

to see Dr. Morton's original specimen, but, judging from his figures and a carefully drawn sketch of its hinge sent us by Mr. Gabb, it seems to us more nearly allied to *Cypricardia* of Lamarek than to *Cyprina*.

The only question in regard to the propriety of retaining Dr. Morton's name arises from the fact that it had been previously (1829) applied by Duponchel to a group of *lepidopterous* insects. If Duponchel's genus is a good one, we think Morton's name for the group of shells to which the species under consideration belongs should be changed, although we are aware many naturalists are inclined to admit the use of the same generic names in different departments of Natural History.

Locality and position.—Same as preceding.

Genus PHOLADOMYA, Sowerby.

PHOLADOMYA PAPPYRACEA.

Shell rather under medium size, extremely thin and fragile, transversely subovate in outline, moderately convex in the anterior and umbonal regions, cuneate and a little gaping behind; outline of base regularly semiovate, its most prominent part being somewhat in advance of the middle; anterior side short and rounded; posterior margin more narrowly rounded; hinge margin straight, long, not inflected so as to form a distinct escutcheon; beaks moderately gibbous, rising little above the hinge, incurved and located near the anterior extremity of the shell, but not terminal. Surface ornamented by about twelve small radiating costæ, which are interrupted by numerous small, regularly arranged concentric ridges. The radiating costæ are divided by the concentric ridges, so as to present the appearance of rows of minute nodes placed upon the latter. The surface marking are all distinctly impressed upon the internal cast.

Length, 1.16 inches; height, 0.76 inch; breadth or convexity, 0.55 inch.

This species seems to be closely allied to *Pholadomya occidentalis* of Morton, (Synopsis Org. Rem. pl. viii. fig. 3,) but is much smaller, and differs in having numerous regular concentric ridges, separated by furrows that completely divide the radiating costæ, which are less numerous and more regularly arranged than on Morton's species.

It also resembles *P. ovulum* of Agassiz, (Etud. Crit. sur les Moll. Foss. tab. 3b, fig. 1—6,) an Oolitic species, but has a longer and straighter hinge margin, and differs in being destitute of a distinctly defined depression along the dorsal margin. Its concentric ridges likewise appear to differ in being more regular and distinct.

Locality and position.—Same as preceding.

Monograph of the Species of SPHERIUM of North and South America.

BY TEMPLE PRIME.

(Continued from page 409, Dec., 1861.)

15: *Sph. triangulare*, Say.

Cyclas triangularis, Say, New Harm. Dissem. 356, 1829.

Animal not observed. Shell transversely oval, nearly equilateral, rather full, anterior margin slightly distended, rounded, posterior somewhat abrupt, nasal rounded; beaks large, full, prominent; lines of growth regular, epidermis brownish; hinge margin narrow, curved; cardinal teeth very distinct, assuming the shape of the letter V reversed; lateral teeth prominent.

Long. 9-16; lat. 7-16; diam. 4-16 inches.

Hab. N. America, in Mexico. (Cabinet Acad. Nat. Sci. Philada.)

The specimens from which I have prepared this description were presented to the Academy of Natural Sciences of Philadelphia by Mrs. Say, as the *Cyclas*

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triangularis, Say; they may or may not be true representatives of Say's species. In many points they answer his description of the *C. triangularis*, but at the same time I am not able to reconcile their shape, which is not more triangular than that of any other species, with the name he has applied to the species. Moreover, they bear a very strong resemblance to one of our Northern Sphærium, the *Sph. solidulum*; they differ from it, however, in being less heavily and more regularly striated, and in having more prominent beaks.

b.—Species with protuberant or calyculate beaks.

16. *Sph. elevatum*, Hald.

Cyclas elevata, Hald., Acad. Nat. Sci. Phila., Proc., i. 53, 1841.

C. pallida, De Charp., MSS. 1851.

Animal not observed. Shell ovate, orbicular, nearly spherical, cavity large, equilateral, margins well rounded; beaks central, slightly inclined towards the anterior, lapping over the outline of the shell, large, tumid, approximate, calyculate, prominent; hinge margin slightly curved; cardinal teeth united, prominent; lateral ones elongated; large, valves very strong, interior bluish; surface smooth, striation light, irregular; color brownish olive, greatly varied by zones of a lighter shade, a zone of bright yellow bordering the inferior and part of the lateral margins.



Long. 9-16; lat. 8-16; diam. 5-16 inches.

Hab. N. America, at New Orleans, La., and in Florida and Alabama. (Cabinets Acad. Nat. Sci. Philada., and Prime.)

Remarkable for its transversely spherical shape, which renders it distinct from all other species of this genus. It is much more solid than the generality of calyculate species, the valves being as strong as those of any of the larger species of the preceding group.

The *Cyclas pallida*, the young of this species, is more delicate than the adult; it is a little less transversely spherical, the striæ are lighter, and the color is bright yellow.

Prof. Haldeman's original specimen of the *Cyclas elevata*, from which this description was prepared, and which is now in the cabinet of the Academy of Natural Sciences, though very perfect in appearance, comprised but a single valve.

This species seems to be very rare. I have never met with any other specimens but the one in the cabinet of the Academy and those I have in mine,—two specimens of the *Cyclas pallida*, derived from De Charpentier himself, and a single valve from Florida.

17. *Sph. partumium*, Say.

Cyclas partumia, Say, Acad. Nat. Sci. Phila., II. 2, 380, 1822.

C. cornea, var. 2, Lam., An. s. vert. v. 558, 1818.

C. orbicularia, Barrat, Amer. II. xlviii. 276, 1845.

C. mirabilis, Prime, Bost. Proc. iv. 157, 1851.

C. cærulea “ loc. sub. cit. iv. 161, 1851.

C. eburæa, Anthony, “ “ “ iv. 279, 1852.

Animal usually white, in some varieties pink, syphonal tubes pink. Shell rounded-oval, thin, fragile, pellucid, somewhat inflated, nearly equilateral; anterior margin very slightly distended, rounded; posterior slightly abrupt; basal rounded; beaks central, calyculate, approximate at apex; striæ so delicate as hardly to be visible; epidermis glossy, of a light greenish horn color, with at times a zone of a different shade on the basal margin; valves delicate, moderately convex, interior light blue; hinge margin nearly straight, passing 1862.]

by a regular curve into the anterior margin, but curving suddenly behind so as to form an obtuse angle, causing the posterior side to appear broader, thus giving the shell a somewhat rhombiform appearance; cardinal teeth strong, assuming the shape of the letter V reversed; lateral teeth very much elongated.

The young shell is more compressed than the adult; it is usually light yellow.

Long. 8-16; lat. 7-16; diam. 5-16 inches.

Hab. N. America, in the States of Maine, Vermont, Massachusetts, New York, New Jersey, Pennsylvania, Ohio, S. Carolina, Georgia, Mississippi, Alabama and Arkansas. (Cabinets Acad. Nat. Sci. Phila., Boston Soc. Nat. Hist., Garden of Plants at Paris, Agassiz, Jay and Prime.)

This species varies much according to the localities where it is found, which accounts in part for the number of names it has received. The *Cyclas orbicularia*, of which I have authentic specimens from Mr. Barrat, is a genuine *Sph. partumium*, without even any local modifications of shape. The *Cyclas mirabilis*, from Georgia, is a small form of this species, and the *Cyclas cœrulea* differs from the type in being a little less inflated. The *Cyclas eburnea*, from Arkansas, varies from the Northern *Sph. partumium* in being more compressed and a little more elevated. I do not think, however, taking the difference of localities into consideration, that these are characters sufficient to warrant retaining the *Cyclas eburnea* as a distinct species. I had an opportunity while in Paris to assure myself that the variety No. 2 of *Cyclas cornea* was a true *Sph. partumium*.

This species is not only very widely distributed, but where it is found, it occurs in large numbers. The only one of our Northern species to which it bears much resemblance is the *Sph. truncatum*, and that is only in general outline; the *Sph. partumium* is much more inflated and transversely more broad.

18. *Sph. Jayanum*, Prime.

Cyclas Jayensis, Prime, Bost. Proc. iv. 157, 1851.

Animal not observed. Shell rhombic, nearly equilateral, moderately convex, thin, fragile, somewhat translucent, drawn up to an angle towards the hinge margin; anterior and posterior margins very abrupt, inferior very slightly curved; beaks central, calyculate, approximate at apex; hinge margin considerably shorter than the basal margin, slightly curved; cardinal teeth distinct in the shape of the letter V reversed; lateral teeth elongated; valves delicate, interior light blue; striæ hardly visible; epidermis glossy, light greenish horn color, with at times a zone of bright yellow on the inferior margin.

Long. 8-16; lat. 7-16; diam. 3-16 inches.

Hab. N. America, in the region of Lake Superior? (Cabinets Agassiz, Jay, Garden of Plants in Paris, and Prime.)

This attractive and rare species is easily distinguished by its elevated shape and by its abrupt lateral margins, which give it a somewhat triangular appearance. It is related to the *Sph. Rycholtii* of Europe, from which it differs, however, in being more inflated, its beaks are less prominent, the shell is more elevated, and its anterior margin is abrupt, whereas in *Sph. Rycholtii* it is distended and angular.

19. *Sph. subtransversum*, Prime, Proc. Zool. xxviii. 322, 1860.

Animal not observed. Shell small, transversely oblong, equilateral, translucent, fragile, compressed; beaks central, large, calyculate; striæ very delicate; epidermis greenish yellow.

Long. 3-10; lat. 2-10; diam. 1-10 inches.

Hab. N. America, at Tabasco in Mexico. (Cabinet Cuming.)

The only specimen I have seen of this species was sent to me for description by Mr. Cuming.

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20. *Sph. argentinum*, D'Orbigny.

Cyclas argentina, D'Orb., Mag. de Zool. 1835. Voy. en Amer. Mérid. 568, pl. 83, f. 5-7, 1844.

Animal not observed. Shell oval, small, translucent, compressed; anterior side short, somewhat angular, posterior side distended and truncated at the end; beaks calyculate; striæ delicate; epidermis greenish brown; valves slight, interior bluish; cardinal teeth united, lateral teeth hardly visible.

Long. 5-16; lat. 4-16 inches.

Hab. S. America, at Montevideo at the base of the Cerro. (Cabinet British Museum.)

It has not been my good fortune to meet with this species. M. D'Orbigny says it bears some resemblance to the *Cyclas caliculata*, meaning thereby, I presume, the shell now known to European conchologists under the name of *Sph. lacustre*, Férussac.

21. *Sph. tenue*, Prime.

Cyclas tenuis, Prime, Bost. Proc. iv. 161, 1851.

Animal not observed. Shell small, transversely oblong, pellucid, moderately full, subequilateral; anterior and basal margins rounded, posterior margin subabrupt; beaks nearly central, not prominent, calyculate; striations very fine and regular, hardly perceptible; epidermis glossy, light straw color; valves slight, interior straw color; hinge margin short, narrow, nearly straight; cardinal teeth very diminutive, lateral teeth small, elongated.

Long. 3-16; lat. 2-16; diam. 1-16 inches.

Hab. N. America, in the Androscoggin, Maine. (Cabinet Prime.)

This species, the smallest one known to inhabit the United States, was discovered some years since by Mr. Girard, from whom I obtained my specimens, the only ones I have met with. It may possibly be the young of some species, but if so, it would be very difficult to say which; setting aside its diminutive size, it appears to have all the characteristics of a mature shell. In outline it seems to be allied to the *Sph. transversum*; it is, however, more inflated, less elongated, and its margins are more rounded. At first sight, it might readily be mistaken for a *Psidium*.

22. *Sph. transversum*, Say.

Cyclas transversa, Say, New Harm. Dissem. 2, 356, 1829.

C. detruncata, Prime, Bost. Proc. iv. 155, 1851.

C. gracile, " loc. sub. cit. iv. 156, 1851.

C. constricta, Anthony, " " " iv. 274, 1852.

Animal white, syphonal tubes pink, foot white. Shell transversely oblong, elongated, subinequilateral, translucent; anterior side narrow; anterior margin rounded, posterior margin subtruncate, basal very much curved; beaks placed somewhat on the anterior side, large, calyculate, very much raised above the outline of the shell; striæ very delicate; epidermis greenish yellow, of a darker shade at times on the region of beaks; valves slight, interior bluish; hinge margin very nearly straight, narrow; cardinal teeth compressed, in the shape of the letter V reversed, and very much expanded; lateral teeth slightly elongated.

Long. 10-16; lat. 7-16; diam. 4-16 inches.

Hab. N. America, in the States of New York, Pennsylvania, Ohio, Kentucky and Arkansas. (Cabinets Jay and Prime.)

This large and delicate species is remarkable for its very transverse shape and for the narrowness of the anterior extremity as compared to the posterior. The form of the shell recalls that of many of the small species from the West Indies and South America. It is found in considerable abundance.

The *Cyclas detruncata* does not differ sufficiently from the type to constitute even a variety. The *Cyclas gracilis* is a large variety of *Sph. transversum*.] 1862.]

versum, it is a little more inflated and of a darker color. The *Cyclas contracta* is nothing more than a difformed specimen of Say's species, having a perpendicular furrow up the centre of each valve, caused by some accident occurring to the shell during its growth.

23. *Sph. Bahiense*, Spix.

Cyclas Bahiensis, Spix, Tert. Braz. 32, pl. xxv. f. 5, 6, 1827.

C. maculata, Anton, (non Morelet,) Wieg. Archiv, 284, 1837.

Pisum maculatum, Desh., Brit. Mus. Cat. 283, 1854.

P. Bahiense " loc. sub. cit. 284, 1854.

Musculium Bahiense, Adams, rec. gen. ii. 451, 1858.

M. maculatum, " loc. sub. cit. ii. 451, 1858.

Animal not observed. Shell very small, rounded-oval, inflated, inequilateral; anterior margin narrow, curved; posterior margin broad, subtruncate; inferior margin curved; beaks inclined towards the anterior, large, prominent, calyculate; valves slight, interior dark yellow, irregularly mottled with dark reddish spots; lines of growth very fine; epidermis yellowish brown, with irregular spots of dark purple; hinge margin very narrow, nearly straight; cardinal teeth small; lateral teeth comparatively strong, the posterior one much the longer.

Long. 5-32; lat. 2-16; diam. 3-32 inches.

Hab. S. America, at Bahia in Brazil. (Cabinets Jay, Prime and others.)

This, the smallest species of *Sphærium*, has the peculiar appearance characteristic of the West Indian and South American shells of this genus. It does not seem to be uncommon. Some authors, led away by its diminutive size, have committed the error, as may be seen by the above synonymy, of placing it under the head of *Pisidium*. I have never seen the *Cyclas maculata* of Anton, (non Morelet,) but have every reason to believe, from the description given of it, that it does not differ materially from this species. In outline it is somewhat similar to the *Sph. Barbadosense*; it is, however, much smaller, less inflated, and the beaks are much more raised. Compared to the *Sph. meridionale*, Nobis, and *Sph. maculatum*, Morelet, it is smaller, more inflated, and the margins are more rounded.

24. *Sph. Barbadosense*, Prime, Proc. Acad. Nat. Sci. Phila., 1861.

Animal not observed. Shell small, rounded-oval, ventricose, subequilateral, delicate; anterior side a little the shorter and narrower; margins generally rounded; beaks slightly inclined towards the anterior, nearly central, small, calyculate, approximate at apex, at times eroded; striæ coarse for the size of the shell, though not very distinct; epidermis dark greenish-brown; valves slight, very convex; cardinal teeth very small; lateral teeth strong, very much drawn up and shorter than they usually are in other species.

Long. $\frac{1}{4}$; lat. 1-5; diam. 5-32 inches.

Hab. Barbadoes, West Indies. (Cabinet Prime.)

I have but one specimen of this species, which seems to be closely allied to the *Sph. Bahiense* of Brazil; it is, however, much larger, more globose, and its beaks are not as much raised.

25. *Sph. modioliforme*, Anton.

Cyclas modioliformis, Anton, Wieg. Archiv, 284, 1837.

Pisidium diaphanum, Hald., Proc. Acad. Nat. Sci. Phila., i. 53, 1841.

Pisum modioliforme, Deshayes, Brit. Mus. Cat. 283, 1854.

Pisidium Moquinianum, Bourgt., Amen. i. 61, pl. 3, f. 13-17, 1855.

Cyclas Moquiniana, Gassies, Pisid. S. O. f. 9, 1855.

C. striatella, Ferussac, Museum of Paris.

C. littoralis " Collect. Michaud.

C. Venezuelensis, Prime, Museum at Leyden.

Musculium modioliforme, Adams, rec. gen. ii. 451, 1858.

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Animal not observed. Shell small, ovate-oblong, moderately inflated, inequilateral, translucent; anterior and basal margins rounded, posterior somewhat distended and subtruncate; beaks inclined towards the anterior, prominent, calyculate; valves slight, convex; epidermis dark yellow, irregularly spotted with a darker color; striæ hardly visible; teeth very small; hinge margin somewhat curved, very narrow.

Long. 5-16; lat. 3-16; diam. 5-32 inches.

Hab. S. America, in Brazil and Venezuela. (Cabinets Acad. Nat. Sci. Phila., Bourguignat, Gassies, Museum of Paris, Michaud, and Museum at Leyden.)

The specimen from which this description was prepared—the original shell from which Mr. Haldeman described the *Pisid. diaphanum*—is in the Cabinet of the Academy of Natural Sciences of Philadelphia. It was discovered in the interior of a large *Ampullaria* from Brazil. I have never seen the *Cyclas modioliformis* or the *Pisid. Moquinianum*, but judging from their descriptions and from the figure of the latter, I have little doubt but that they belong to the same species. I have had occasion to examine the *Cyclas striatella*, *littoralis* and *Venezuelensis* personally.

The *Sph. modioliforme* seems to be rare. It bears some resemblance to the *Sph. meridionale*, but it differs from it in being more inflated and of a lighter color.

26. *Sph. meridionale*, Prime, Proc. Acad. Nat. Sci. Phila., 1861.

Animal not observed. Shell small, transversely-oblong, compressed, delicate, inequilateral; anterior side narrow, shorter; anterior margin somewhat angular, posterior subabrupt, basal slightly rounded; beaks inclined towards the anterior, small, calyculate, approximate at apex; valves slight, compressed, striæ very regular and delicate, hardly perceptible; epidermis yellowish brown, irregularly mottled with large blotches of a much darker color; hinge margin very slightly rounded, narrow, much shorter than the basal margin; cardinal teeth diminutive; lateral teeth slight, the posterior tooth much the more elongated.

Long. $\frac{1}{2}$; lat. 1-5; diam. 2-16 inches.

Hab. N. America, at Panama. (Cabinet Prime.)

This species, of which I have never seen but one specimen, is easily distinguished by its very inequilateral and compressed shape. Compared to the *Sph. maculatum*, it is larger, its posterior margin is less abrupt, and its lateral teeth are larger.

27. *Sph. maculatum*, Morelet.

Cyclas maculata, Morelet, Test. nov. Insul. Cub., etc., pt. 2d, 25, 1851.

Animal not observed. Shell small, transversely-oblong, rhombic, elongated, inequilateral, compressed, delicate; anterior side much the narrower, slightly rounded; posterior side very broad; posterior margin abrupt, forming a straight line from the hinge to the base of the shell; inferior margin nearly straight; valves slight, very little convex; beaks small, calyculate, inclined towards the anterior side; striæ not perceptible; epidermis dark yellowish-brown, irregularly mottled with spots of a much darker color; hinge margin nearly straight; cardinal teeth very small; lateral teeth strong, elongated.

Long. 4-16; lat. 3-16; diam. 2-16 inches.

Hab. N. America, in Yucatan. (Cabinets Morelet, Jay and Prime.)

A rare species; the only specimens I have met with were kindly presented to me by the original describer. It is easily distinguished from all other species of *Sphærium* by the very great disproportion which exists between the lateral margins.

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28. *Sph. Veatleyi*, C. B. Adams.*Cyclas Veatleyi*, C. B. Adams, Contrib. Conch. 44, 1849.*Pisidium* " Petit, Il. Conch. ii. 421, 1851.*Pisum* " Desh., Brit. Mus. Cat. 283, 1854.*Musculium* " Adams, rec. gen. ii. 452, 1858.

Animal not observed. Shell small, transversely elongated, inequilateral, compressed; anterior and inferior margins rounded; posterior margin subtruncate; beaks situated towards the anterior side and inclined in that direction, small, prominent, calyculate; valves slight, interior irregularly spotted with dark blotches; striæ regular, coarse for the size of the shell; epidermis horn color with a tinge of brown; hinge margin nearly straight; cardinal teeth small but distinct, placed in the shape of the letter V reversed; lateral teeth well developed, elongated.

Long. 3-16; lat. 2-16; diam. 1-16 inches.

Hab. N. America, in the Island of Jamaica. (Cabinets Jay and Prime.)

This rare species, of which I received specimens from the late Prof. Adams, is somewhat allied to the *Sph. Portoricense*; it is, however, smaller, more delicate, more elongated, the valves are less full, the beaks less large, and the hinge in every way more slight.

29. *Sph. Portoricense*, Prime, Proc. Acad. Nat. Sci. Phila., 1861.

Animal not observed. Shell small, transversely elongated, rhombic, equilateral, slightly compressed; margins generally straight, in especial the posterior margin; beaks central, slightly inclined towards the anterior side, calyculate, approximate at apex; striæ regular, quite heavy considering the size of the shell; epidermis light brownish-yellow; cardinal teeth strong; lateral teeth strong, very much drawn up; valves solid, very little convex; the interior, and at times the exterior, irregularly spotted with a few dots of very dark color.

Long. $\frac{1}{4}$; lat. 1-5; diam. $\frac{1}{8}$ inches.*Hab.* Portorico, West Indies. (Cabinets Swift and Prime.)

The specimens from which this description were prepared were kindly furnished to me by Mr. Swift of St. Thomas. In proportion to its size this species is quite robust. It is different from the generality of the West Indian and South American *Sphæria* by its sulcations, which are regular and deep. In shape and appearance it recalls the young of *Sph. sulcatum*. It is allied to *Sph. Veatleyi* in outline, but otherwise it is different, in being heavier and of a larger size.

30. *Sph. securis*, Prime.*Cyclas securis*, Prime, Bost. Proc. iv. 160, 1851. Ann. N. Y. Lyceum, v. 218, pl. vi. 1851.*C. cardissa*, Prime, Bost. Proc. iv. 160, 1851.*C. crocea*, Lewis, loc. sub. cit. v. 25, 1854.

Animal pinkish, syphons of the same color. Shell rhombic-orbicular, ventricose, subequilateral, both sides of very nearly the same length; anterior margin a little curved; posterior margin abrupt, forming an obtuse angle with the hinge margin; basal margin much longer than the superior margin, rounded; beaks large, calyculate, slightly inclined towards the anterior, very approximate at apex; valves slight, very convex, especially in the region of the umbones; striæ delicate, regular, hardly perceptible; epidermis glossy in some cases, very variable in color, but generally of a greenish-horn, at times of a brilliant yellow or straw color; hinge margin curved, narrow; cardinal teeth very small, united at base; lateral teeth slight, elongated, very narrow.

Long. 6-16; lat. 5-16; diam. 4-16 inches.

Hab. N. America, in the States of Massachusetts, Vermont, Pennsylvania and New York. (Cabinets Jay, Lewis and Prime.)

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Found plentifully at Cambridge, Mass. I cannot see differences sufficient between the *Sph. securis* and the *Cyclas cardissa* to separate them; the *Cyclas cardissa* is more globose, transversely shorter, more elevated, but still intermediate forms uniting the two are so frequent that it is not possible that they should form distinct species.

The *Cyclas crocea*, Lewis, is a young of this species.

Compared to the *Sph. sphaericum*, the *Sph. securis* is more equilateral, the beaks are less tumid and less inclined, the sides are less rounded, and the hinge margin is less curved.

31. *Sph. rosaceum*, Prime.

Cyclas rosacea, Prime, Bost. Proc. iv. 155, 1851.

Animal not observed. Shell small, rounded-oval, fragile, translucent, sub-equilateral, somewhat compressed, margins generally rounded; beaks nearly central, slightly inclined towards the anterior, calyculate, approximate at apex; valves very slight, a little convex in the region of the umbones; striæ regular, hardly visible; epidermis shiny, reddish-brown; hinge margin nearly straight, delicate, narrow; cardinal teeth nearly obsolete, lateral teeth slight, elongated.

Long. 4-16; lat. 3-16; diam. 5-32 inches.

Hab. N. America, in the Schuylkill River. (Cabinet Prime.)

This species, which is very rare, the only specimens known to me being those in my collection, is not very liable to be confounded with others. Compared to the *Sph. occidentale*, it is less full, the beaks are more prominent and are calyculate.

32. *Sph. sphaericum*, Anthony.

Cyclas sphaerica, Anthony, Bost. Proc. iv. 275, 1852.

Animal not observed. Shell globose, subequilateral, transversely oval; anterior side narrow, distended, rounded; inferior margin rounded; posterior margin subabrupt; beaks inclined towards the anterior, large, prominent, calyculate; valves slight, very convex, interior blue; striæ fine and regular; epidermis greenish; hinge margin much curved; cardinal teeth strong, united at base and disposed in the shape of the letter V reversed; lateral teeth prominent, very distinct, rather short.

Long. 5-16; lat. 9-32; diam. 3-16 inches.

Hab. N. America, in the Black River, Ohio. (Cabinets Anthony and Prime.)

Very rare; I have never seen any specimens of this species but those in Mr. Anthony's collection and in mine. Compared to the *Sph. rosaceum*, it is less equilateral, more inflated and the margins are less rounded.

33. *Sph. truncatum*, Linsley.

Cyclas calyculata, C. B. Adams, Amer. Il., xi. 277, 1841.

" *truncata*, Linsley, Amer. Il., N. Ser., vi. 234, f. 3, 1848.

" *pellucida*, Prime, Boston Proc., iv. 277, 1852.

Animal not observed. Shell rhombic-orbicular, lenticular, thin, pellucid, very slightly inflated, subequilateral; anterior side narrower; anterior margin rounded; posterior margin nearly a straight line; basal somewhat curved; beaks central, calyculate, approximate at apex; striæ very delicate; epidermis glossy, light greenish horn color; valves slight, very little convex; interior light blue; hinge margin very nearly straight; very narrow; cardinal teeth diminutive, united at base; lateral teeth slight, narrow, not much elongated.

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Long. 6-16; lat. 5-16; diam. 5-32 inches.

Hab. N. America, in the States of Maine, Vermont, Massachusetts, Connecticut, New York and Ohio. (Cabinets Linsley, Gould and Prime.)

The specimens from which this description was prepared, the same ones from which Dr. Gould described the original *Cyclas truncata*, are precisely similar to those the late Prof. Adams sent to me labelled *Cyclas calyculata*, from Vermont, and which I described, in 1852, under the name of *Cyclas pellucida*. This species is undoubtedly very closely allied to the *Sph. lacustre*, Férussac (*Cyclas calyculata* of authors) of Europe, but still the differences are patent enough to authorize its being retained as distinct. Compared to the *Sph. partumium*, the *Sph. truncatum* is less inflated, transversely less broad, the posterior margin is more abrupt and the hinge slighter. The young, more tumid than the adult, is of a lemon yellow. Found not uncommonly.

34. *Sph. lenticula*, Gould.

Lucina lenticula, Gould, Bost. Proc., iii. 256, 1850.

Cyclas lenticula, Gould, Atlas Explor. Exped., pl. 36, f. 528.

Animal not observed. Shell rhombic-orbicular, lenticular, thin, pellucid, very slightly inflated, nearly equilateral; anterior side narrower; anterior margin curved; posterior margin abrupt, inferior rounded; beaks central, calyculate, approximate at apex; striæ hardly visible; epidermis glossy, light greenish horn color; valves delicate, a little convex towards the region of the umbones; interior light blue; hinge margin nearly straight, narrow; cardinal teeth hardly visible, united at base; lateral teeth slight, narrow, not much elongated.

Long. 7-16; lat. 6-16; diam. 3-16 inches.

(Cabinets Gould, Anthony and Prime.)

Hab. N. America, in Carson River, California.

This species, of which I obtained specimens from Dr. Gould, is so similar in nearly every respect to the *Sph. truncatum*, that it is very difficult to tell them apart. The valves of the *Sph. lenticula* are perhaps a little more convex as they approach the region of the beaks, and the hinge margin a little more curved and less narrow. The young shell is of the same color as the adult, whereas, with *Sph. truncatum*, the young is of a lighter color.

Fossil Species.

35. *Sph. recticardiale*, Meek and Hayden, Ac. N. S. Phil., Proc., 176, 1860.

Shell of medium size, transversely subelliptical, rather compressed, very thin; anterior side rounded; base forming a regular semielliptical curve; posterior extremity obliquely subtruncate above and rather narrowly rounded below; cardinal margin long and straight; beaks very small, compressed and projecting but slightly above the hinge, located nearly half way between the middle and the anterior end; surface marked by moderately distinct, irregular lines of growth.

Long. 0.55; lat. 0.36; diam. 0.24 inch.

Hab. Near the mouth of Grand River, on the Upper Missouri, Nebraska, U. S. of America. Tertiary Formation.

36. *Sph. planum*, Meek and Hayden, Ac. N. S. Phil., Proc., 175, 1860.

Shell rather small, broad oval or subcircular, much compressed; extremities more or less regularly rounded, the posterior margin being sometimes faintly subtruncate; base semioval in outline; cardinal margin rounding gradually from near the middle; beaks very small, compressed, and scarcely extending beyond the hinge margin, nearly central; surface marked by fine, irregular, obscure concentric striæ.

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Long. 0·38; lat. 0·32; diam. 0·08 inch.

Hab. Near the mouth of Grand River, on the Upper Missouri, Nebraska, U. S. of America. Tertiary formation.

37. *Sph. formosum*, Meek and Hayden.

Cyclas formosa, M. & H., Ac. N. S. Phil., Proc., 115, 1856.

“*fragilis*, M. & H., loc. sub. cit., 115, 1856.

Shell small, oval, oblique, scarcely ventricose; cardinal margin straight; buccal end rounded; anal extremity obliquely truncate; basal margin semi-elliptical or broadly rounded; beaks obtuse, tumid, rising somewhat above the hinge, nearly touching, placed a little in advance of the middle; surface ornamented by very fine, regular, distinct, concentric wrinkles.

Long. ·17; lat. ·08; diam. ·14 inch.

Hab. Three miles above Fort Union, Nebraska, U. S. of America. Tertiary Formation.

38. *Sph. subellipticum*, Meek and Hayden.

Cyclas subelliptica, M. & H., Ac. N. S. Phil. Proc., 115, 1856.

Shell small, elliptical-ovate, somewhat ventricose, thin and fragile; posterior end narrower than the anterior, both narrowly rounded; base semi-elliptical or semiovate; cardinal border apparently rounding gradually to both extremities; beaks not much elevated, pointed; incurved, not oblique, located near the middle; surface indistinctly marked with lines of growth.

Long. ·24; lat. ·14 inch.

Hab. Three miles above Fort Union, Nebraska, U. S. of America. Tertiary Formation.

“The beaks are so near the middle, and curved so nearly at right angles to the longitudinal diameter of the shell, that it is not easy to determine, especially from the examination of mutilated specimens, which is the posterior or which the anterior end. As we have only seen imperfect specimens, we are not sure the surface markings are indistinct on unworn shells.”—M. & H.

The following shells, known under the name of *Cyclas*, must be excluded from the list of American species of *Sphærium*, in some cases because they have been improperly placed in this genus, and in others, because no description has been published:—

- Cyclas aequalis*, Rafinesque, is *Pisid. Virginicum*.
- “ *altilis*, Anthony, is *Pisid. compressum*.
- “ *Americana*, Christof. and Jan. Undescribed.
- “ *Caroliniana*, Bos., is *Cyrena Caroliniensis*.
- “ *Chilensis*, D’Orbigny, is *Pisid. Chilense*.
- “ *clandestina*, Da Costa, is a marine shell.
- “ *densata*, D’Orbigny, (fossil,) is *Cyrena densata*.
- “ *dubia*, Say, is *Pisid. Virginicum*.
- “ *fluviatilis*, Bosc, is a *Corbicula*.
- “ *Fontaineii*, D’Orbigny, is *Cyrena Fontaineii*.
- “ *hammalis*, Rafn., is a *Corbicula*.
- “ *limosa*, D’Orbigny, is *Corbicula limosa*.
- “ *maritima*, D’Orbigny, is *Cyrena Cubensis*.
- “ *minor*, C. B. Adams, is *Pisid. abditum*.
- “ *nitida*, Adams & Mighl., is *Pisid. Adamsi*.
- “ *ovata*, Lewis. Undescribed.
- “ *Paranensis*, D’Orbigny, is *Corbicula Paranensis*.
- “ *pygmea*, C. B. Adams, is *Pisid. Jamaicense*.
- “ *variegata*, D’Orbigny, is *Corbicula limosa*.
- “ *Virginica*, Férussac, is *Pisid. Virginicum*.