

Dr. George W. Sloan is chairman of the Local Committee. Members of the Association arriving in Indianapolis before the meeting should call for information at the temporary office of the local secretary, Alfred F. Potts, No. 19½ N. Pennsylvania street.

The American Geological Society will hold its semi-annual meeting at the State House, on August 19.

2. *Hailstones of peculiar form*; by O. W. HUNTINGTON. (Communicated).—During a severe thunder storm at Asquam Lake, Holderness, N. H., on July 14th, there was a fall of large hailstones continuing for some 10 minutes. On examination, many of the stones proved to be sharply defined crystals having the form of a double hexagonal pyramid, resembling dodecahedral quartz; others were rounded and flattened and some had a spherical nucleus with small partially formed crystals projecting from it.

3. *Oswald's Klassiker der exacten Wissenschaften*. Leipzig, 1890. (Wm. Engelmann).—Recent issues in this valuable series (this Journal, vol. xxxviii, 256) are the following:

No. 4. Untersuchungen ueber das Jod, von Gay Lussac (1814).

No. 5. Allgemeine Flächentheorie (Disquisitiones generales circa superficies curvas), von Carl Friedrich Gauss (1827).

No. 6. Ueber die Anwendung der Wellenlehre auf die Lehre vom Kreislaufe des Blutes und insbesondere auf die Pulslehre, von E. H. Weber (1850).

No. 7. Untersuchungen ueber die Länge des einfachen Secundenpendels, von F. W. Bessel (1826).

No. 8. Die Grundlagen der Molekulartheorie. Abhandlungen, von A. Avogadro und Ampère (1811-1814).

No. 9. Thermochemische Untersuchungen, von G. H. Hess (1839-1842).

No. 10. Die mathematischen Gesetze der inducirten elektrischen Ströme, von Franz Neumann (1845).

No. 11. Unterredungen und mathematische Demonstrationen über zwei neue Wissenszweige die Mechanik und die Fallgesetze betreffend, von Galileo Galilei. Erster und zweiter Tag (1638).

No. 12. Allgemeine Naturgeschichte und Theorie des Himmels oder Versuch von der Verfassung und dem mechanischen Ursprunge des ganzen Weltgebäudes nach Newtonischen Grundsätzen abgehandelt, von Immanuel Kant (1755).

OBITUARY.

CHRISTIAN HENRY FREDERICK PETERS, the ever active and accomplished astronomer, at the head of the Observatory of Hamilton College, Clinton, N. Y., died on the 19th of July, in his 77th year. In 1838, having two years before taken the degree of Doctor of Philosophy at Berlin, he was with von Waltershausen in his study of Mt. Etna, and afterward on the Geodetic Survey of Naples. After the revolution of 1848 he left Italy, and in 1853 came to the United States. He received an appointment from the U. S. Coast Survey, and was for a while at the Cambridge and then the Albany observatory, before his call in 1858 to Hamilton College. His laborious work of mapping the stars was rewarded by the discovery of forty-seven asteroids. In 1882 a first series of his "Celestial Charts," twenty in number, was published. His results also include observations on comets, on solar spots, on the Transit of Venus on the New Zealand Expedition in 1874, when he took 237 photographs, and observations at the Solar Eclipse of 1869, at Des Moines, Iowa.

APPENDIX.

ART. XXI.—*Notice of some Extinct Testudinata*; by O. C. MARSH. (With Plates VII and VIII.)

THE remains of various Testudinata, some of special interest, have recently been examined by the writer. A brief description of a few of these is given below, and this, with the figures on the accompanying plates, will make known their main characters. Descriptions of other important specimens of the same group will be given in later communications.

Glyptops ornatus, gen. et sp. nov.

The present genus is represented by a number of characteristic remains, among the most interesting of which is the skull shown on Plate VII, figure 1, which may be considered the type specimen. A striking feature of this skull is that its entire external surface is elaborately sculptured. This character, hitherto unknown in the *Testudinata*, has suggested the name proposed.

In its general features, this skull resembles that of *Chelydra serpentina*, Lin. It is wedge-shaped in form, when seen from above, as shown in figure 1. The orbits are small, and well in front. The nasal opening is directed upward, rather than forward. The premaxillaries project downward in front into a tooth-like beak. The nasals appear to be distinct. The maxillaries are deeply grooved below, but show no indications of true teeth. The skull is roofed over posteriorly, as in *Chelone*, and some other sea-turtles.

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Portions of two other skulls beside the type specimen are preserved, and these afford several additional characters. They belong apparently to the same species.

There is a post-temporal arch. The occipital condyle is nearly round, and has a deep pit in the center. The condyle is formed entirely of the basioccipital, as the thin exoccipital plates do not reach the articular surface. The basioccipital processes are prominent, and directed backward. The pterygoids separate the quadrates and the basisphenoid. At their union with each other, they are much constricted, but expand in front. The quadrate is stout and curved, and its articular face is deeply notched.

The lower jaws referred to this species are slender and much less sculptured than the skull. The dentary bones unite at the symphysis by a short, open suture, and form a sharp elevated point to meet the decurved tooth-like beak above. The upper border is quite sharp, and fits well into the deep alveolar sulcus of the maxillary.

The carapace, represented in Plate VII, figure 2, was not found with the skull, and may possibly represent a distinct form. It resembles the corresponding part in *Dermatemys*, but the costals do not meet on the median line. It has the complete number of eight neurals, and in this and some other characters resembles *Helochelys*, von Meyer, from the Cretaceous Greensand of Germany, and *Pleurosternon*, of Owen, from the English Purbeck.

The plastron of a third individual had mesoplastral bones, an intergular plate, and inframarginals, as in the above genera. The pelvis was not coössified with the carapace or plastron. The sculpture of both carapace and plastron is similar to that of the skull.

The present genus appears to be most nearly related to *Compsemys* of Leidy, from the Cretaceous, but as the skull of that genus is not known their more exact relations cannot at present be determined.

The specimens here described are from the Atlantosaurus beds of the Upper Jurassic of Wyoming, and hence are among the oldest known American turtles. They appear to represent a distinct family which may be called the *Glyptopsidæ*.

Adocus punctatus, sp. nov.

The type specimen of this species is in part represented on Plate VII, figure 3. The plastron belonging with the carapace shown is also in excellent preservation. The skull is not known. The structure of the carapace indicates that this specimen is nearly related to that described by Leidy, under

the name *Emys beatus*,* but the present form may be distinguished by the deep distinct pits which mark the whole external surface.

The plastron shows evidence of an intergular plate, and inframarginals. There is no mesoplastron.

The nearest living form is probably *Dermatemys*, from Central America.

The present specimen is from the Cretaceous of New Jersey.

Testudo brontops, sp. nov.

The present species includes the largest American tortoises known, living or extinct. The type specimen, represented on Plate VIII, one-twelfth natural size, is not more than one-half as large as some seen by the writer in the Miocene of Dakota, near the base of the Brontotherium beds. They were surpassed in size only by the gigantic forms from the Pliocene of India.

The present species is very nearly related to the recent *Testudo elephantopus*, Harlan, from the Galapagos islands, and to the huge forms from Madagascar. It differs from the former in the presence of a nuchal plate, and from both, in the long median suture between the first marginal plates. The anterior portion of the plastron, moreover, projects considerably in front of the carapace. Other distinctive features are shown in the figures.

The specimen here described was secured by Mr. J. B. Hatcher, from the lower Miocene of Dakota.

New Haven, Conn., July 18th, 1890.

EXPLANATIONS OF PLATES.

PLATE VII.

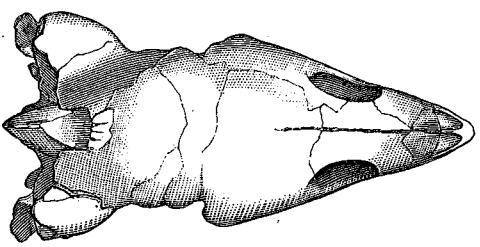
- FIGURE 1.—Skull *Glyptops ornatus*, Marsh; top view; natural size.
 FIGURE 2.—Carapace of same species; top view; one-fourth natural size.
 FIGURE 3.—Carapace of *Adocus punctatus*, Marsh; top view; one-eighth natural size.

PLATE VIII.

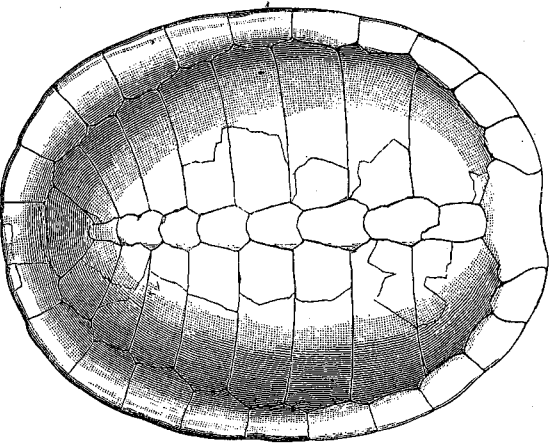
- FIGURE 1.—*Testudo brontops*, Marsh; front view.
 FIGURE 2.—The same specimen; top view.
 FIGURE 3.—The same; bottom view.

All the figures are one-twelfth natural size.

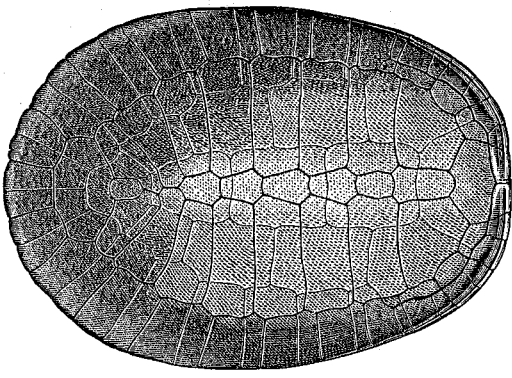
* Cretaceous Reptiles, page 107, Plate XVIII, figure 1, 1865.



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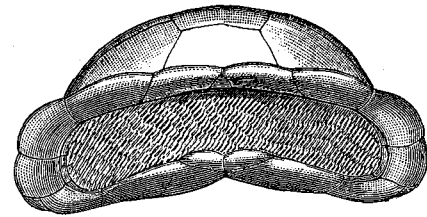
2.



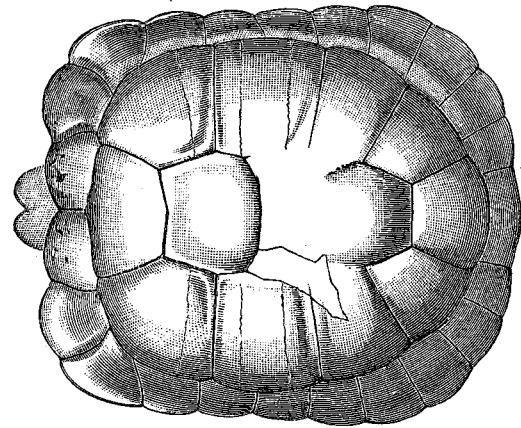
3.

FIGURE 1.—GLYPTOPS, †; 2, GLYPTOPS, †; 3, ADOUS, †.

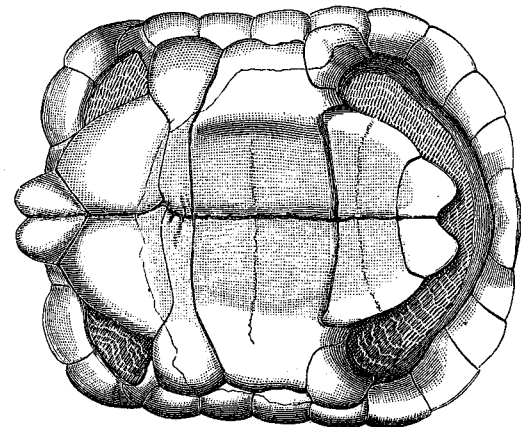
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TESTUDO BRONTOPS, Marsh, $\frac{1}{2}$.