

DESCRIPTION OF A SPECIES OF ACTAEON FROM THE QUATERNARY BLUFFS AT SPANISH BIGHT, SAN DIEGO, CALIFORNIA.

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At Spanish Bight, San Diego, a fine exposure of Quaternary marl occurs, containing well preserved fossils, most of which are recent species. Among them some forms have been discovered which appeared to be new, but which have, later, turned up also in the recent fauna of this part of the coast. One of these is the following fine species of *Actaeon*.¹

ACTAEON TRASKII Stearns.

Shell small, conical above, cylindrical, rather solid, opaque, somewhat glossy; sculpture consisting of numerous fine spiral impressed lines or grooves, which become wider toward the base of the body whorl, making the sculpture of the lower portion of the shell lirate; part of the lirae are slightly grooved and in some cases show a tendency to run in pairs; the grooved lines are not quite regular in their relative distances, and some are deeper than others; the surface is otherwise sculptured by sharp, close-set, incremental lines; these latter are subordinate to the spiral sculpture and are more conspicuous on the lower part of the body whorl. Color dull-cream white, with (in the example before me) two obscure, broad, pale rufous bands on the body whorl. Spire short, obtusely conical. Whorls, six (probably, apex in example somewhat eroded); suture distinct, narrowly channeled. Aperture about two-thirds the length of the shell (not quite 9mm.), acutely angular above, rounded and effuse below, finely lirate and glossy within, with a thin glazing on the body whorl. Outer lip thin, simple. Columella short and flexuous, with a conspicuous fold, curving around the same and thickening the edge of the lip, which is moderately produced in the umbilical region.

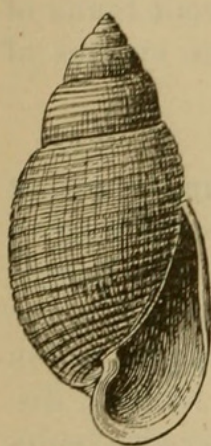
| | A ² mm. | B mm. |
|---------------------------|-----------------------|----------|
| Length of shell | 11 | 24 |
| Length of body whorl..... | 9 | 19 |
| Breadth | 6 | 12 |

¹ Preliminary description in *The Nautilus*, June, 1897, XI, p. 14.

² A, Hamlin's specimen; B, Type in U. S. National Museum, Reg. No. 148241.

A single example in the collection of my friend, Mr. Homer Hamlin, of Los Angeles, enables me to describe this form, which was collected by me some years ago (in the fall of 1887) in the same locality. The fossil specimens collected by me during my association with the United States Geological Survey are in the United States National Museum (Reg. No. 148271).

A fine, large fresh specimen, bearing no indications of fossilization, is in the collection of the United States National Museum (No. 130320), and was collected on the beach of San Diego Bay, the precise spot not being recorded. It is in size about midway between the two fossil specimens above cited, and in color is of deep rosy flesh color, much darker than in the fossils, with a lighter band midway on the whorl. Except in its characters as a living shell it does not differ in any essential respect from the Post Pliocene specimens above mentioned.



ACTAEON TRASKII
STEARNS.

Actaeon traskii is apparently of rare occurrence, though Mr. Hamlin has collected it before at the same locality. I failed to obtain it in the San Pedro bluffs of the same age and character, namely, nearly loose sand. It is associated in the Spanish Bight bluffs, which are situated on the Coronado Peninsula opposite the city of San Diego, with the comparatively common allied species *Actaeon* (*Rictaxis*) *punctocaelatus* Carpenter, of which numerous examples were collected by me at the same time. The latter is a less robust and more delicate form; it is found living at many points along the coast from Monterey southerly. Beach specimens were found by me on the shores of Monterey Bay in March, 1867. It sometimes occurs in considerable numbers at Long Beach and San Pedro.

This new *Actaeon* I have named for Dr. John B. Trask, one of the founders of the California Academy of Sciences, also a pioneer in natural history investigations on the west coast, as well as a skillful physician.

The two species mentioned above must be added to the catalogue of Californian fossils. In Dr. J. G. Cooper's list, published in the Seventh Annual Report of the State Mineralogist of California, he includes *Opalia anomala* and *O. varicostata*, referring them to the *Quaternary* and to the San Diego well. Neither of the species were detected in the well material, and both are *Tertiary* (Pliocene) forms, occurring in the older bluffs of Pacific beach, where I obtained numerous examples in the fall of 1887, and a single individual of a related form, *Scala stearnsii* Dall—a solid, chunky shell, nearly as broad as long (about an inch), described and figured by the author¹—another addition to the California list.

¹ Transactions of the Wagner Free Institute of Philadelphia, 1892, III, Pt. 2, p. 245, pl. XXI, fig. 4.

The Spanish Bight examples of *A. punctocaelatus* are without the least trace of the broad dark bands that characterize recent or living specimens. They are also much slenderer, and, on the whole, upon a comparison between numerous examples of both, more attenuated and delicate, though the columellar characters are the same. This fossil varietal aspect may for convenience be known as var. *coronadoensis* (Reg. Nos. 148265-70, U.S.N.M.).



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