A communication was read from Dr. Dunglison, Secretary of the American Philosophical Society, addressed to Vice President Morton, stating that Prof. John Müller, of Berlin, was desirous of establishing a system of exchanges of specimens of Natural History with Institutions in this country, and requesting the attention of the Academy to the subject. Referred to a committee consisting of Messrs. Vaux, Phillips and Cassin.

A letter was read from Dr. Edmund Ravenel, of Charleston, S. C., dated June 14, 1845, containing a description and drawing of a recent specimen of Scutella, found at sea, off the coast of South Carolina, and supposed by him to be new. Referred to the following committee: Dr. Robert E. Griffith, Dr. Morton and Mr. Phillips.

Meeting for Business, June 24th, 1845.

VICE PRESIDENT WETHERILL in the Chair.

The Committee on the Rev. Mr. Zeigler's paper, describing new North American Coleoptera, read April 8th, 1845, reported in favour of publication.*

The Committee on the following notice, by Dr. Ravenel, of a new Scutella found off the coast of South Carolina, read at last meeting, reported in favour of publication.

Description of a new recent species of Scutella.

By EDMUND RAVENEL, M. D., of Charleston, S. C.

SCUTELLA *gibbosa.*

Specific character.—Subpentagonal, truncated posteriorly; margin thick and rounded; ambulacra large, oblong-oval, with open apices; upper surface convex, the convexity terminating rather abruptly at the apices of the ambulacra; lower surface slightly concave, with five simple, broad, compressed grooves

*To appear in a future No. of the Proceedings.

extending from the mouth nearly to the margin; vent oblong-transverse, near the margin.

This is a recent species obtained by the dredge at sea, in about 14 fathoms, off Charleston, South Carolina. It is probably abundant, although but few specimens were brought ashore. It is remarkable for its size, and for its dorsal convexity and thick margin.

The Committee to whom was referred the following paper, read at last meeting, by Dr. R. W. Gibbes, of Columbia, S. C., reported in favour of publication.

Description of the Teeth of a new Fossil Animal found in the Green Sand of South Carolina.

By ROBERT W. GIBBES, M. D., of Columbia, S. C.

DORUDON SERRATUS.

Teeth spear-shaped, serrated, in distinct deep sockets with double fangs, the bifurcation commencing a half inch below the enamel, which extends from the point of the tooth one inch; enamel striated; the serræ longitudinal, diminishing in size from the apex of the tooth, which is $\frac{7}{8}$ of an inch from the first lateral point; length of the tooth $3\frac{1}{4}$ inches; breadth $2\frac{1}{8}$ inches; thickness of the body below the enamel *a half inch;* the anterior root a cone compressed laterally, the other prismatic, thicker on the posterior side, which is fluted so as to present the appearance of being partially divided into two fangs. Where the fangs are united the neck is contracted, so that a horizontal section presents the yoke shape of the tooth of the *Zeuglodon* of OWEN; in one of the teeth the distance from the extremities of the fangs across is $2\frac{1}{2}$ inches.

The teeth and fragments of a maxillary bone here described, were found in March last, in a bed of Green sand near the Santee Canal, in South Carolina. The locality is on the plantation of R. W. Mazyck, Esq., about three miles from the entrance of the canal from the head waters of Cooper river. The deposite of Green sand is from four to eight feet thick near the surface, lying on a solid yellowish limestone containing casts of *Cardita Planicosta*, (Sow.,) and *Pecten Mortoni*, (Ravenel,) which, according to the opinions of LYELL and CONRAD, would refer it to the *Eocene* period. Casts of *C. planicosta* are found in the Green sand, which seems, therefore, to belong to the *Tertiary* formation. CONRAD makes the following remarks, in his communication on "the *Tertiary*," addressed to the National Institution.

"In many localities of the former period (tertiary,) the *green sand* is quite as abundant as in the fossiliferous 'marls' of New Jersey." In this deposite is found, in great abundance, *Gryphæa mutabilis*, also *Pecten membranosus*, *P. calvatus*, *Scutella crustuloides*, *S. Rogersii*, *Solarium?* *Plagiostoma gregale*, *Anomia jugosa*, *Teredo tibialis*, *Scalaria Sillimani?* Casts of a large

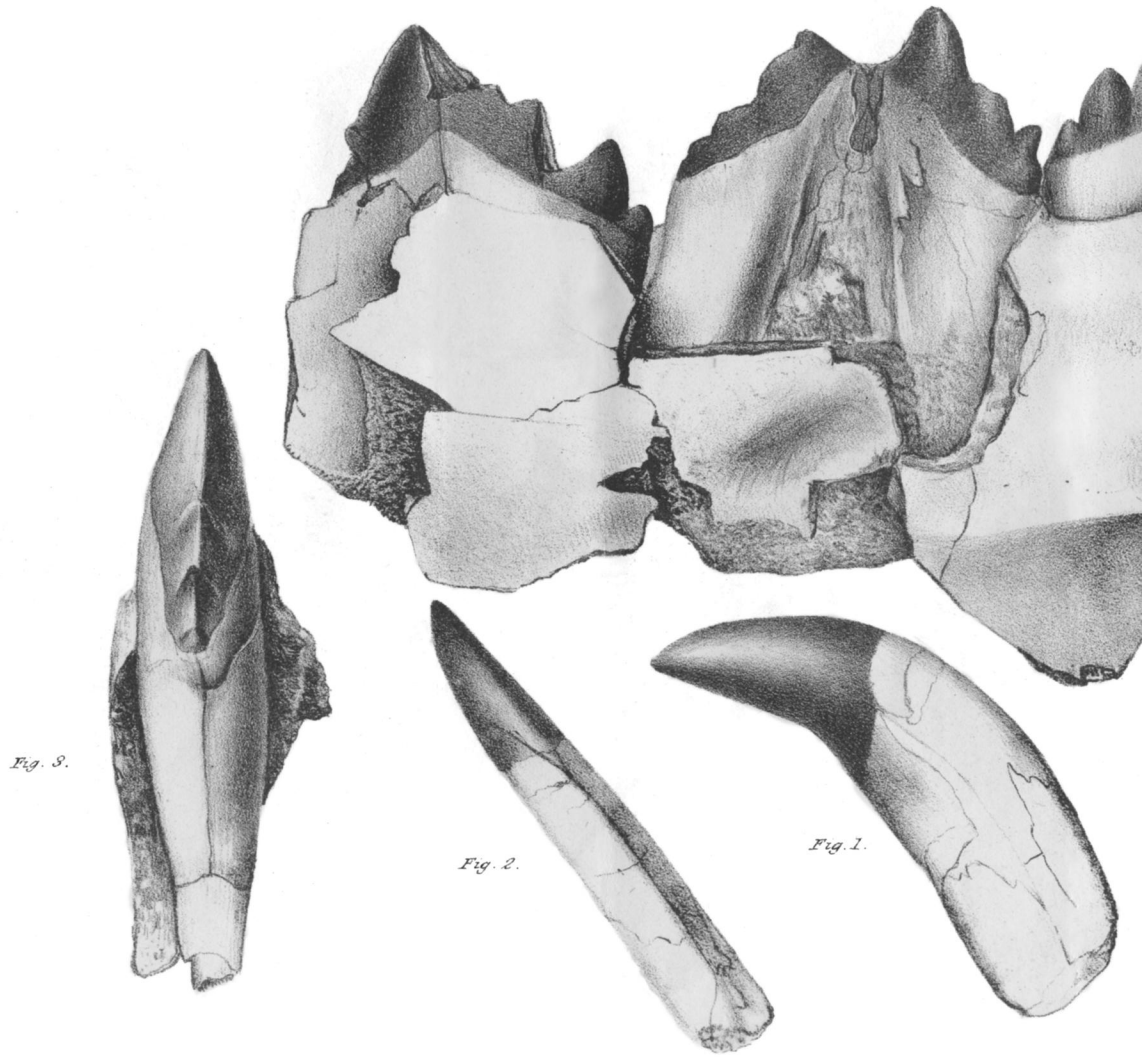

Fig. 3.

Fig. 2.

Fig. 1.

From Nature by French.

Dorudon Serratus GIBBES.

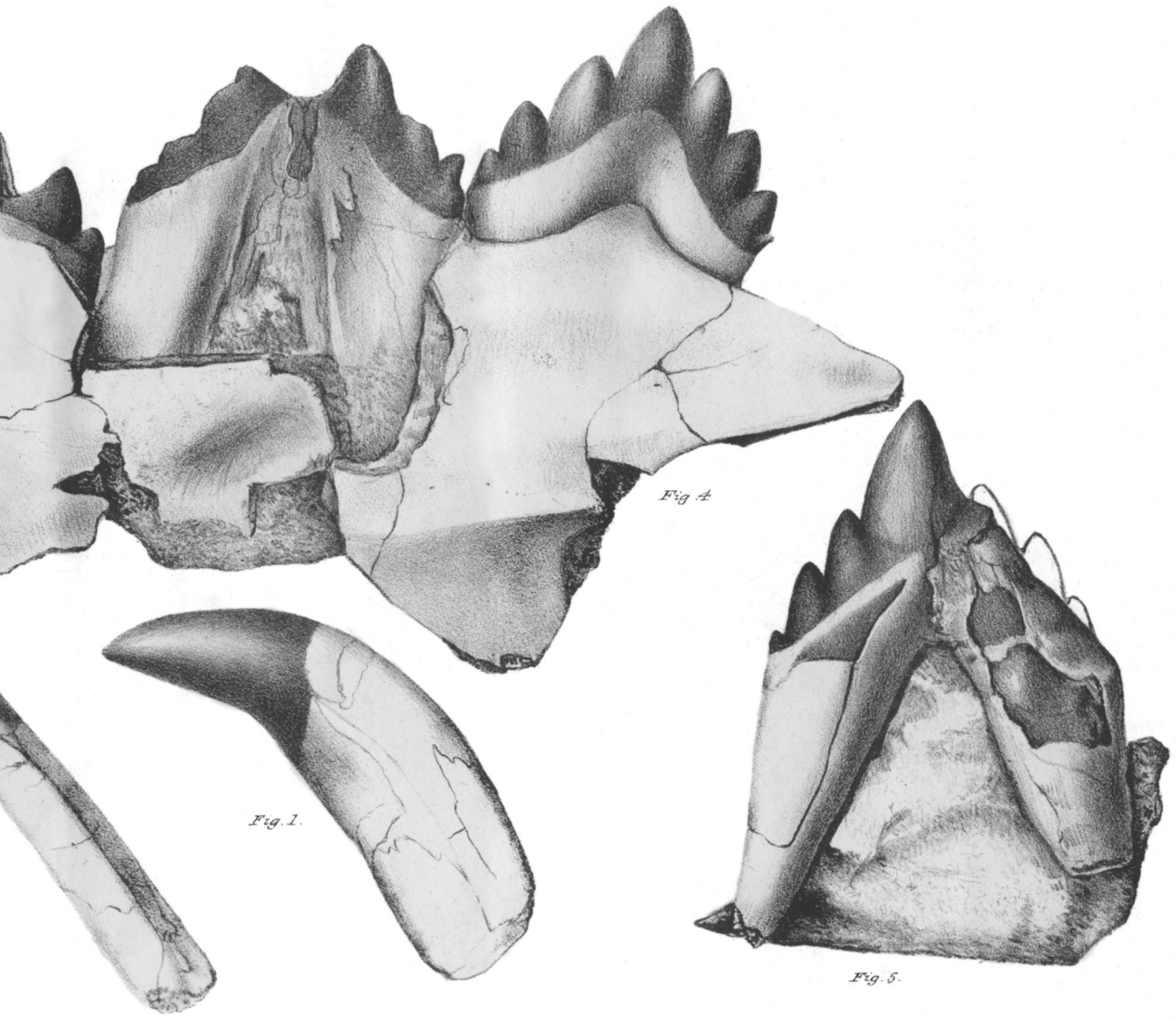

Fig. 4

Fig. 1.

Fig. 5.

Sinclair's Lith. Phil.ª

Dorudon Serratus GIBBES.

Nautilus, probably *Alabamiensis*, (Morton,) vertebræ of *Cetacea*, Teeth of *Crocodiles*, and of several species of *Squalus*; casts of *C. planicosta*, and of a *Terebratula*. Mr. Tuomey, the Geological Surveyor of South Carolina, found also, at this locality, a new *Ostrea* and a large *Lima*. Here also was found a singular fossil, of a conical shape, 15 inches long, fluted externally, somewhat resembling a Belemnite, of which a drawing and description have been forwarded to the Academy of Natural Sciences by Dr. E. Ravenel, of Charleston, South Carolina.

About two miles from this locality a very compact white limestone is found, with grains of silicate of iron intermingled with portions of it, containing *Ostrea sellæformis*, *O. panda*, *Terebratula lacryma*, *Scutella crustuloides*, casts of *Turritella Mortoni*, *Conus gyratus*, *Anthophyllum atlanticum*, *Flustra?* casts of the Chambers of a *Nautilus*, *Crustacea*, a *Spatangus*, *Cidaris?* &c. &c. Here also Mr. Tuomey has discovered another new *Ostrea*. This list of fossils is made out from recollection, and without the specimens before me.

With these teeth I have a part of a lower maxilla, containing portions of teeth, 20 inches in length, hollow, filled with the *green sand*. It resembles much the elongated beak of the *Gavial*, but is too imperfect to describe more accurately.

A portion of the anterior part of this jaw contains a cuspidatus, resembling that of the *Megalosaurus*, a single fang, with the protruding crown and point curved but not serrated; it is compressed laterally, and placed obliquely in a socket.

These teeth are all *hollow*, filled with the *green sand* which surrounds them. They differ materially from any genus or species described by CUVIER, OWEN, MANTELL, BUCKLAND, HARLAN, MORTON, or HAYS. A strong resemblance exists, in the form of the elongated snout, to the *Gavials*, while the hollow teeth, characteristic of *Saurians*, differ from them in being seated in sockets, and having two roots.

MANTELL, treating of the teeth of Reptiles, says:

"The characteristic type is that of a conical pointed tooth with a simple root or fang; for in no reptile does the base of the tooth terminate in more than one fang, and this is never branched."

OWEN, in his *Odontography*, (p. 25.) observes:

"Any fossil which exhibits a tooth implanted by two fangs in a double socket must be mammiferous, since the socketed teeth of reptiles have but a single fang, and the only fishes' teeth which approach such a tooth are those with a bifurcate base belonging to certain sharks."

I observe that Professor OWEN has classed the *Zeuglodon* (*Basilosaurus* of Harlan,) with the *Cetacea*. I am inclined to think the *Dorudon*, which I here name, (from δορυ, a spear,) will, on farther investigation, be found to belong to the same class.

I visited the locality where it was found, but the marling operations of the planters had ceased for the season, and the pits were filled with water. I have made arrangements for excavations in the fall, when I hope to procure other bones of this remarkable fossil. It may then be possible to decide with more authority as to its position in the great scale of extinct gigantic *carnivora*.

Since the above communication was written, I have visited Albany, and through the politeness of Professor EMMONS, had an opportunity of examining the teeth of the *Zeuglodon cetoides*, (Owen.) I was much struck with the similarity in their general characters with those of the *Dorudon*. They are very much of the same form, but the crown rounded instead of hastate—the serratures are similar, though more crenate. The fangs of some are inserted almost perpendicularly, while in others they are divergent, and fixed in the sockets as in the *Dorudon*. The teeth of the *Zeuglodon* are *solid*, of dense structure, and very strong, resembling those of *Cetacea*, while the *hollowness* of those of the *Dorudon* approximate it to the *Saurians*. The jaw of the *Zeuglodon* is much shorter, and proportionally thicker. The conformation being similar, while the specific characters of these teeth separate them, I am disposed to think that the *Dorudon* is an intermediate connecting link between these two great classes.

Professor EMMONS is about to publish correct drawings of the teeth of the *Zeuglodon*, which Professor OWEN has not given, from having imperfect specimens.

References to the Plate.

1. Tusk of Lower Jaw of Dorudon.
2. Edge View of No. 1.
3. Edge View of No. 5.
4. Portion of Upper Maxilla, with Teeth.
5. Inner View, showing the Insertion of the Fangs.

Dr. Morton read a letter from Mr. J. J. Audubon, dated New York, June 3d, 1845, offering to the Academy to dispose of a very fine collection, made by himself, of American Quadrupeds, mounted and in skin, and now in his possession. A list of the same was enclosed, including between sixty-five and seventy species, among which are several Buffaloes, a number of Deer, Antelopes, Elks, Rocky Mountain Goat, Wolves, Grisly Bear, Peccary, Porcupines, and numerous specimens of the smaller quadrupeds. On motion, referred to the Zoological Committee.

The following gentlemen were elected Correspondents of the Academy.

M. E. Chevreul, Director of the "Museum d'histoire naturelle á Paris."

Robert W. Gibbes, M. D., of Columbia, S. C.

Victor Audubon, Esq., of New York.

And Mr. Theodore F. Moss, of Philadelphia, was elected a member of the same.