

## A DEEP-SEA "BUG"

By FRITZ HAAS

CURATOR OF LOWER INVERTEBRATES

**T**HE FISH AND WILDLIFE SERVICE at Pascagoula, Mississippi, recently sent to the Museum a shipment containing, among other things, a bottle of several rare and strange deep-sea creatures. They were dredged up from a depth of 500 fathoms (3,000 feet) in the ocean north of Cuba in the course of fishing studies.

These new specimens are one of the most valuable and welcome of recent accessions to our collections. Not only was the species hitherto unrepresented in our collections, but it is rarely found in any museum. The individuals we received are about 3½ inches long but are only half-grown. Despite this relatively small size they are giants among their relatives, the best known of which is the sow-bug.

Almost everyone knows the little bug commonly called a sow-bug: an animal ⅓ to ½ inch in length, with a body consisting of a series of rings and with one pair of feet on the underside of each ring. It is found commonly in moist spots, under flat rocks, bark, boards, and even in cellars of houses. Kin of this terrestrial sow-bug are often found in ditches and creeks. However the vast majority of related forms live in the ocean.

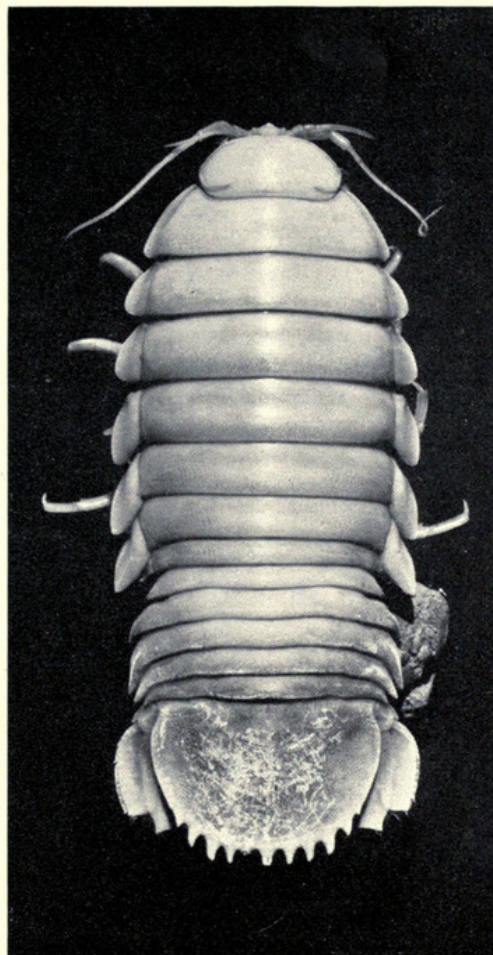
There is no word in the English language that characterizes the entire group of sow-bug relatives, so we have to use their scientific name, "isopods." They are not insects, as often believed, but are akin to the crayfish of our waters. The claws of the first pair of feet on crayfish are enlarged to form the so-called pinchers, whereas in the isopods the feet are all alike, which is just what their name means.

### HOW THEY LIVE

While the isopods of the land and of freshwater are mostly small animals hardly exceeding ¾ of an inch in length, those of the ocean have developed into larger beings often measuring 1¼ of an inch and even more. The great majority live in shallow water where they hide under rocks or in crevices and where they lead a predatory life preying on smaller or weaker animals or feeding, scavenger-like, on decomposing animal corpses; they even may attack living fishes for which there seems to be a predilection which has led to a basic change of life in some of the marine isopods.

Quite a number have acquired a parasitic way of life by clinging, with the help of the sharp claws of the forefeet, to the skin or the gills or even to the roof of the mouth of living fishes. There they nourish themselves, in a yet unknown way, on the body juices of the carrier-fish, apparently however not killing it or even damaging it severely. The sojourn on the fish may be temporary and the parasite can leave at will, swimming around until it infests a new

host, or it may attach itself permanently to one fish. In this case, the body of the parasitic isopod, once it has settled on or in a fish, may change its shape to such an extent that it hardly can be recognized as an isopod. It may throw off the tentacles and the legs, the rings of its body may



DEEP-SEA ISOPOD

Specimen of a rare marine relative of the common terrestrial sow-bug.

become irregular and very thin, the eyes may be lost; in short, all that remains of the organs is the mouth with the adjoining intestine and the organs of reproduction. This, the highest degree of adaptation to parasitic life, is found almost exclusively on the isopods living as parasites in the gills or the mouth of fishes.

A few marine isopods have taken to the habit of boring and hence are among the most active destroyers of harbor pilework.

### EYES CONTRADICT ENVIRONMENT

In contrast to the shore line and the surface layer of the ocean which are so rich in isopods, the deeper waters almost entirely lack them. Up to the present, only one kind of isopod has come to our knowledge, and this is a giant, attaining lengths up to 8½ inches! It has been found thus far only in the deep, lightless layers of water of warm oceans, beneath the 350-fathom line, in an environment that would make the use

## TECHNICAL PUBLICATIONS

The following technical publications were issued recently by the Museum:

Fieldiana: Anthropology, Vol. 43. *Cultural Chronology and Change as Reflected in the Ceramics of the Virú Valley, Peru*. By Donald Collier. December 16, 1955. 226 pages, 72 illustrations. \$6.

Fieldiana: Geology, Vol. 10, No. 22. *The Carboniferous Gastropod Genus Glabringulum Thomas*. By Robert E. Sloan. December 20, 1955. 7 pages. 5 illustrations. 35c.

Fieldiana: Geology, Vol. 10, No. 23. *The Paragould Meteorite*. By Sharat Kumar Roy and Robert Kriss Wyant. December 29, 1955. 22 pages, 19 illustrations. 75c.

Fieldiana: Zoology, Vol. 34, No. 34. *Coral Snakes of the Genus Micrurus in Colombia*. By Karl P. Schmidt. December 29, 1955. 23 pages, 5 illustrations. 35c.

Fieldiana: Zoology, Vol. 34, No. 35. *On Some Small Collections of Inland Shells from South America*. By Fritz Haas, December 29, 1955. 27 pages, 15 illustrations. \$1.

Fieldiana: Anthropology, Vol. 36, No. 7. *Late Mogollon Pottery Types of the Reserve Area*. By John B. Rinaldo and Elaine A. Bluhm. January 10, 1956. 39 pages, 34 illustrations. \$1.25

Fieldiana: Geology, Vol. 12, *Pennsylvanian Invertebrates of the Mazon Creek Area, Illinois*. By Eugene S. Richardson, Jr. January 25, 1956. 76 pages, 41 illustrations. \$2.

of eyes unnecessary. Strangely enough this deepsea isopod, whose scientific name is *Bathynomus giganteus*, has very large eyes, larger even relatively than those of its shallow-water relatives. The possession of enlarged eyes in animals in general is related to the dim light of their environments. Mammals and birds with enlarged eyes are nocturnal; insects or spiders with this characteristic live in the twilight near the entrance of caves. These enlarged organs of vision enable them to collect as many as possible of the feeble rays of light that penetrate to them. What does this mean as to the very big eyes of our deepsea isopod? It can only mean that it originated in the dimly lit waters above the abyssal zone and that it has immigrated into these lightless depths only comparatively recently, not long enough to get rid of the eyes that have become useless in the animal's present abodes.

Nothing is known about the life habits of this deepsea giant which is shown, in natural size, in the accompanying illustration. The shape of the claws, however, seems to indicate that the species leads a predatory life on the sea bottom without having become a parasite.





Haas, Fritz. 1956. "A Deep-Sea "Bug"." *Bulletin* 27(5), 7-7.

**View This Item Online:** <https://www.biodiversitylibrary.org/item/25546>

**Permalink:** <https://www.biodiversitylibrary.org/partpdf/371189>

**Holding Institution**

University Library, University of Illinois Urbana Champaign

**Sponsored by**

University of Illinois Urbana-Champaign

**Copyright & Reuse**

Copyright Status: In copyright. Digitized with the permission of the Chicago Field Museum.

For information contact [dcc@library.uiuc.edu](mailto:dcc@library.uiuc.edu).

Rights Holder: Field Museum of Natural History

This document was created from content at the **Biodiversity Heritage Library**, the world's largest open access digital library for biodiversity literature and archives. Visit BHL at <https://www.biodiversitylibrary.org>.