

PYRGULIFERA HUMEROSA Meek.

Fig. 10.—Lateral view of type specimen; natural size.

Fig. 11.—Opposite view of the same.

Fig. 12.—Similar view of a smaller example.

PYRGULIFERA (PARAMELANIA) DAMONI Smith.

Fig. 13.—Copy of Mr. Smith's original figure.

PYRGULIFERA (PARAMELANIA) CRASSIGRANULATA Smith.

Fig. 14.—Copy of Mr. Smith's original figure.

EXPLANATION OF PLATE IV.

CORBICULA BERTHOUDI (sp. nov.).

Fig. 1.—Left side view; natural size.

Fig. 2.—Dorsal view of another example.

Fig. 3.—Interior of left valve of another example.

CORBICULA AUGHEYI (sp. nov.).

Fig. 4.—Right side view; natural size.

Fig. 5.—Interior view of the same example.

Fig. 6.—Dorsal view of another example.

NERITINA BRUNERI (sp. nov.).

Fig. 7.—Lateral view; natural size.

Fig. 8.—Apertural view of the same example.

MELANOPSIS AMERICANA (sp. nov.).

Fig. 9.—Two different lateral views; enlarged.

Fig. 10.—Another view of the lower part of the same example, showing the beak and the callus of the inner lip.

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**4.—THE MOLLUSCAN FAUNA OF THE TRUCKEE GROUP, INCLUDING A NEW FORM.**

**By C. A. WHITE.**

[Extracted from the Annual Report of the United States Geological Survey for 1882, by permission of the Director.]

In volume II, Paleontology of California, Mr. Gabb described and figured two species of fresh-water fossil mollusca from the valley of Snake River, Idaho, which he stated to be of Tertiary age. In volume IV, United States Geological Survey of the Fortieth Parallel, Mr. Meek described and figured seven other species, one from Southwestern Idaho and the others from the Kawsob Mountains, in Northern Nevada. He referred these to the Tertiary period, and they evidently came from strata that are geologically equivalent with those which furnished Mr. Gabb's specimens. Mr. King, in volume I of the last named survey, referred these strata to the Miocene epoch of the Tertiary period, and gave them the name of Truckee Group.

While arranging the fossils of the National Museum, I lately found among other undistributed material a small mass of fossiliferous rock, which bore the label "50 miles below Salmon Falls, Snake River."

Upon breaking up this mass it was found to contain examples of both the species that were described by Gabb, and also another form that has not hitherto been described. This makes ten species of mollusks that are now known to exist in that formation.

Although this fauna, so far as it is now known, is a very meager one, it is, nevertheless, very interesting, because it differs so much from any other fresh-water fauna, either fossil or now living, in North America. This difference is all the more remarkable because the fresh-water fauna of the Laramie, and the several Eocene groups, all of which are older than the Truckee Group, consist largely of types that are now living in the Mississippi drainage system.

Illustrations of all the molluscan species that are yet known to exist in the Truckee Group are brought together on Plate V for the purpose of presenting them all at a single view. All of them, except the four figures of *Latia dallii*, are copies of the original figures published by Meek and Gabb respectively.

Not deeming it necessary to repeat the descriptions of the species that have already been published, the new form only will be herein described.

The names of the others, however, are given in the following paragraphs, together with references to the respective works in which the species were originally described.

*Melania sculptilis* Meek, U. S. Geol. Sur. 40th Parallel. Vol. IV, p. 195.

*Melania subsulptilis* Meek, *Ib.*, p. 196.

*Melania taylora* Gabb. Paleontology of California. Vol II, p. 13.

*Lithasia antiqua* Gabb, *Ib.*, p. 13.

*Carinifex (Vorticifex) tryoni* Meek, U. S. Geol. Sur. 40th Parallel. Vol. IV, p. 188.

*Carinifex (Vorticifex) binneyi* Meek, *Ib.*, p. 187.

*Ancylus undulatus* Meek, *Ib.*, p. 186.

*Spharidium rugosum* Meek, *Ib.*, p. 182.

*Spharidium idahoense* Meek, *Ib.*, p. 183.

*Latia dallii* (sp. nov.), plate V, figures 17, 18, 19, and 20. Shell subovate in marginal outline; irregularly convex above; the posterior portion narrowing rapidly to a small prominent umbo which ends in a very small closely incurved beak which is turned a little to the right side, and makes about one full volution. Semilunar shelf or septum comparatively large. Surface marked by many strong irregular concentric undulations; but otherwise it is comparatively smooth, being marked only by fine lines of growth.

Length, 16 millimeters; breadth, 10 millimeters; height, 7 millimeters. (Museum No. 11547.)

The specific name is given in honor of Mr. W. H. Dall, whose important works upon the mollusca are well known.

This interesting shell seems to agree with the genus *Latia* Gray in all essential characteristics, so far as they are observable upon the specimens that have yet been discovered. The form is *Crepidula*-like, the test thin, and the semilunar septum, well developed; but the "projecting free lamina" upon the right side of the septum, described by Dr. Gray, has not been observed upon our examples.

Although in form and structure this shell is so much like a *Crepidula*, its fresh-water associations forbid its reference to the Calyptridae. I am not entirely satisfied that it ought to be referred to the Ancyliidae, but for the present I place it provisionally in that family.

The fact that this shell is entirely unlike any form that is now known in North America, either living or fossil, gives it peculiar interest. This interest is also largely increased by the fact that the genus to which it is here referred has hitherto been known only in New Zealand or other parts of Oceania, and only in the living state.

The molluscan fauna, to which this shell belongs is, as a whole, quite unlike any other fresh-water fauna of North America, either living or fossil. The reason of this difference between the Truckee molluscan fauna and that which now characterizes the Mississippi drainage system is doubtless that the outlet of the Truckee lake has had no continuous connection or identity with the streams that, persisting from Tertiary time and earlier, have become portions of that system.

The forms among the Truckee fauna that are most nearly like species now living in North America are the *Ancylus* and the two species of *Spharium* just mentioned; and yet the latter present some noteworthy differences from any North American congeneric form either living or fossil. It is true there is a species of *Carinifex* in the Pacific drainage waters of California, but its difference from those of the Truckee fauna was regarded by Mr. Meek as of subgeneric importance. The three forms of *Melania* and the *Lithasia* of the foregoing list have no true type-representatives, either living or fossil, in North America; and the newly discovered form herein described differs still more widely from any member of any North American fauna.

The Truckee Group is understood to have quite a large geographical extent in northern Nevada, southwestern Idaho and southeastern Oregon, but it has yet received very little investigation as regards its molluscan fauna. The presence in that group of a molluscan fauna so widely differentiated as it is indicated to be by the few species that have hitherto been discovered encourages the hope that large additions to it will hereafter be made.

## EXPLANATION OF PLATE V.

## MELANIA SCULPTILIS.

Fig. 1.—Copy of Meek's original figure.

## MELANIA SUBSCULPTILIS.

Fig. 2.—Copy of Meek's original figure.

## MELANIA TAYLORI.

Fig. 3.—Copy of Gabb's original figure.

## LITHASIA ANTIQUA.

Fig. 4.—Copy of Gabb's original figure.

## CARINIFEX (VORTICIFEX) TRYONI.

Figs. 5, 6, and 7.—Different views of the type specimen. After Meek.

## CARINIFEX (VORTICIFEX) BINNEYI.

Figs. 8 and 9.—Different views of the type specimen. After Meek.

## ANCYLUS UNDULATUS.

Fig. 10.—Dorsal view of type specimen. After Meek.

Fig. 11.—Lateral outline of the same.

## SPHERIUM? IDAHOENSE.

Figs. 12 and 13.—Copies of Meek's original figures.

## SPHERIUM RUGOSUM.

Figs. 14, 15, and 16.—Copies of Meek's original figures.

## LATIA DALLII (sp. nov.).

Fig. 17.—Dorsal view of the largest known example.

Fig. 18.—Lateral view of the same.

Fig. 19.—Dorsal view of another example.

Fig. 20.—Dorsal view of another example which has been cut away so as to reveal the transverse semilunar septum.

\* All the figures on this plate are of natural size except Figs. 14, 15, and 16, which are a little enlarged.

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**DESCRIPTION OF FOUR NEW SPECIES OF SHARKS, FROM MAZATLAN, MEXICO.**

By **DAVID S. JORDAN** and **CHARLES H. GILBERT**.

*Carcharias fronto*, sp. nov. (28167.)

Allied to *Carcharias amblyrhynchus* Bleeker, but with much larger second dorsal.

a. Description of No. 28167, a young (female) example, 36 inches in length:

Body comparatively short and stout. Head very broad, depressed, broadly rounded anteriorly, the outline of the snout nearly parallel with that of the broad V-shaped mouth. Length of snout from mouth equal to half the distance between the angles of the month, or to the distance from the line connecting these angles to the chin, about six-sevenths the distance between the nostrils. Eye a little nearer nostril than angle of

