

OCCURRENCE AND ECOLOGICAL NOTES ON *ROCINELA SIGNATA*
(ISOPODA, FLABELLIFERA) OFF BRAZIL

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SYNOPSIS

This paper discuss the vertical and horizontal distribution of the marine isopod *Rocinela signata* Schiödte & Meinert, 1879, along Brazil. Published records and new data gathered in recent years were used. The species, widely distributed along Brazil, has its most southern limit of occurrence considerably extended to off State of Santa Catarina (27°08'S, 48°11'W). It is typically a shelf species. So far it was recorded off Brazil at a maximum depth of 73 m, while particularly in southern Brazil at 53 m. The species has been collected free living on the bottom or as a fish parasite, and a few times has been reported attacking and sucking swimmers. Available data suggest any host specificity. *R. signata* seems a facultative and not an obligate fish parasite.

INTRODUCTION

Rocinela signata is a marine isopod readily distinguished from the remaining species of the genus by the characteristic inverted W-shaped pigmented figure on the pleotelson. Since the description of the species by Schiödte & Meinert in 1879, this character is the main one used for its recognition.

R. signata have been previously recorded from a few Brazilian localities (Moreira, 1971, 1972; Coelho & Koenig, 1972). New material collected in recent years in southern and northern Brazil seems worth-while to be published for a better knowledge of the vertical and horizontal distribution of the species along the Brazilian coast.

MATERIAL AND METHODS

Part of the material studied (series MBT) was collected by the author through its ISOTAN-DRAGA I Project. The surveys were performed with the research vessels "Prof. W. Besnard" and "Emília", of the Instituto Oceanográfico of the University of São Paulo. The collecting device employed was the MBT dredge. The remaining of the specimens was provided by colleagues and friends. All specimens were preserved in 70° alcohol, and examined under a Wild binocular microscope. Literature records were incorporate into the data included in this paper to complete the known distribution of the species along Brazil. By obvious reasons, the "Emília" stations and some specimens localities were positioned accordingly to the latest nautic chart delivered by Diretoria de Hidrografia e Navegação (DHN), of the Brazilian Navy.

RESULTS AND DISCUSSION

The number of stations, localities of collections, date, depth and other related data on both *R. signata* specimens and their collecting sites are listed in Material Examined.

Figure 1 shows the distribution of the species, based on present data and on previously published ones (Schiödte & Meinert, 1879; Moreira, 1972; Coelho & Koenig, 1972). It should be remarked that Schiödte & Meinert (*op. cit.*) data refer to the occurrence of the species off a given State, and not to the precise location of the samples.

Figure 1 shows that *R. signata* is widely distributed along Brazil. Through its present range of distribution, the species seems absent from certain States probably by lacking of collections. The horizontal distribution of the species is considerably extended southwards, from Santos (SP) to off State of Santa Catarina (27°08'S, 48°11'W), which is the new most southern limit of its occurrence.

The vertical range of *R. signata* along Brazil extends from shore to 73 m depth. So far, in northern Brazil the maximum depth of occurrence of the species is 73 m, while in southern Brazil it is 50 m. This occurrence is its

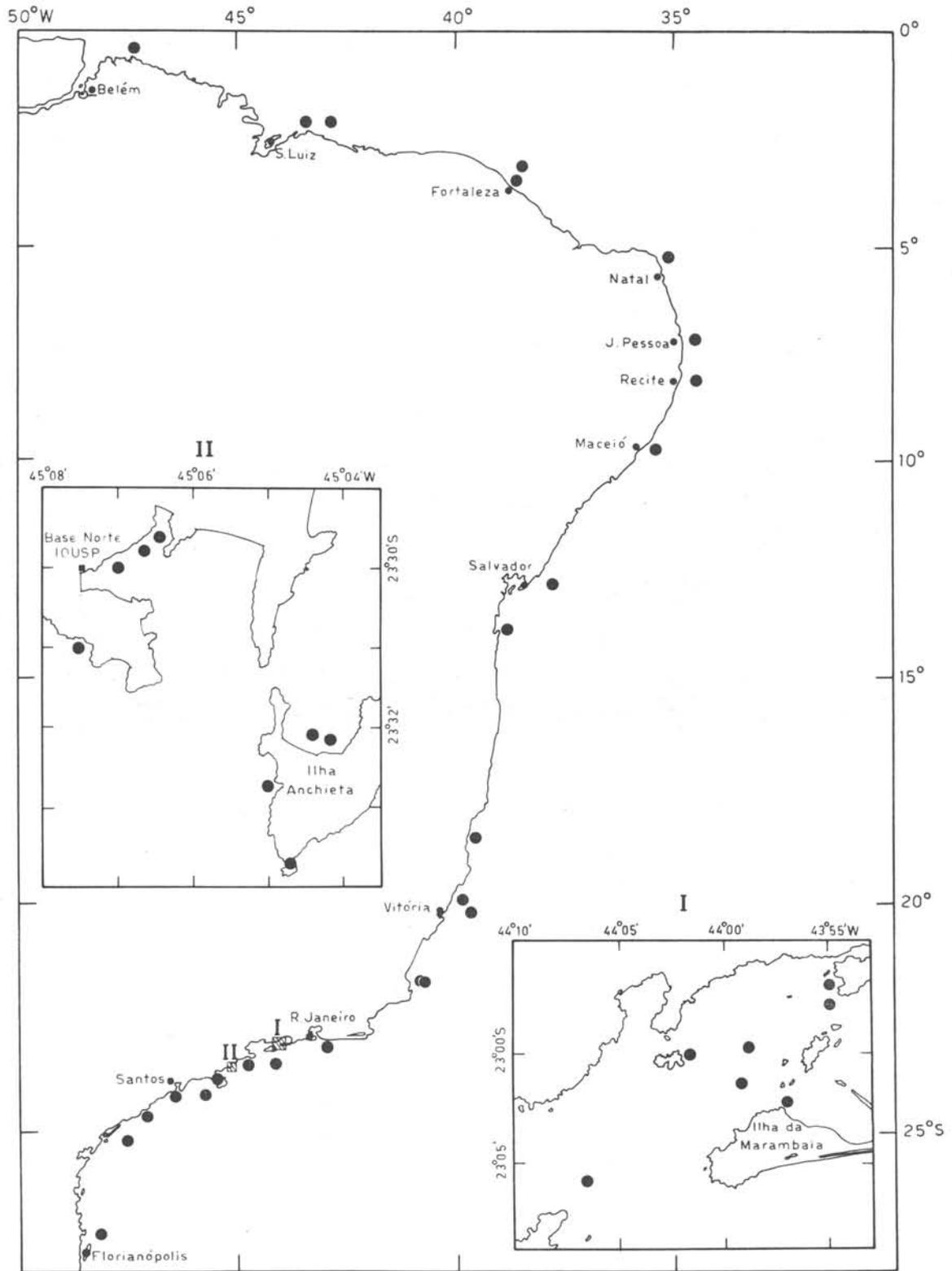


Fig. 1 - Geographical distribution of *Rocinela signata* Schiödte & Meinert, along Brazil, based on published and present original data.

new maximum recorded depth in southern Brazil. The species seems a typically shelf species.

As previously remarked (Moreira, 1972), also in the present material mostly of the specimens were gathered living free on the bottom. These specimens seldomly show visible vestiges of ingested blood. However, all those animals collected on fishes have the gut filled with a large dark-reddish mass of ingested blood, which makes their gut and ventral pereonal body wall strongly distended, prominent and smooth. Animals with ingested blood found free either amongst otter-trawl fishes and crabs, or collected on the bottom by dredging, most probably become detached recently from their host. Possibly the species only at times behaves as a blood-sucking ectoparasite, since the number of animals collected living free on the bottom apparently indicate that they are also able to live when not attached to the host.

In spite of the large number of fish species/specimens examined for the occurrence of parasite isopods, so far only few specimens of *R. signata* were found attached to them. Moreira (1971, 1972) reported *R. signata* in two species of fishes, namely, "pescada-branca" (*Cynoscion leiarchus*) and "pescada-amarela" (*Cynoscion acoupa*).

In the present collection the species is reported on the gills of "cioba" (*Lutjanus analis*) and "cabrinha" (*Prionotus* sp.). Schiödte & Meinert (1879); Richardson (1905) and Menzies & Glynn (1968) recorded it on some Teleostei and Chondrichthyes fish species. Moreira (1971, 1972 and present paper) reports the species attacking and biting swimmers.

However, as *R. signata* have mostly been collected living free on the bottom, and sparingly on different fish species, it seems reasonable to consider it as a facultative and not an obligate fish parasite. Literature data on records of *R. signata*, in spite of scanty, seems to support this. These same data also suggest any host specificity, since the species until now have been collected from at least 6 or 7 different species of fish.

RESUMO

O presente trabalho discute especialmente a distribuição vertical e horizontal do isópode marinho *Rocinela signata* Schiödte & Meinert, 1879, ao

longo do Brasil. Utilizou-se, para tanto, de dados publicados e outros originais, estes obtidos nos últimos anos. A espécie apresenta ampla distribuição ao largo do Brasil, sendo sua ocorrência mais meridional ampliada até o Estado de Santa Catarina (27°08'S, 48°11'W). A espécie é típica de plataforma continental, tendo sido registrada ao longo do Brasil, até o presente, a uma profundidade máxima de 73 m, porém na região centro-sul a 53 m. *R. signata* tem sido coletada livremente sobre o substrato ou como ectoparasita de peixes, e algumas vezes atacando e sugando o sangue de banhistas. Dados publicados indicam não haver especificidade de hospedeiro. A espécie pode ser considerada como um parasita facultativo e não como um parasita obrigatório de peixes.

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MATERIAL EXAMINED

STATE OF MARANHÃO

1. São Luiz. Praia da Ponta da Areia. January/1971. José Carlos de Freitas leg. Specimens gathered attached to the collector's legs during a beach trip; the removal of the parasite caused bleeding. 2 young females 6.5 and 10.8 mm long without oostegites, and gut filled with a dark-reddish mass of ingested blood.

STATE OF CEARÁ

2. Fortaleza. May/1965. H. Nomura leg. On the gills of "cioba" (*Lutjanus analis*). 2 young females 11.2 mm long without oostegites, and gut filled with a large reddish mass of ingested blood.

STATE OF BAHIA

3. Enseada de Camamu, about 13°53'S, 39°01'W. August/1973. 6 m depth. Roberto Galvão leg. Amongst fishes and crabs. 1 young female 11.1 mm long deprived of both oostegites, and mass of ingested blood.

STATE OF ESPÍRITO SANTO

4. Off Rio São Mateus. 18°31.2'S, 39°41.8'W. July/1972. 24.53°C. 36.10 S°/oo. 14 m depth. Oc/S "Prof. W. Besnard". van Veen 1/10. P. S. Moreira col. 1 juvenile 6.0 mm long with developing pereopod VII, and gut without mass of ingested blood.
5. Off Rio Santa Cruz. 19°59'S, 39°56'W. July/1972. 21.62°C. 36.57 S°/oo. 4.13 ml/O₂. 41 m depth. Oc/S "Prof. W. Besnard". van Veen 1/10. P. S. Moreira col. 1 juvenile 3.2 mm long deprived of pereopod VII, and gut without mass of ingested blood.
6. Ilha da Trindade, far off Brazilian coast, about 20°30'S, 29°30'W. May/1950. 40 m depth. Otter-trawl. Wladimir Besnard leg. Amongst fishes and crabs. 1 adult female 15.1 mm long without oostegites, and gut filled with a reddish mass of ingested blood.

STATE OF RIO DE JANEIRO

7. Off Cabo de São Tomé. 21°46'S, 40°56'W. November/1970. 16 m depth. Oc/S "Prof. W. Besnard". Beam-trawl. P. S. Moreira col. MBT series. 1 young female 12.8 mm long without oostegites and mass of ingested blood.
8. Off Cabo de São Tomé. 21°46'S, 40°58'W. November/1970. 20.03°C. 36.20 S°/oo. 15 m depth. Oc/S "Prof. W. Besnard". MBT dredge. P. S. Moreira col. MBT series. 1 young female 7.8 mm long without both oostegites, and mass of ingested blood.
9. Off Baía de Guanabara. 23°02'S, 43°00'W. November/1970. 15.55°C. 35.68 S°/oo. 4.89 ml/O₂. 40 m depth. Oc/S "Prof. W. Besnard". MBT dredge. P. S. Moreira col. MBT series. 1 young female 8.1 mm long without both oostegites, and reddish mass of ingested blood.

10. Off Ilha Grande. 23°14'S, 44°03'W. June/1971. 52 m depth. Oc/S "Prof. W. Besnard". MBT dredge. P.S. Moreira col. MBT series. 1 young female 7.5 mm long without both oostegites, and mass of ingested blood.
11. Off Ilha de Itacurussã, about 22°58'S, 43°55'W. July/1966. 22.54°C. 33.60 S°/oo. 25 m depth. R/V "Emília". Rectangular dredge. Luiz R. Tommasi leg. 1 adult female 13.1 mm long without oostegites, and gut filled with a large reddish mass of ingested blood.
12. Off Ilha de Marambáia, about 22°59'45"S, 43°59'W. March/1969. 26.70°C. 33.40 S°/oo. 9 m depth. R/V "Emília". Rectangular dredge. Luiz R. Tommasi leg. 1 juvenile 6.3 mm long with developing pereopod VII, and gut without mass of ingested blood.
13. Off Ilha Guaiba, about 23°00'15"S, 44°01'30"W. June/1967. 22.10°C. 34.22 S°/oo. 10 m depth. R/V "Emília". van Veen 1/10. Luiz R. Tommasi leg. 1 ovigerous female 13.0 mm long.
14. Off Ilha de Marambáia, about 23°01'30"S, 43°59'W. March/1969. 26.10°C. 32.80 S°/oo. 10 m depth. R/V "Emília". Rectangular dredge. Luiz R. Tommasi leg. 1 ovigerous female 13.0 mm long.
15. Baía de Marambáia, about 23°02'S, 43°57'W. December/1970. 7 m depth. R/V "Emília". van Veen 1/10. Luiz R. Tommasi leg. 1 young female 6.1 mm long without both oostegites, and reddish mass of ingested blood.
16. Ilha Grande. Off Ponta Grossa, about 23°05'S, 44°03'W. February/1968. 20 m depth. Oc/S "Prof. W. Besnard". Photograb. Clarimundo de Jesus leg. 1 fragment of the posterior part of the body of an adult female.

STATE OF SÃO PAULO

17. Ubatuba. Enseada do Flamengo, praia do Lamberto, at the pier of Base Norte (23°30'S, 45°07'W) of the Instituto Oceanográfico, USP. October/1968. Superficial night plankton using a light as a lure. Local depth: 2 m. E. Nonato leg. 1 young female 6.3 mm long without both oostegites, and mass of ingested blood; 1 juvenile 5.0 mm long deprived of pereopod VII, and gut without mass of ingested blood.

18. Off Ilha dos Alcatrazes. 24°03'S, 45°40'W. March/1969. 35 m depth. R/V "Emília". Otter-trawl. P. S. Moreira col. 1 young male 11.5 mm long bearing developing copulatory process, and gut filled with a reddish mass of ingested blood.
19. Off Ponta da Juréia. 24°36'S, 47°07'W. June/1970. 16.65°C. 35.67 S°/oo. 21 m depth. Oc/S "Prof. W. Besnard". MBT dredge. P. S. Moreira col. MBT series. 1 young female 8.0 mm long without both oostegites, and mass of ingested blood in the gut.
20. Off Ilha do Bom Abrigo. 25°13'S, 47°29'W. June/1970. 32 m depth. Oc/s "Prof. W. Besnard". MBT dredge. P. S. Moreira col. MBT series. 1 young female 12.0 mm long without both oostegites, and mass of ingested blood in the gut.

STATE OF SANTA CATARINA

21. Off Ilha do Arvoredo. 27°08'S, 48°11'W. January/1957. 50 m depth. Oc/S "Toko Maru". Otter-trawl. M. Furuya leg. On the gills of "cabrinha" (*Prionotus* sp.). 1 juvenile 6.5 mm long with developing pereopod VII, and gut filled with a reddish mass of ingested blood.

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