

# On the Identity of *Phos laevigatus* A. ADAMS, 1851

(Mollusca : Gastropoda)

BY

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(Plate 13)

## INTRODUCTION

*Phos laevigatus* was briefly described by ARTHUR ADAMS (1851) on the basis of a single specimen which apparently was in the collection of Hugh Cuming. The specimen was stated to have been obtained at the Cape of Good Hope. As was the case for most of the numerous new taxa that were proposed by ARTHUR ADAMS, no illustrations were provided and the description was not very diagnostic. G. B. SOWERBY, 2<sup>nd</sup> (1859) subsequently figured a dorsal view of the type specimen and TRYON (1881) copied this figure. An illustration of an apertural view of the holotype is presented for the first time in the present paper (Plate 13, Figure 1). Both SOWERBY and TRYON repeated ADAMS' locality citation. Additional specimens apparently have not been referred to *Phos laevigatus* since the appearance of the original description of this taxon more than one hundred years ago.

As a result of the present study, evidence is presented to demonstrate that *Phos laevigatus* A. ADAMS (1851) actually occurs in the tropical eastern Pacific Ocean, where it is currently known as "*Phos*" *chelonina* DALL (1917), a taxon described from off the Galápagos Islands.

## DISCUSSION

The problem of the identity of these taxa first came to my attention when I received from Mrs. Carmen Angermeyer three specimens of "*Phos*" that she had collected in the Galápagos Islands. On examination, I found the two smaller specimens (Plate 13, Figure 5) to be referable to DALL's "*Phos*" *chelonina*, but the larger, obviously mature

specimen (Plate 13, Figure 7) appeared to be referable to "*Phos*" *laevigatus*, which had been reported from the Cape of Good Hope.

Through the kind offices of Mr. Norman Tebble of the British Museum (Natural History) and Dr. Joseph Rosewater of the U. S. National Museum, I obtained from their respective institutions, a photograph of the apertural view of ADAMS' type and the loan of the type specimens of DALL's taxon. Our largest Galapagan specimen proved to be a live-taken example of "*Phos*" *laevigatus*, and our smaller Galapagan specimens were found to be fresh specimens of "*Phos*" *chelonina*, which was determined to be based on immature specimens that are referable to "*Phos*" *laevigatus*. The availability, however, of ADAMS' name for the Galapagan species would appear to be challenged by the Fifty Year Rule. Under Article 23 (b) of the International Code of Zoological Nomenclature, "A name that has remained unused as a senior synonym in the primary literature for more than fifty years is to be considered a forgotten name (*nomen oblitum*).<sup>1</sup>" The code requires that, if such a name is discovered after 1960, it should be referred to the Commission to be placed on either the Official Index of Rejected Names or the Official List of Preserved Names. Under the peculiar circumstances of the present case, I prefer to consider ADAMS' *laevigatus* an earlier valid name for the nominal species, *Phos chelonina* DALL. ADAMS' taxon would be without question the first available name for this species, if the Rule of Priority were followed.<sup>1</sup>

<sup>1</sup> At the time of this writing, the "Fifty-Year Rule" (Article 23b) was under suspension, and this matter was to be considered at the next meeting of the International Commission on Zoological Nomenclature (Bull. Zool. Nomencl., vol. 23, p. 260, 1966).

## SYSTEMATIC TREATMENT

## BUCCINIDAE

*Metaphos* OLSSON, 1964

**Type species:** *Phos chelonia* DALL, 1917 [= *Metaphos laevigatus* (A. ADAMS, 1851)], by O. D. Recent, Galápagos Islands, in 11 to 40 fathoms.

Other referred species are: *Metaphos cocosensis* (DALL, 1896), Gulf of California and off the Tres Mariás Islands, Mexico (PARKER, 1964), and off Cocos Island in the Gulf of Panama (Recent); *M. pacificus* OLSSON, 1964, *M. scillus* OLSSON, 1964, and *M. calathus* OLSSON, 1964, all from the Esmeraldas formation in northwestern Ecuador (early Pliocene?). *Metaphos cocosensis* is questionably reported by PILSBRY & OLSSON (1941) from the Jama formation in western Ecuador (Pliocene), and it is recorded from Pleistocene deposits on Albemarle Island of the Galápagos Islands by DALL & OCHSNER (1928).

**Remarks:** As pointed out by OLSSON (1964), none of the nearly 50 *Phos*-like species that are known from the Cenozoic faunas of the New World is referable to the genus *Phos* of MONTFORT, 1810. The type of *Phos* (*sensu stricto*) is *Murex senticosus* LINNAEUS, 1758, a Recent species occurring in the Indo-Pacific faunal province.

The shells of the species assigned to *Metaphos* resemble those of the genus *Cymatophos* PILSBRY & OLSSON (1941), but they differ notably by the possession of a larger and more strongly sculptured nucleus. The type species of *Cymatophos* is *Cymatophos galeris* PILSBRY & OLSSON, 1941, a Pliocene species from the Jama formation in western Ecuador.

*Metaphos laevigatus* (A. ADAMS, 1851)

(Plate 13)

*Phos laevigatus* A. ADAMS, 1851, p. 155, "Hab. Promontorium Bonae Spei." SOWERBY, 1859, *Phos* no. 10, pl. 221, fig. 6 [dorsal view of type], Cape of Good Hope. TRYON, 1881, p. 217, pl. 83, fig. 499 [copy of SOWERBY's figure].

*Phos chelonia* DALL, 1917, p. 578. "Dredged at the Galápagos Islands in 40 fathoms." STRONG & LOWE, 1936, p. 310, pl. 22, fig. 3 [holotype].

**Type localities:** of *laevigatus*, not Cape of Good Hope, here corrected to the Galápagos Islands; of *chelonia*, U. S. Fish Commission Station 2813, 01° 21' 00" S, 89° 40' 15" W, off the Galápagos Islands, in 40 fathoms, coarse sand.

**Type depositories:** of *laevigatus*, British Museum (Natural History), holotype no. 1966128, here figured, Plate 13, Figure 1; of *chelonia*, U. S. National Museum, holotype no. 194961, here figured, Plate 13, Figures 3, 4, and paratypes no. 637989, 12 specimens, including 5 fragmental specimens.

**Descriptions:** As was pointed out by STRONG & LOWE (1936, p. 308) in their review of the "West American species of the genus *Phos*," the characters of the nuclear whorls, presence or absence of a columellar keel, and dentition of the outer lip are specific characters, whereas the color, number of ribs, and details of sculpture are more variable characters. The present study serves to corroborate their findings.

The holotype of *laevigatus* is not well preserved, lacking the nuclear whorls, and is approximately 38 mm in length (Plate 13, Figure 1). Our largest Galapagan specimen is a well-preserved, live-taken individual with 5½ post-nuc-

## Explanation of Plate 13

*Metaphos laevigatus* (A. ADAMS)

Figure 1: Holotype of *Phos laevigatus* A. ADAMS, in British Museum (Natural History), No. 1966128; about x 2.

Figure 2: Copy of figure of holotype of *Phos laevigatus* A. ADAMS after SOWERBY, 1859, pl. 221, fig. 6; x 2.

Figures 3, 4: Holotype of *Phos chelonia* DALL, in U. S. National Museum, No. 194961; x 2. Figure 3, photographed with incandescent light, Figure 4 photographed with ultraviolet light.

Figure 5: Juvenile specimen of *Metaphos laevigatus* (A. ADAMS), left Figure photographed with incandescent light, right Figure photographed with ultraviolet light, dredged off Barrington Island, Galápagos Islands, in 14 fathoms, together with the specimen illustrated below as Figure 7, by the Angermeyers, American Museum

of Natural History No. 135503; x 2.

Figure 6: Juvenile specimen, paratype of *Phos chelonia* DALL, left Figure photographed with incandescent light, right Figure photographed with ultraviolet light, U. S. National Museum No. 637989; x 4.

Figures 7, 8: Mature specimens of *Metaphos laevigatus* (A. ADAMS); x 2. Figure 7, dredged in same haul with the specimen illustrated above as Figure 5, American Museum of Natural History, No. 135504. Figure 8, dredged in Academy Bay, Indefatigable Island, in 24.5 fathoms, deposited in the collection of Mrs. DeRoy. Early whorls of the specimen clearly show the characters of juvenile paratypic specimens of *Phos chelonia* DALL, cf. Figures 6 and 8.

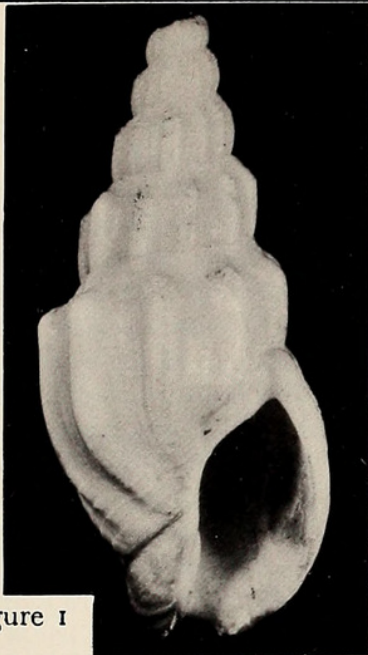


Figure 1

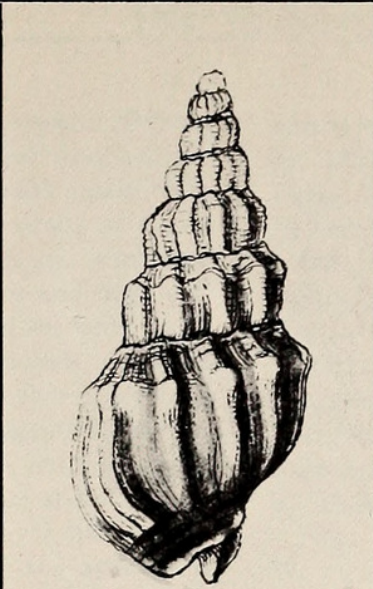


Figure 2

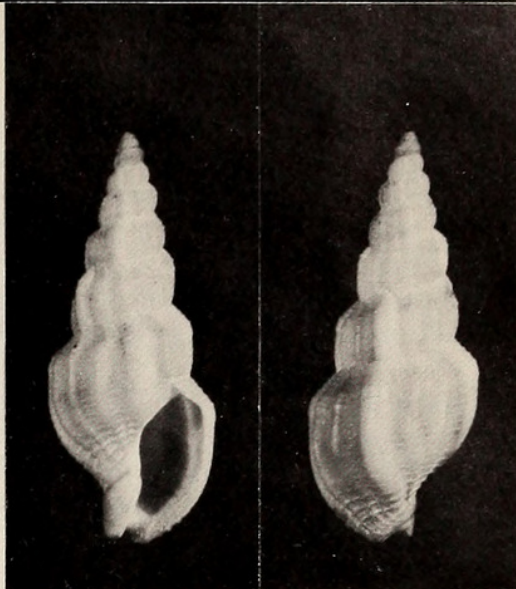


Figure 3

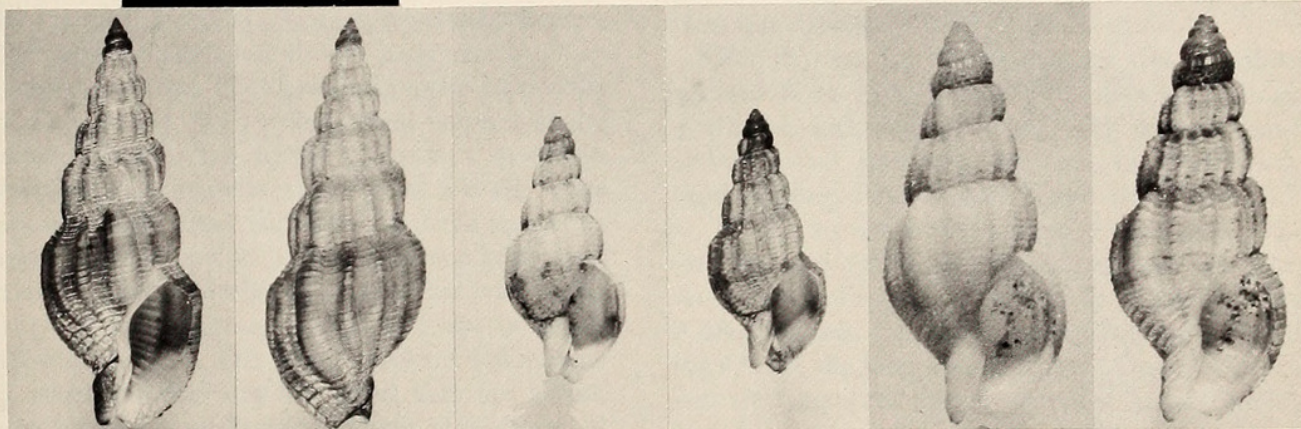


Figure 4

Figure 5

Figure 6

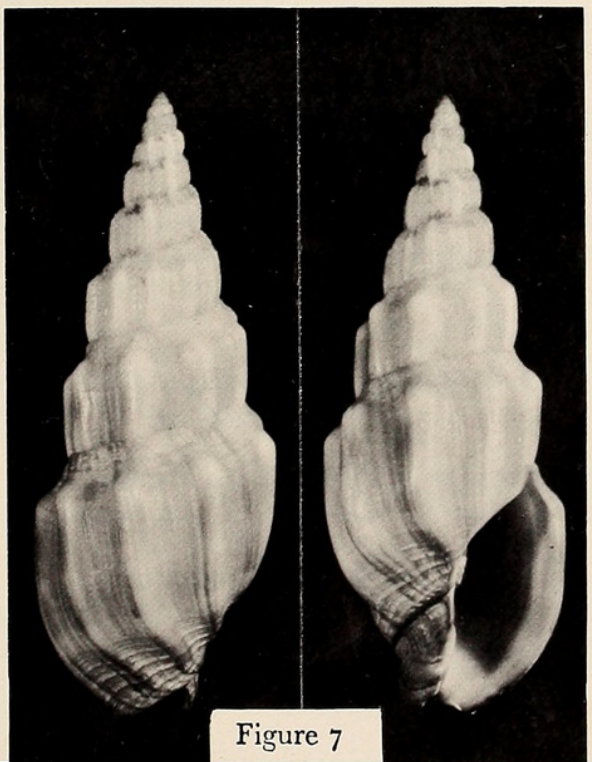


Figure 7

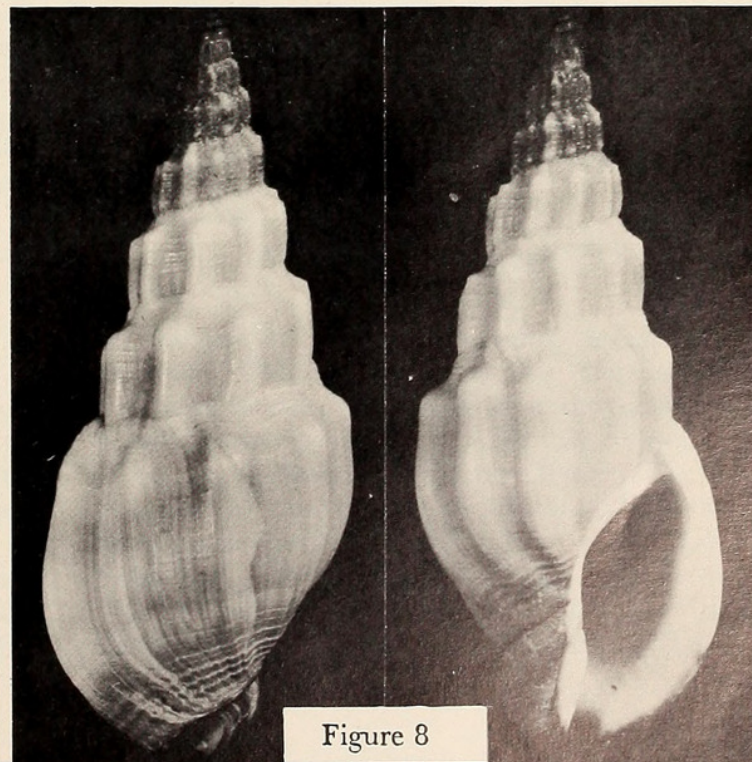
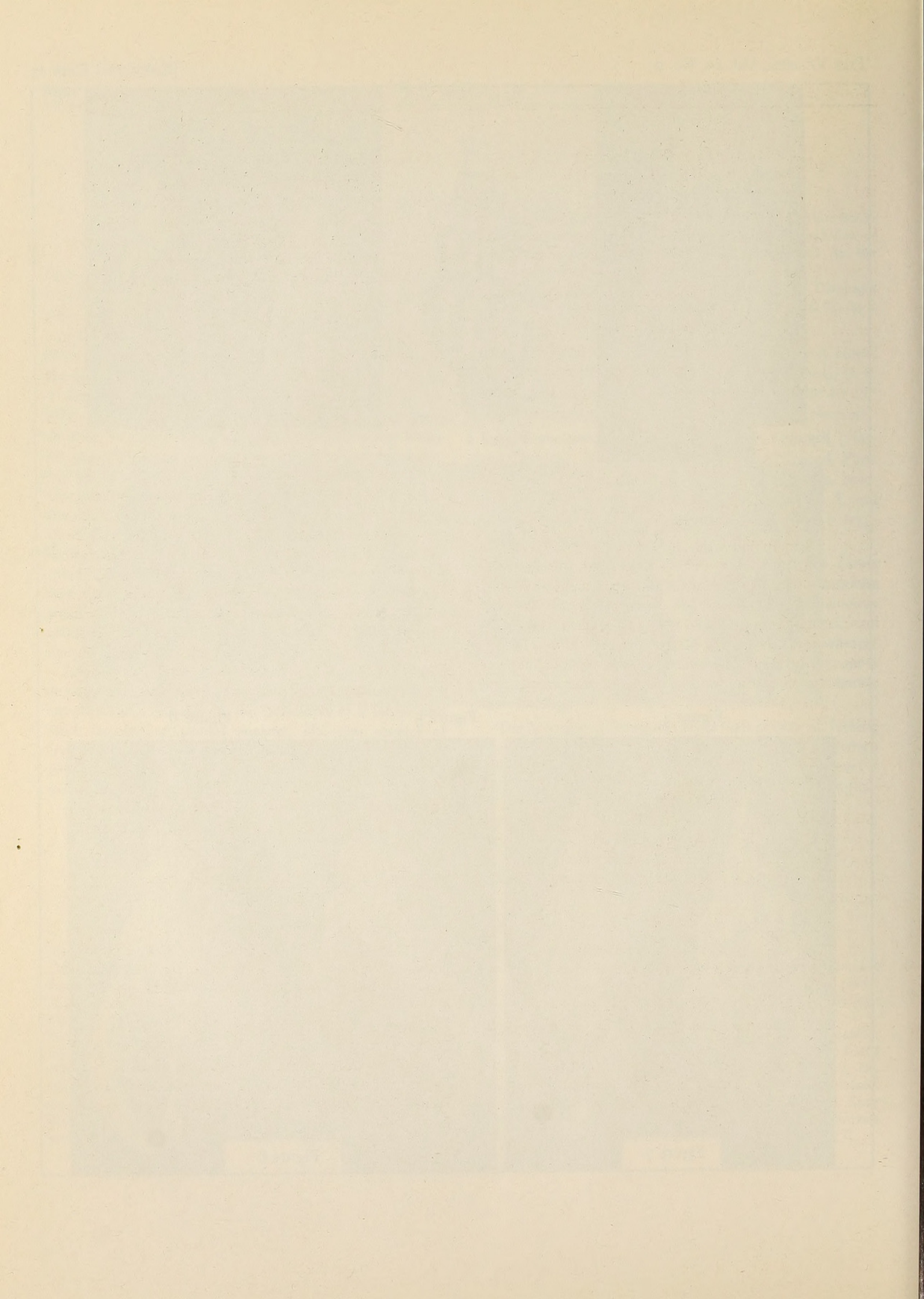


Figure 8





Emerson, William K. 1967. "On the identity of *Phos laevigatus* A Adams. 1851 (Mollusca: Gastropoda)." *The veliger* 10, 99–102.

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