii manus longitudine, non hiantibus, intus subtiliter denticulatis, superiore paulo longiore, arcuato, carpo paulo minore quam manus, brachio cum processu cultriformi juxta basin infra armato. Segmentum caudale non longius quam latum, postice arcuatum. *Hab.* in oris Illawarræ Australiæ orientalis. *Long.* 2½".

Fam. THALASSINIDÆ.

THALASSINA GRACILIS.—Carapax lævis, rostro perbreui, acuto, margine extra-orbitali acuto. Abdomen sparsim pubescens, marginibus integris, segmento caudali paulo oblongo, postice bene rotundato, non longiore quam appendices caudales. Pedes 1mi subæqui, valde compressi, manu angusto-elongatâ, margine superiore subacuto, breviter spinoso, inferiore integro et inermi, digito mobili paulo brevior quam pars manus anterior, angusto, fere recto, seriatim pubescente, digito immobili plus dimidio brevior, acuto. Pedes 6 postici tennes; 5ti paulo breviores. *Hab.* in oris insulæ "Telegraph," juxta "Singapore." *Long.* 2½".

Subtribus II. ASTACOIDEA.

Fam. SCYLLARIDÆ.

ARCTUS VITIENSIS.—Carapax subtilissimis plumulis pubescens, spinâ pone medium frontis et alterâ gastricâ armatus, versus orbitam utrinque subcarinatus et 1—2-dentatus. Antennæ internæ nudiusculæ, articulo basis penultimo fere duplo longiore quam ultimus. Antennæ externæ extremitate truncatæ, articulo ultimo apice 5-lobato, lobis oblongis, interno brevior, articulo 2do ultimum

fere superante, extus unidentato, intus 3-dentato, superficie carinatâ, carinâ integrâ. Pedes nudi, subteretes, inermes, 2dis pergracilibus, tarso 2do duplo longiore quam 3tius. *Hab.* in archipelago Vitiensi ("Fejee"). *Long.* 1'.

Fam. ASTACIDÆ.

ASTACUS LENIUSCULUS.—Rostrum tridentatum, dentibus acutis, medio tenuiter elongato. Carapax lævis, punctulatus, lateraliter pone rostrum utrinque 2-spinosus; areolâ inter suturas longitudinales post-dorsales latâ. Pedes antici compressi, inermes, non tuberculati, manu lævi, punctulatâ, carpo paulo oblongo, intus recto, inermi, apice interno acuto excepto, brachio antice denticulato, apice interno elongate acuto, dorso unispinoso. Pedes sequentes nudiusculi. Segmentum caudale parce oblongum, lateribus fere parallelis. Pedes 5ti branchias parvas gerentes. *Hab.* flumine "Columbia," Oregoniæ. *Long.* 4''.

ASTACOIDES NOBILIS.—Rostrum sat longum fere integrum, apice obtusum, utrinque obsolete unidentatum, basi antenarum externarum paulo brevius. Carapax lateraliter infra basin rostri obsolete utrinque armatus. Abdominis segmenta utrinque paulo uni-tuberculata, *junioris* tuberculis obsolescentibus; segmentum 2dum prope marginem lateralem spinis brevibus armatum; segmentum caudale paulo oblongum. Pedes antici æqui, crassi, carpo intus valde trispinoso, manu infra supraque marginatâ et breviter dentatâ, superficie fere lævi, nudâ. Epistomatis processus medianus anticus triangulatus et valde elongatus, et perangustus. *Hab.* Australiâ orientali? *Long.* 5''.

PARANEPHROPS TENUICORNIS.—Rostrum elongatum, acuminatum, tenue, bases antenarum longitudine superans, utrinque 4-spinosum et posterius super carapacem utrinque aliis spinis duabus. Pedes 8 postici gracillimi. Pedes antici longi, manu vix crassiore quam carpus, margine superno biseriatim spinoso, superficiebus internâ externâque uniseriatim spinosis, margine inferiore et superficie proximâ spinuli-scabris et non seriatim spinosis. *Hab.* in fluminibus prope portum "Bay of Islands," Novi-Zelandiæ.

Subtribus III. CARIDEA.

Legio I. PALÆMONINEA.

Fam. CRANGONIDÆ.

Subfam. CRANGONINÆ.

CRANGON MUNITUS.—Rostrum brevissimum, rotundatum. Carapax partim 7-carinatus, carinâ mediâ vel primâ bispinosâ, 2dâ utrinque unispinosâ, brevi, 3tiâ nudâ, 4tâ unispinosâ, brevi. Abdomen læve, inerme. Manus nuda. Pedes 2di 3tius vix breviores, 4ti 5tique paulo hirsuti, 5tis minoribus. Maxillipedes externi utrinque valde ciliati. Segmentum caudale apice subacutum et quatuor setis instructum. *Hab.* in freto Pugettensi. *Long.* 1'' 10''.

PARACRANGON ECHINATUS.—Rostrum elongatum, porrectum, apice bidentatum, dorso unidentatum, juxta basin infra unispinosum, spinâ longâ porrectâ. Carapax multispinosus, medio dorso inæque 4-dentatus, utrinque 5—7-spinosus. Abdomen superne partim carinatum superficie paulo scalptum, lateribus acutis. Manus elongata, digito immobili longo et gracillimo. Pedes 4ti 5tique fere nudi, subæqui. *Hab.* in freto Pugettensi. *Long.* 1½''.

Subfam. LYSMATINÆ.

NIKA HAWAIENSIS.—Rostrum brevissimè triangulatum, oculis multo brevius, latius quam longum. Squama antenarum externarum basi internarum parce brevior. Pedes antici subæqui, dexter chelatus nudiusculus. Articulus pedis 2di 4tus 3tio vix longior, non annulatus; carpus 11-articulatus, articulis quatuor 1mis vix disjunctis. Pedes 6 postici subæqui, nudiusculi, gracillimi. *Hab.* prope insulam "Maui" Hawaiensem. *Long.* 8''.

Fam. PALÆMONIDÆ.

Subfam. ALPHEINÆ.

Genus ALPHEUS.

1. *Rostrum margine frontis ortum, superficie inter oculos sæpius leviter carinatâ.*

A. Antennarum articulus 1mus externarum spinâ externâ sive nullâ sive obsolescente armatus.

1. *Manus marginibus inferiore superioreque versus digitum excavata. Dens antennarum internarum basalis articulo 1mo non longior. Articulus pedum 3torum 4torum 3tius omnino inermis.*

a. Orbitæ margo inermis.

ALPHEUS STRENUUS.—Rostrum elongatum, acutum, superficie inter oculos leviter carinatâ. Squama antennarum externarum basalis basi non longior. Articulus antennarum internarum 2dus 1mo fere duplo longior. Pedes antici multo inæqui, manus majoris sinu infero-marginali concavo et non triangulato, brachio ad apicem internum acute uni-dentato; manu minore angusto-oblongâ, paulo pubescente, digitis intus dense hirsutis, pilis apicem digiti mobilis omnino celantibus. Pedes 2di 3tiis multo longiores, carpi articulis 1mo 2doque fere æquis, 2do longiore quam 5tus. *Hab.* insulâ Tongatabu. *Long* 1½".

ALPHEUS PACIFICUS.—Rostrum breve, acutum, superficie inter oculos breviter carinatâ. Squama antennarum externarum basalis basi planè brevior; articulus antennarum internarum 2dus 1mo duplo longior. Pedes antici multo inæqui; manus majoris sinu infero-marginali profundè triangulato, brachio apicem internum inermi; manu minore angusto-oblongâ, paulo pubescente, digitis intus dense hirsutis, apicibus apertis. Pedes 2di 3tiis parce longiores, carpi articulo 2do multo brevior quam 1mus, vix longiore quam 5tus. *Hab.* insulis Hawaiensibus. *Long.* 1½".

b. Orbitæ margo spinulâ armatus.

ALPHEUS EUCHIRUS.—Rostrum paulo elongatum, superficie inter oculos carinatâ. Squama antennarum externarum basalis basi non longior. Articulus antennarum internarum 2dus 1mo paulo longior. Pedes antici multo inæqui; manus majoris sinu infero-marginali concavo; brachio apicem non spinigero; manu minore oblongâ, crassiusculâ, lævi, digitis extus et intus leviter laxèque pubescentibus. Pedes 2di 3tiis paulo longiores, carpi articulo 1mo duplo longiore quam 2dus, manu vix brevior quam tres articuli precedentes simul sumti. Pedes 3tii 4tive parce criniti, articulo 3tio apicem internum brevissimè acuto, 5to intus 7—8-setuloso, setulis paulo confertis. *Hab.* in freto "Balabac." *Long.* 9".

2. *Manus margine inferiore integer. Dens antennarum internarum basalis articulo primo vix longior.*

a. Orbitæ margo inermis.

ALPHEUS OBESO-MANUS.—Rostrum brevissimum, in carinam paulo postice productum. Squama antennarum externarum basalis basi non brevior, basi internarum multo brevior; dens internarum basalis perbrevis; articulus 2dus 1mo plus duplo longior. Pedes antici valde inæqui, manu *majori* lævi, elongatâ, obesâ, non compressâ, versus apicem angustiore, digito mobili perbrevis, malleiformi, *minore* lineari, digitis brevissimis. Pedes 2di portentosè elongati, 3tiis plus duplo longiores, carpi articulo 1mo quadruplo brevior quam 2dus, 3tio 4to 5toque brevibus, subæquis. Articulus pedis 3tii 3tius apice inferiore acutus. *Hab.* in archipelago "Viti." *Long.* 9".

ALPHEUS CRINITUS.—Rostrum acutum, superficie inter oculos carinatâ. Squama antennarum externarum basalis basi harum parce brevior, basi internarum paulo brevior; dens internarum basalis perbrevis. Articulus antennarum internarum 2dus 1mo duplo longior. Pedes antici multo inæqui; manu *majori* obesâ, parce compressâ, infra rotundatâ, omnino lævi, partim leviter pubescente,

digitis perbrevibus, (manu quadruplo brevioribus), digito mobili arcuato; *minore* oblongâ, leviter crinitâ, digitis parte manus ante digitos paulo brevioribus. Pedes 2di valde elongati, 3tiis sesquilingiores, articulo carpi 2do parce longiore quam 1mus, 3tio 4to 5tove oblongo, uno alterum fere æquante. Pedes 3tii 4tive leviter criniti, articulo 3tio apicem inferiorem dentigero. *Hab.* in freto "Balabac." *Long.* 10''.

ALPHEUS MITIS.—Rostrum acutum, superficie inter oculos carinatâ. Squama antenarum externarum basalis basi harum internarumve parce longior. Articulus antenarum internarum 2dus 1mo paulo longior, densque basalis articulo 1mo fere longior. Pedes antici inæqui; manu majore lævi, paulo compressâ, marginibus rotundatâ, digitis regularibus, manu fere triplo brevioribus; minore simili, angustiore. Pedes 2di 3tiis multo longiores, articulo carpi 2do 1mum longitudine æquante, 3tio 4tove oblongo, parce brevior quam 5tus, manu perbrevis. Pedes 3tii 4tique fere nudi, articulo 3tio apicem internum non acuto. *Hab.* in freto "Balabac." *Long.* 9''. An femina A. Lottinii?

b. Orbitæ margo spinulâ denteve armatus.

ALPHEUS ACUTO-FEMORATUS.—Rostrum acutum postice inter oculos productum. Squama antenarum externarum basalis basibus antenarum non longior. Dens basalis antenarum internarum brevis, articulus 2dus 1mo parce longior. Orbitæ margo acutus sed spinâ non productus. Pedes 2di 3tiis sat longiores, carpi articulo 1mo brevi, 2do plus duplo longiore quam 1mus. Pedes 3tii, 4tique crassiusculi, articulo 2do 3tioque apicem inferiorem instar spinæ elongate acuto. [Pedibus anticis specimen nobis mutilatum.] *Hab.* in freto "Balabac." *Long.* 9''.

B. Articulus antenarum externarum 1mus spinâ externâ armatus.

a. Orbitæ margo inermis.

ALPHEUS PARVI-ROSTRIS.—Corpus nudum. Rostrum acutum, breve, superficie inter oculos carinatâ. Squama antenarum externarum basalis basi utroque paulo longior; spina basalis mediocris; dens internarum basalis brevis; articulus 2dus 1mo vix longior. Pedes antici valde inæqui, manu majore crassissimâ, marginibus ambobus indentatâ, superficie externâ partim sulcatâ, digitis perbrevibus, digito mobili extus arcuato; manu minore regulari, pubescente. Pedes 2di 3tiis paulo longiores, articulo carpi 1mo fere duplo longiore quam 2dus, manu brevi. Pedes 3tii 4tique crassiusculi, articulo 3tio apicem inferiorem unidentato. *Hab.* in freto "Balabac." *Long.* 8''.

b. Orbitæ margo spinulâ denteve armatus vix brevior quam rostrum.

ALPHEUS TRIDENTULATUS.—Rostrum perbreve, dentiforme. Squama antenarum externarum basalis basi brevior, basi internarum vix brevior, spina antenarum basalis mediocris, spina internarum longissima, articulo 1mo multo longior; articulus 2dus 1mo non longior. Pedes antici valde inæqui, manu majore lævi, paulo compressâ, marginibus latè rotundata, digitis perbrevibus, manu triplo brevioribus. Pedes 2di 3tiis paulo longiores, articulo carpi 1mo quadruplo longiore quam 2dus, 2do perbrevis, vix longiore quam 3tius. Articulus pedum 3tiorum 4torumve 3tius apice interno inermis. *Hab.* in portu "Rio Janeiro"? *Long.* 10''.

ALPHEUS NEPTUNUS.—Frons elongate trispinosus, rostro spinisque orbitalibus prælongis, æquis. Squama antenarum externarum basalis basi brevior et spina externa elongata; spina internarum basalis longa, articulo 2do brevior quam 1mus. Pedes antici multo inæqui, manu majore lævi, paulo compressâ, marginibus rotundatâ, digitis brevibus, manu triplo brevioribus, digito mobili supra arcuato; manu minore angustâ. Pedes 2di 3tiis longiores, articulo carpi 1mo quadruplo longiore quam 2dus, 2do 3tio 4toque inter se fere æquis, non oblongis. Articulus pedum sequentium 3tius apice inferiore inermis. *Hab.* in mari Suluensi. *Long.* 8—9''.

II. *Rostrum inter oculorum bases ortum, sulco profundo in carapace utrinque juxta rostrum excavato.*

a. *Orbitæ margo inermis.*

ALPHEUS PUGNAX.—Rostrum acutum, anguste triangulatum, planum, inter oculorum bases ortum. Spina antennarum externarum basalis parva; squama basi paulo longior. Spina antennarum externarum basalis articulo 1mo non brevior, articulus 2dus brevis, 3tius squamam externarum non superans. Pedes antici inæqui; majore elongatâ, lævi, marginibus rotundatâ, supra angustè emarginatâ, digitis brevibus (manu triplo brevioribus), brachio apicibus instar spinæ acuto. Pedes 2di longi, articulo carpi 1mo dimidio brevior quam 2dus. Pedes 3tii 4tisque graciles, articulo 3tio apicem inferiorem uni-dentato. *Hab.* ad insulam "Maui" Hawaiensem. *Long.* 12'''.

ALPHEUS DIADEMA.—Rostrum latum, apice triangulatum et acutum, inter oculorum bases ortum, lateribus concavis. Spina basalis antennarum omnium brevis; squama externarum basi utroque longior. Pedes 2di 3tiis parce longiores, articulo carpi 1mo paulo longiore quam 2dus vel 5tus, 3tio 4tove parce oblongo. Pedes 3tii 4tise 5tis valde crassiores, articulo 3tio apicem inferiorem unidentato. *Hab.* ad insulam "Maui" Hawaiensem. *Long.* 10'''.

b. *Orbitæ margo spinulâ denteve armatus.*

ALPHEUS LÆVIS.—(Randall, Jour Acad. Nat. Sci. Philad. viii.)

ALPHEUS MALLEATOR.—Rostrum perbreve, triangulatum, inter oculorum bases ortum. Spina orbitalis brevis. Squama antennarum externarum basalis basi brevior; spina basalis externarum mediocris, internarum brevissima; articulus 2dus internarum 1mo sesqui longior. Pedes antici inæqui; manus majoris superficie supernâ et internâ partim minutè tuberculatâ, margine superiore sulcato, juxta articulationem digiti 2—3-inciso, digitis perbrevibus, mobili mal-leiformi, obtuso. Pedes 2di 3tiis parce longiores, articulo carpi 1mo duplo longiore quam 2dus. Pedes 3tii crassiusculi, articulo 3tio apicem inferiorem obtuso. *Hab.* in portu Rio Janeiro? *Long.* 2½''.

Genus **BETÆUS.**

BETÆUS TRUNCATUS.—Frons truncatus, medio non emarginatus. Squama antennarum externarum basi non longior; spina externa brevis; spina internarum basalis prælonga, articuli basales elongati, subæqui. Pedes antici multo inæqui, manu majore longâ, sublineari, valde compressâ, fere lævi, scabriculâ, digitis longis, fere dimidii manus longitudine, mobili terete. Pedes 2di 3tiis sat longiores, carpo sat brevi, articulo carpi 1mo plus duplo longiore quam 2dus, 2do 3tio 4toque brevibus. Articulus pedum sequentium 3tius omnino inermis. *Hab.* Fugia in mari prope insulam "Hermite," pedibus sexaginta altitudine. *Long.* 15'''.

BETÆUS ÆQUIMANUS.—Frons medio profundè incisus. Squama antennarum externarum basalis basi paulo brevior; spina externa perbrevis; spina internarum basalis prælonga, articulo 2do multo brevior quam primus. Pedes antici æqui, manu lævi, compressâ, digitis perbrevibus. Pedes 2di 3tiis sat longiores, articulo carpi 1mo plus duplo longiore quam 2dus, 2do 3tio 4toque perbrevibus. Articulus pedum sequentium 3tius omnino inermis. *Hab.* in portu "Bay of Islands," ad insulas "Black Rocks," Novi-Zelandiæ.

BETÆUS SCABRO-DIGITUS.—Frons leviter arcuatus, medio obsolete excavatus. Squama antennarum externarum basalis mediocris, basi parce brevior, basin internarum fere æquans; flagellum latè compressum; spina externa brevis; spina internarum basalis longa. Pedes antici *feminae* valde inæqui, manu majore mediocri, leviusculâ, compressâ, margine inferiore rotundatâ, digitis scabriculis, dimidio manus paulo brevioribus, vix dentigeris; *maris* æqui, crassiores, digitis brevibus, valde incurvatis, immobili crassè unidentato. Pedes 2di 3tiis paulo longiores, articulo carpi 1mo plus duplo longiore quam 2dus, 2do 3tio 4toque brevibus. Articulus pedum sequentium 3tius extus prope basin spinâ armatus. *Hab.* juxta urbem "Valparaiso" Chilensem. *Long.* 14'''

Genus HIPPOLYTE.

I. *Rostrum in dorsum non productum.*

HIPPOLYTE ACUMINATUS.—Rostrum elongatè acuminatum, subensiforme, apice parce recurvatum, squamà antennali non brevius, medio margine supra infraque unidentatum. Carapax supra oculum unispinosus. Antennarum flagellum brevius internarum 5—6-articulatum, apicem rostri non superans. Pedes antici perbreves, manu ovatà. Pedes 2di 3tiis breviores, carpo 3-articulato. Maxillipedes externi basin antennarum externarum superantes, pubescentes. Tarsi pedum 6 posticorum infra spinulosi. *Hab.* in mari Atlantico cum *Sargasso Edw.* differt, dorso in regione gastrico spinà non armato, margine rostri inferiore unidentato tantum.

HIPPOLYTE EXILIROSTRATUS.—Rostrum longum, omnino angustissimum, versus apicem non latior, rectum, supra 4-spinosum, infra rectum, integrum. Antennarum flagellum brevius internarum apicem rostri multum superans, multiarticulatum. Maxillipedes externi elongati, apicem basis antennarum externarum multum superantes. Pedes antici perbreves, manu subovatà, fere per ejus latus carpo articulata. Pedes 2di 3tiis breviores, carpo 3-articulato; 6 sequentes nudiusculi, tarsis infra spinulosi, spinulis apicis longis reliquis brevissimis. *Hab.* in portu "Rio Janeiro." *Long.* 6—8'''.

HIPPOLYTE OBLIQUIMANUS.—Rostrum longum, tenuiter laminatum, rectum, versus apicem verticaliter latior, infra non rectum 2-dentatum, supra 4-dentatum, apice bifidum. Flagellum antennarum internarum minus apicem rostri superans, majus paulo longius. Pedes antici perbreves, manu subovatà carpo manu multo brevior, vix oblongo. Pedes 2di 3tiis breviores, carpo 3-articulato. Tarsi pedum 6 sequentium infra spinulosi, spinulis apicis longis, deinde sensim brevioribus. *Hab.* in portu Rio Janeiro. *Long.* 8'''.

2. *Rostrum in dorsum productum.*

HIPPOLYTE BREVIROSTRIS.—Rostrum breve (basi antennarum internarum multo brevius) acutum, spiniforme, dorso breviter productum, supra 4-spinosum, spinis inter se æque remotis. Maxillipedes externi longi, squamam antennalem longe superantes. Pedes antici crassiusculi, manu oblongà. Pedes 2di 3tiis longiore, carpo elongato, 7-articulato. *Hab.* in freto "de Fuca," juxta portum "Dungeness." *Long.* 1½''.

HIPPOLYTE LAMELLICORNIS.—Rostrum longum verticaliter latissimum, fere ad thoracis basin productum, apice bifidum, supra sinuosum, super cephalothoracem 4-spinosum, antierius 6-spini-dentatum, spinulis inæquis, totis inter se subæque remotis, infra triangulatum, 2-dentatum. Antennæ internæ rostro parce longiores. Pedes antici gracillimi, 2dis paulo crassiores. Pedes 2di 3tiis vix breviores, carpo elongato, 7-articulato, articulo carpi 3tio longo. Tarsi pedum sequentium fere inermes, spinulis versus basin subtilissimis. Maxillipedes externi apice spinulosi, articulo ultimo supra pubescente. *Hab.* in freto "de Fuca" Oregoniæ, juxta portum "Dungeness." *Long.* 1½—2''.

Subfam. PANDALINÆ.

PANDALUS PUBESCENTULUS.—Carapax dense brevissimeque pubescens, margine infra oculum bispinoso. Rostrum squamà antennali longius, ensiforme, paulo recurvatum sed apice non altius quam dorsum, supra 16—18-dentatum, dentibus parvulis et fere ad dorsi medium continuatis, versus apicem edentulum, infra 7-dentatum, apice bifidum. Pedes toti nudiusculi, 3tii 4ti 5ti longitudine sensim decrecentes, 3tii longi, 1mi articulis 2dorum tribus primis longiores. *Hab.* in freto "de Fuca" Oregoniæ, juxta portum "Dungeness." *Long.* 5''.

Subfam. PALÆMONINÆ.

PONTONIA TRIDACNÆ.—Corpus depressum. Carapax nudus, lævis, paulo oblongus, rostro triangulato, obtuso. Antennæ internæ perbreves, flagellis subæquis, articulis duobus precedentibus non oblongis. Squama antennarum exter-

narum basalis apicem rostri non superans; flagellum rostro paulo longius. Pedes antici longiores, tenues, digito dimidio brevioribus; 2di crassiusculi, breves, subæqui, manu oblongâ, digitis manu plus dimidio brevioribus, brachio ultra carapacem parce saliente. Pedes 6 postici breves, æqui, nudi. *Hab.* in conchâ *Tridacnæ maris juxta insulam "Tutuila" Samoensen (vel "Navigator's.") Long.* fere 8''; vel abdomine inflexo, 4''.

ÆDIPUS SUPERBUS.—Corpus paulo depressum. Rostrum horizontaliter latum, oblongo-triangulatum, rectum, supernè medio costatum et 5-serratum, infra prope apicem 2-serratum, squamâ basali antennarum externarum plus duplo brevius, basi internarum paulo brevius. Pedes antici tenues, manu breviter villosâ, proximi æqui, crassissimi, manu magnitudine portentosâ, plus dimidio longiore quam carapax, tumidâ, versus basin crassiore, digito mobili plus quadruplo brevioribus quam manus, angusto, tenuiore quam immobilis et margine externo angulate sinuoso. Oculi magni. *Hab.* insulâ "*Tongatabu.*" *Long.* 10''.

ÆDIPUS GRAMINEUS.—Corpus paulo depressum. Rostrum angustum, rectum, squamâ basali antennarum externarum fere dimidio brevius, basin internarum longitudine æquans, supra 4-dentatum, infra prope apicem 1-dentatum. Oculi magni. Pedes antici elongati, antennis internis non breviores. Pedes 2di æqui, crassissimi, manu magnitudine portentosâ, plus dimidio longiore quam carapax, inflatâ, versus basin crassiore, digito plus quadruplo brevioribus quam manus, sublunato, extus integro, arcuato. *Hab.* archipelago "*Viti.*" *Long.* 8''.

HARPILIUS LUTESCENS.—Corpus paulo depressum. Rostrum angustum, parce recurvatum, squamâ antennali paulo brevius, basi internarum multo longius, supra 7—8-dentatum, infra prope medium 1-dentatum. Pedes antici manu sparsim pubescentes; 2di angusti, manu gracili, fere lineari, digitis linearibus vix dimidii manus longitudine. *Hab.* insulâ "*Tongatabu.*" *Long.* 7''.

ANCHISTIA GRACILIS.—Rostrum tenue, rectum, acutum, longum, squamâ antennali fere brevius, basi antennarum internarum longius, supra 6-dentatum, dente postico inter oculos, infra unidentatum. Antennarum internarum articuli 2dus 3tiusque perbreves. Pedes 2di longi, carpo perbrevi, apice acuto, brachio apice externo acuto, manu subcylindricâ, digitis manu fere triplo brevioribus. *Hab.* in mari Suluensi. *Long.* 9''.

ANCHISTIA LONGIMANA.—Rostrum elongatum, acutum, basi angustum, tenue, supra 6-dentatum, dente postico oculis posteriore. Antennæ internæ elongatæ, articulis basalibus 2do 3tioque longissimis, apice 2di extremitatem rostri fere attingente, 3tio dimidii rostri longitudine. Pedes 2di prælongi, æqui, brachio apicem rostri multo superante, carpo elongatè obconico, apice interno spinigero, manu longâ angustâ, digitis dimidio manus multo brevioribus. *Long.* 6—8''.

ANCHISTIA ENSIFRONS.—Rostrum ensiforme, valde recurvatum, squamâ antennali non longius, apice bifidum, supra 6—7-dentatum, infra paulo dilatatum et 3-dentatum. Carapax super orbitam spinâ armatus, infra orbitam spinis duabus in eâdem lineâ horizontali. Antennæ internæ rostrum parce superantes. Pedes antici graciles, apicem carpi 2di non attingentes; 2di crassiusculi, subcylindrici, per carpum manumque rostrum superantes, carpo longo, apice inermi, obtuso, manu prælongâ, lineari, digitis dimidio manus paulo brevioribus. Pedes 6-sequentes gracillimi, longi, fere nudi. *Hab.* in freto "*Balabac.*" *Long.* 8—9''.

ANCHISTIA AURANTIACA.—Corpus vix depressum. Rostrum angustum, integrum, basis antennarum internarum longitudine, squamâ externarum paulo brevius. Pedes antici superficie manus internâ prope basin densè laxèque pubescentes. Pedes 2di graciles, manu parce crassiore quam carpus, fere lineari, digitis dimidio manus multo brevioribus, parce pubescentibus, angustis. *Hab.* archipelago "*Viti.*" *Long.* 6''.

PALEMONELLA TENUPIES.—Rostrum rectum, non reflexum, squamâ antennali non longius, supra 6—7-dentatum, dentibus inter se fere æquè remotis, infra 2-dentatum et non dilatatum, apice acutum. Pedes 2di valde elongati, apice brachii apicem rostri vix superante et infra supraque acuto, carpo dimidii manus longitudine, apice spinâ armato, digitis dimidio manus brevioribus. Pedes 6 postici gracillimi fere nudi. *Hab.* in mari Suluensi. *Long.* 8''.

PALEMONELLA ORIENTALIS.—Rostrum rectum, non recurvatum, squamâ antennali non longius, apice acutum, supra 6-dentatum, dentibus inter se fere æque distantibus, infra 1-dentatum. Pedes 2di crassiusculi, subcylindrici, apice brachii apicem rostri non attingente et non acuto, carpo breviora quam dimidium manus, apice non acuto, digitis dimidio manus brevioribus. Pedes 6 postici fere nudi, graciles. *Hab.* in mari Suluensi. *Long.* 8'' (femina ovigeræ.)

Genus **PALEMON.**

1. *Carapax margine antico infra oculum spinis duabus armatus.*

PALEMON DEBILIS.—Rostrum prælongum, gracile, paulo recurvatum, squamâ antennali multo longius, apice bifidum, dimidio apicali supra integro, basali 4—6-dentato, margine inferiore 6—9-dentato. Antennarum internarum flagella duo longè conjuncta. Pedes nudi, inermes; 1mi 2dique inter se subæquales, parvuli, gracillimi, manu dimidio carpi paulo longiore, non incrassatâ. Flagellum antennarum internarum minus perbreve. *Var. a.*, Rostrum supra 4-dentatum, infra 6-dentatum; *var. β, attenuatus*—Rostrum longissimum, supra 6-dentatum et infra 9-dentatum. *Hab.* insulis Hawaiensibus. *Long.* 12—15''.

PALEMON EXILIMANUS.—Rostrum lanceolatum, apice brevi deflexum, supra paulo arcuatum et 6-serratum, infra 3-serratum, squamam antennalem non superans. Flagella duo antennarum internarum parce conjuncta. Pedes antici gracillimi, manu plus duplo breviora quam carpus; 2di non crassiores, nudi, manu duplo longiore, carpo dimidio longiore quam manus, digitis dimidio manus paulo brevioribus. Pedes duo postici tenuissimi, prorsum porrecti apicem rostri superantes. *Hab.* archipelago "Viti." *Long.* 1½''.

PALEMON CONCINNUS.—Rostrum gracillimum, squamâ antennali vix longius, basi antennarum internarum multo longius, ensiforme, fere rectum, apice bifidum vel trifidum dorsoque non altius, infra remotè minutèque 5-serratum, supra 5—6-serratum, dente 1mo vel externo a extremitate rostri remoto, penultimo inter oculos. Maxillipedes externi apicem basis antennarum externarum paulo superantes, hirsuti. Pedes 1mi apicem squamæ antennalis fere attingentes. Pedes duo postici prælongi, tenuissimi, articulo 4to apicem maxillipedis externi fere attingente. *Hab.* archipelago "Viti." *Long.* 1½''.

2. *Carapax margine antico infra oculum spinâ unâ armatus, poneque hanc alterâ minore.*

PALEMON GRANDIMANUS.—*Randall*, Jour Acad. Nat. Sci. viii. 142.

PALEMON LANCEIFRONS.—Rostrum late elevatum, lanceolatum, supra arcuatum et 12-serratum, apice vix recurvatum, infra 3-serratum, squamam antennalem longitudine non superans. Pedes antici gracillimi, carpo plus duplo longiore quam manus. Pedes 2di longissimi (corpore longiores), fere cylindrici, manu graciliore et non breviora quam carpus, scabriculâ, digitis brevibus, superiore hirsuto. Pedes postici si prorsum porrecti apicem rostri superantes. *Hab.* insulâ "Luzon," archipelagi Phillipensis, prope portum "Manila." *Long.* 2''.

PALEMON ACUTIROSTRIS.—Rostrum lanceolatum, apice non recurvatum, squamâ antennali non longius, supra 14—16-dentatum, dentibus confertis, et usque ad apicem continuatis, infra 4—5-dentatum. Maxillipedes externi mediocres. Pedes antici gracillimi, manu dimidii carpi longitudine. Pedes 2di longi, tenues, omnino bene scabri, manu parce crassiore et duplo longiore quam carpus, digitis dimidio manus brevioribus, apice carpi rostrum paulo superante. Pedes sequentes inermes. *Hab.* insulis Hawaiensibus. *Long.* 2½—3''.

PALEMON EQUIDENS.—Rostrum rectè ensiforme, verticaliter sat latum, apice parce reflexum, squamâ antennali non brevius, supra rectiusculum et 10—11-dentatum, dentibus inter se fere æque remotis, et supra tertiam partem dorsi carapacis continuatis, duobus terminalibus minoribus et fere apicalibus; infra arcuatum et 6-dentatum. Pedes 1mi rostrum multo superantes. Pedes 2di longi, subcylindrici, subtilissimè spinulosi, brachii apice apicem rostri attingente. *Hab.* in mari prope portum "Singapore." *Long.* 4½''.

CRYPHIOPS SPINULOSO-MANUS.—Rostrum triangulatum, squamâ antennali bre-

vius, basin antennarum internarum superans, supra æque 7-dentatum, infra prope apicem unidentatum. Pedes 2di 1mos vix superantes, minute spinulosi, manu plus duplo longiore quam carpus, digitis dimidio manus longioribus, apice minutè cochleari-excavatis. Pedes antici nudiusculi, manu infra hirsutâ. Pedes 6 postici quoque nudiusculi, articulo 5to infra parce armato, tarsis unguiculatis. *Hab.* in fluminibus Chilensibus mari remotis. *Long.* 3½".

Subfam. OPLOPHORINÆ.

REGULUS LUCIDUS.—Rostrum prælongum recurvatum, longè acuminatum, versus basin horizontaliter sensim latius deinde lateribus subparallelum, supra 8—9-dentatum infra 3-dentatum. Squama antennalis perangusta, rostro paulo brevior, dentibus tribus externis parvulis. Pedes 2di crassi, manu oblongâ, digitis dimidio manus brevior, parce hiantibus. Pedes 6 postici sparsim læxque pubescentes. *Hab.* in mari Pacifico, prope insulas "Ladrone." *Long.* 9".

REGULUS CRINITUS.—Rostrum longiusculum, non recurvatum, supra 9—10-dentatum, infra prope apicem 2-dentatum, versus basin super oculos subito valde latior deinde posterius parce angustans. Squama antennalis rostro non brevior, paulo lata, dentibus tribus externis prominentibus. Pedes 2di crassè chelati, manu oblongâ, digitis brevibus, hiantibus. Pedes 6 postici laxè criniti, articulo 3tio parium 3tii 4tique infra 3—4-serrato. *Hab.* in mari Suluensi. *Long.* 10".

Legio III. PENÆINEA.

Fam. PENÆIDÆ.

PENEUS CARINATUS.—Rostrum squamâ antennali parce longius, paulo sinuosum, extremitate styliforme, parce recurvatum, apice vix altius quam dorsum, supra 7—8-dentatum, infra 3-dentatum. Flagella antennarum internarum articulis duobus precedentibus non longiora. Pedes 5ti 4tis non graciliores.—*Hab.* in mari prope portum "Singapore."—*Long.* 7". *P. setifero* affinis, sed rostrum infra 3-dentatum.

PENEUS AVIROSTRIS.—Rostrum rectum, extremitate anguste styliforme, et edentatum, non recurvatum, basi supra prominenter dilatatum et 6-dentatum, infra rectissimum, integrum, longitudine squamam antennalem non superans. Carapax dorso postico non carinatus nec sulcatus. Flagella antennarum internarum articulis duobus precedentibus non longiora. Oculi breves. Pedes 5ti 4tis multo graciliores. *Hab.* in mari prope urbem "Singapore." *Long.* 5".

PENEUS VELUTINUS.—Carapax abdomenque omnino breviter velutini. Rostrum rectum, bene lanceolatum, e basi ascendens, usque ad apicem supra denticulatum, dentibus septem æque dispositis, altero paulo posteriore, infra integrum, ciliatum, rectum. Dorsum carapacis posticum non carinatum nec sulcatum. Pedes 2di 3tiique subæqui. Maxillipedes externi longi, pubescentes. Segmentum caudale utrinque minutè armatum. Flagella antennarum internarum brevissima, articulum ultimum parce superantia. *Hab.* insulâ "Maui Hawaiensi."—*Long.* 1½".

PENEUS TENUIS.—Rostrum supra multidentatum (dentibus novem vel pluribus,) parce sinuosum. Carapax dorso postice non carinatus nec sulcatus. Oculi sat longi. Flagella antennarum internarum subæqua, carapace vix breviora. *Hab.* in mari Atlantico prope portum "Rio Negro" Patagoniæ.—*Long.* 1½".

PENEUS GRACILIS.—Gracillimus. Rostrum rectum, sat breve, oculis vix longius, supra 5-dentatum. Antennarum internarum basis tenuis, longissimus, carapacem longitudine æquans. Manus pedum sex anticorum carpo vix longior, apice parce pubescens; digiti dimidii manus longitudine. Segmentum caudale margine tri-spinulosum; lamella externa non articulata.—*Hab.* in mari Suluensi. *Long.* 8—9".

STENOPUS ENSIFERUS.—Carapax plerumque lævis, 2—3 sulcis obliquis intersectus, uno validiore e dorsi medio fere ad angulum antero-lateralem producto et margine spinuloso, superficie carapacis antero-laterali spinulis armatâ; rostro ensiformi, paulo longiore quam basis antennarum internarum, fere recto, apicem

vix recurvato, supra 10-dentato, infra 3-dentato. Abdomen inerme.—*Hab.* archipelago "Viti."—*Long.* 6'''.

FAMILY EUCOPIDÆ.

EUCOPIA AUSTRALIS.—Carapax fronte truncato-rotundatus, margine postico profunde excavatus. Segmentum abdominis penultimum ultimo longius, ultimum subulatum, lamellis caudalibus vix longius. Antennæ internæ externis paulo breviores, dimidii corporis longitudine, flagello uno brevi; externarum squama basalis basi internarum multo longior. Maxillipedes 2di et 3tii et pedes 1mi formâ consimiles, sensim increscentes, articulo penultimo angustè oblongo, digito plus dimidio breviori quam articulus precedens. Pedes reliqui gracillimi, criniti, palpo longo, natatorio.—*Hab.* in mari antarctico, lat. aust. 66° 12' long. occ. 149° 24'; e stomacho Penguini lecta.—*Long.* 1''.

The Third Resolution of the Committee appointed to inquire into the expediency of enlarging the Hall of the Academy, the consideration of which had been deferred until the present meeting, was then taken up, and adopted as follows:

Resolved,—That all subscribers of One Hundred dollars and upwards, who are not members of the Academy, shall have, during their lives, the right to visit the Collections of the Academy, and to give orders of admission to the Museum on public days.

The Report of the Publication Committee for 1851, was read and adopted.

The Corresponding Secretary read his Report for the last two months, which was adopted.

The Recording Secretary read the Annual Report for 1851, which was ordered to be published.

REPORT

OF THE RECORDING SECRETARY

For 1851.

During the past year twelve Members and eight Correspondents have been elected.

Five members have died, to wit: Dr. Samuel George Morton, late President of the Academy; Mr. William Hembel, formerly President of the Academy; Dr. John K. Townsend, Dr. Mark M. Reeve, and Mr. Richard C. Taylor.

The present number of Members of the Society is 187. The whole number of Correspondents elected up to the present time is 551.

Besides minor and verbal communications, the following written communications have been presented for publication in the Proceedings and Journal of the Academy.

By Louis Berlandier, M. D.—Descriptions of two new species of Mexican Wolves.

By Mr. John Cassin, seven; to wit: 1. Sketch of the Birds composing the genera *Vireo*, *Viell.*, and *Vireosylva*, Bonap., with a list of those previously known, and descriptions of three new species. 2. Descriptions of new species of Birds of the genera *Galbula* and *Bucco*, Briss., specimens of which are in the collection of the Academy of Natural Sciences of Philadelphia. 3. Notes of an examination of the Birds composing the family *Caprimulgidæ*, in the collection of the Academy of Natural Sciences of Philadelphia. 4. Descriptions of new species of Birds of the family *Laniadæ*, specimens of which are in the collection of the Academy of Natural Sciences of Philadelphia. 5. Note on the Cicada

Cassini, Fisher, and on the C. Septendecim, Linn. 6. Catalogue of the Caprimulgidæ in the collection of the Academy of Natural Sciences of Philadelphia. 7. Descriptions of Birds of the genera Laniarius, Dicrurus, Graucalus, Pipra and Picus, specimens of which are in the collection of the Academy of Natural Sciences of Philadelphia.

By Mr. James D. Dana.—*Conspectus Crustaceorum quæ in Orbis Terrarum Circumnavigatione, Carolo Wilkes e Classe Reipublicæ Fœderatæ duce, lexit et descripsit J. D. Dana.* 2 papers.

By Dr. James C. Fisher.—On a new species of Cicada.

By Mr. Charles Girard.—Historical Sketch of the Gordiaceæ.

By Mr. Isaac Lea, two; to wit: On the genus *Acostæa* of D'Orbigny, (published in the Journal.) Memoir of the late Richard C. Taylor.

By Dr. J. L. Le conte, five; to wit: An attempt to Classify the Longicorn Coleoptera of the part of America North of Mexico, 2 papers, published in the Journal. 3. Synopsis of the species of *Donacia*. 4. Synopsis of the Lampyridæ of Temperate North America. 5. Zoological Notes.

By Dr. Joseph Leidy, eight; to wit: 1. Descriptions of new species of Entozoa. Contributions to Helminthology, 4 papers. 6. Corrections and additions to former papers on Helminthology published in the Proceedings of the Academy of Natural Sciences of Philadelphia. 7. On some American fresh-water Polyzoa. 8. Description of a new species of fossil Crocodile, (published in the Journal.)

By Col. George A. McCall, U. S. A.—Some account of Birds found in Western Texas and New Mexico, with descriptions of new species.

By Dr. David Dale Owen.—Description of a new Mineral and New Earth. (Published in the Journal.)

By Dr. David Dale Owen and Dr. Benjamin F. Shumard.—Descriptions of seventeen new species of Crinoidea, from the sub-carboniferous limestone of Iowa and Illinois. (Published in the Journal.)

By Mr. Richard C. Taylor.—Substance of Notes made during a Geological Reconnoissance in the Auriferous Porphyry region next the Carribean Sea, in the Province of Veraguas and Isthmus of Panama. (Published in the Journal.)

By Dr. S. W. Woodhouse.—Description of the North American Jackal, *Canis frustror*.

In all thirty-two papers.

Besides the above, Dr. Charles D. Meigs read, by appointment, before the Academy, at the Hall of the University of Pennsylvania, on November 6th, a most able, eloquent and truthful memoir of its late President, Dr. Samuel George Morton, which was subsequently published by direction of the Society.

During the past year the prosperity and activity of the Academy have been sustained in the most gratifying manner. Its meetings have been fully attended; the number of valuable communications large, and the zeal of its members in the pursuit of its objects unabated. Its appreciation by the public is made constantly more manifest, in the numerous visitors to its collections, and in the interest shown by the community in its results.

We have had, however, to regret, during this period, the loss by death of several of our most active and distinguished members. After what has been written by so much abler pens, however, it would be presumptuous to attempt to add, in this place, anything in testimony of their merits and attainments, or in expression of the esteem in which they were held among us.

All of which is respectfully submitted by

B. HOWARD RAND,
Recording Secretary.

Philadelphia, January 27th, 1852.

Dr. Bridges from the Publication Committee, announced the publication of Part 2, vol. 2, new series of the Journal.

The following Resolution offered by Dr. Fisher, was adopted.

Resolved,—That the income of the Stott legacy be applied to the payment of the expense of publication of papers ordered by the Academy for the Journal.

The Auditors reported that they had examined the Report of the Treasurer for 1851, and had found it correct.

The Academy then proceeded to an election for Standing Committees for 1852. The Tellers announced the following result:—

Ethnology, John S. Phillips, James C. Fisher, Robert Pearsall; *Comparative Anatomy and General Zoology*, Joseph Leidy, Edward Hallowell, John Neill; *Mammalogy*, James C. Fisher, E. J. Lewis, S. W. Woodhouse; *Ornithology*, John Cassin, Edward Harris, T. B. Wilson; *Herpetology and Ichthyology*, E. Hallowell, John Cassin, William Keller; *Conchology*, Isaac Lea, T. B. Wilson, W. S. W. Ruschenberger; *Entomology and Crustacea*, S. S. Haldeman, Robert Bridges, Wm. S. Zantzinger; *Botany*, R. Bridges, Wm. S. Zantzinger, Gavin Watson; *Palæontology*, T. A. Conrad, Joseph Leidy, B. Howard Rand; *Geology*, J. Price Wetherill, Theodore F. Moss, Aubrey H. Smith; *Mineralogy*, Wm. S. Vaux, Samuel Ashmead, Charles M. Wetherill; *Physics*, Benj. H. Coates, James C. Fisher, Wm. Parker Foulke; *Library*, Thomas B. Wilson, Robert Bridges, Robert E. Peterson; *Proceedings*, Wm. S. Zantzinger, Joseph Leidy, W. S. W. Ruschenberger.

ELECTION.

Samuel Webber, M. D., of Charlestown, N. Hampshire, was elected a *Correspondent*, and Caspar W. Sharpless, of Philadelphia, was elected a *Member* of the Academy.

February 3d.

Vice President BRIDGES in the Chair.

The following communication was read from Henry A. Ford, M. D., dated Glasstown, Gaboon River, West Africa, Nov. 10th, 1851, on the characteristics of the *Troglodytes Gorilla*, accompanying the very fine skeleton of that animal presented by him to the Academy, and announced this evening.

“The skeleton that I have the honor of presenting to your Society, is that of the newly discovered species of *Orang*, which was first described by Drs. Savage and Wyman, (in the Boston Journal of Natural History, 1847) and by them called *Troglodytes Gorilla*, and by the natives on this coast, “Ngena.”

The earliest distinct notice of this species of *Orang* was made, I believe, by Bowditch in 1817, on his return from his Ashantee Mission in a vessel that visited this river on its passage to England from Cape Coast Castle. His description, though in many respects incorrect, doubtless refers to this species, as the name and locality sufficiently identify the animal he describes with the specimen I have obtained.*

I would also remark here, that all subsequent information, as well as all the specimens in the hands of Europeans, have been obtained in this river.

This animal inhabits the range of mountains that traverse the interior of

* See Mission to Ashantee by T. Edward Bowditch Esq., 4to, London, 1819. Chapter on Gaboon River.