

The third maxillipede is much longer and more like an ambulatory limb. The exopod is well developed as a swimmeret, the endopod is five-jointed with long stiff setae at the tip. In this species it is characteristic for this limb as well as for the thoracopods, that most endopodial joints, except the first one, have a short



Figs. 59-64. *Solenocera* sp. larva *aequatorialis*. Second Mysis. Figs. 59-61, first, second and third maxillipedes. — Fig. 62, first pereopod. — Fig. 63, fourth pereopod. — Fig. 64, fifth pereopod.

plumose seta on the distal corner towards the exopod. On the protopod is a smaller mastigobranchia and behind it a podobranchia and an arthrobranchia.

The thoracopods are of the usual type with chelae on the three first pairs. The first four pairs have a two-jointed protopod with a small mastigobranchia, a podobranchia, and an arthrobranchia. The arthrobranchia is only small on the fourth pereopod. The fifth pereopod has no gills at all. All thoracopods have well-developed exopodial swimmerets and a 5-jointed endopod.

The pleopods are only small and vestigial as usual in the second Mysis with short, unjointed protopods, and small exopods and endopods, the latter only with a small embryonic seta at the tip.

The uropods are well developed. They are of about the same length as the telson, or a little longer. Both the exopod and the endopod have setae along the whole margin. This rich provision with setae must be considered as a primitive character, and the setae on the lateral margins will be lost in the following stage. The setae are short and spiny on the lateral margin of the exopod and of the uropod up to the claw-like spine, at the disto-lateral corner.

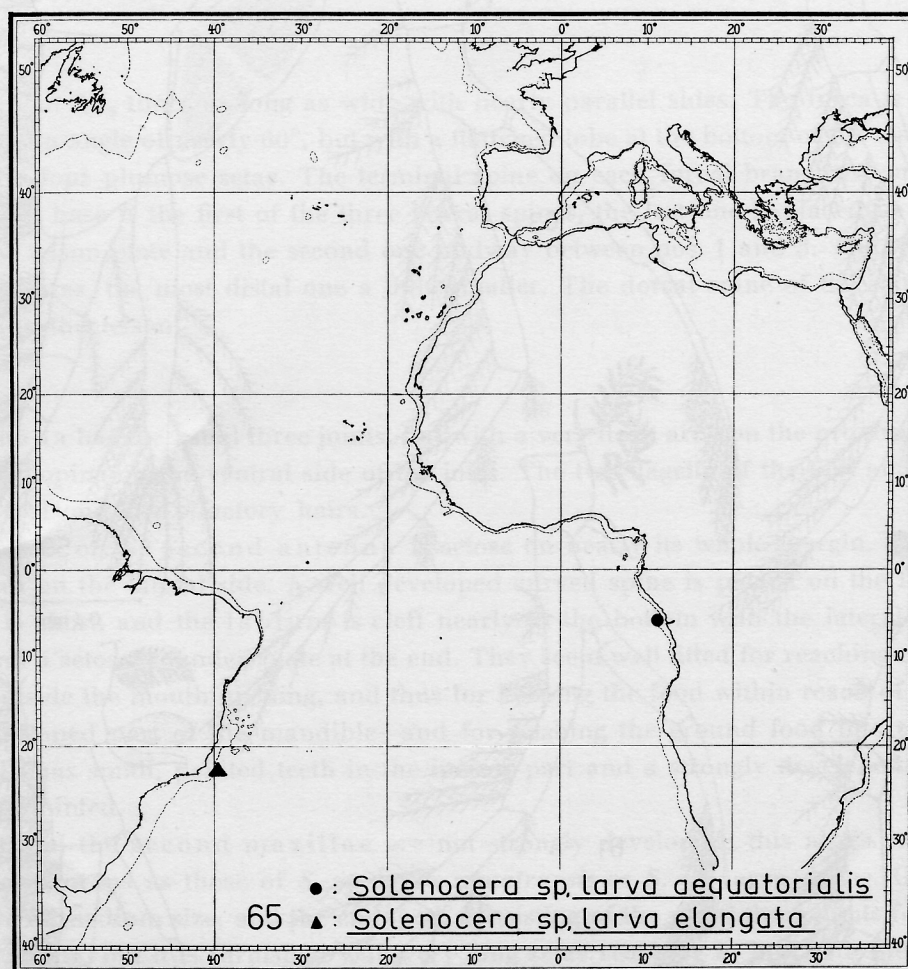


Fig. 65. Map of distribution.

*Dimensions:*

Total length 12 mm, length of carapace 3.5 mm, width of same 3 mm, length of free rostrum 2.2 mm, length of abdomen 5.5 mm, telson 1.5 mm.

**Distribution and Remarks.**

Fig. 65.

This larva has been described here for the first time, and based on a single specimen from the African west coast northeast of the Ascension, a little to the North of the Congo river. From this tropical eastern part of the South Atlantic, but closer to the African continent, are records of *Solenocera membranacea* subsp. *capensis* and near Sierra Leone BATES' *Platysacus crenatus* from the Challenger Report (vol. 24, pp. 363-367, pl. 63), the latter is, as mentioned on p. 19, a third Protozoa of a *Solenocera* belonging to the same group as *S. membranacea*, *S. sp. larva barbata*, *S. sp. larva elongata* and also related to *S. muelleri*, the new larval

name for ORTMANN'S *Opisthocaris muelleri*. The latter species is not closely related to the here described *S. sp. larva aequatorialis* which is more of the type of *S. sp. larva sumatransis*. These groupings refer of course only to the larval forms as we do not know the adult forms, or at least not to which adult form the larvae belong. The most characteristic features of the larva seem to be the large branchiostegal alae, the presence of both a latero-posterior marginal spine and a post-cardiac spine on the carapace, as well as the less carnivorous mouthparts.

## *Solenocera sp. larva danae*

Figs. 66-108.

### Localities.

#### Protozoa III.

Dana St. 3922-II 3°45' S-56°33' E, 600 m.W., depth 3520-3570 m; 12.12.1929, 1 spec.

#### Mysis I.

Dana St. 3903-IV 5°30' N-93°38' E, 100 m.W., depth 1390-1470 m; 17.11.1929, 5 spec.

#### Mysis II.

Dana St. 3860-XX 2°57' S-99°36' E, 600 m.W., depth 2690-5310 m; 20.10.1929, 2 spec.

— — 3860-XXI 2°57' S-99°36' E, 300 m.W., depth 2690-5310 m; 20.10.1929, 1 spec.

#### Mysis III.

Dana St. 3903-II 5°50' N-93°28' E, 600 m.W., 17.11.1929, 1 spec.

— — 3903-III 5°50' N-93°28' E, 300 m.W., 17.11.1929, 1 spec.

### Description.

#### Protozoa III.

Figs. 66-76.

#### *Carapace.*

The carapace is squarish and covers the whole thorax as viewed from above. After diagram 1 the following organs, spines and teeth are present on the carapace: 2. 3. 4. 7. 11. 12. 15. 18. 19. 24. 25. 26. 27. 30.

The rostrum is a long, smooth rod bent under the animal. On the carapace the cervical groove and the cervico-branchial groove are present, but they are not very distinct. Both anterior and posterior dorsal organs are present. The anterior organ is not high compared with most species, but very broad and rounded. The posterior dorsal organ is diminutive and placed just in front of the paired medio-posterior marginal spines, these are relatively short and edged by a brim with six to seven teeth.

The supra-orbital spine on each side of the rostrum is well-developed and reminds in shape of the tusk of an elephant. This stage has no antennal spine, but behind the place for it, almost in line with the anterior dorsal organ, is a pair of post-antennal spines. Behind the post-antennal spines is a pair of latero-hepatic spines, and farther medially is a pair of pre-hepatic spines. Finally posteriorly on the carapace a pair of conical, large posterior branchial spines points backwards from the carapace. These last spines have brims of teeth on their ventro-lateral margin and medio-dorsal side. Further, marginal teeth are found on the carapace in three groups: supra-antennal, branchiostegal and branchio-lateral teeth.

#### *Abdomen.*

Formula, segments I-VI: 1. 2.

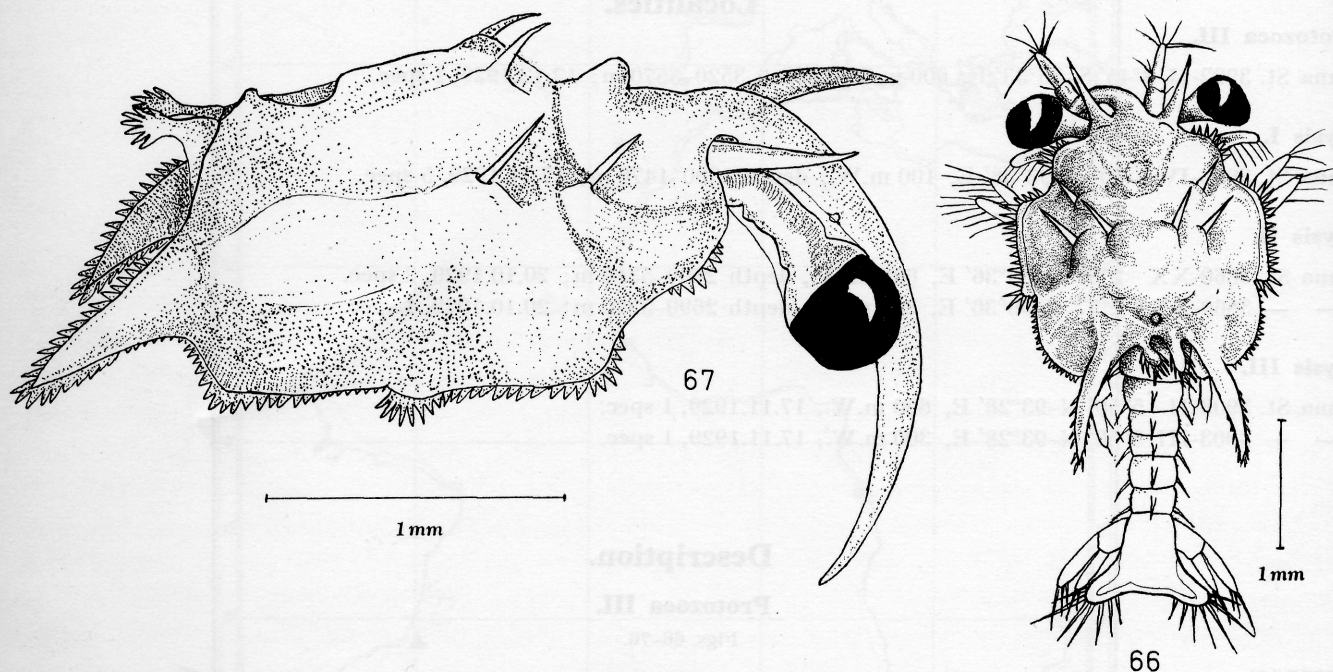
The abdomen has developed its full number of six segments, each provided with a dorsal spine and a pair of lateral spines, all long, slender and posteriorly curved.

*Telson.*

The telson has a squarish central plate which posteriorly continues as two lateral wings or branches forming nearly right angles with the central plate of the telson. No teeth or spines are found on the telson, but each telson branch is furnished with seven setae each with a few hairs like embryonic plumose setae.

*Appendages.*

The first antenna is four-jointed with the joints decreasing in width distally. The first joint is naked, the second joint is furnished with a single long and stiff seta at the distol-medial corner. Similar stiff setae are also placed along the medial line of the two following joints, and the last joint is tipped with several longer and shorter setae. At the disto-lateral corner of the third joint a group of setae are about appearing. The



Figs. 66-67. *Solenocera* sp. larva *danae*. Third Protozoa. Fig. 66, larva from dorsal. — Fig. 67, carapace, from lateral.

eye-stalk is fairly long and allows relatively large movements of the eye-ball. Dorsally on the distal part of the eye-stalk the ocular papillae (Fig. 67) can be seen.

The second antenna, the main locomotory organ in this stage, has an unjointed protopod without setae, a four-jointed endopod, and a one-jointed exopod, the two latter are true swimmerets. Each of the three proximal joints of the endopod has two setae at the medio-distal corner. The fourth and most distal joint is tipped with five long setae. The exopod consists of about ten rather narrow rings of which the more distal ones have a strong seta, one on each ring at its medio-distal border.

The labrum or upper lip is heart-shaped with the apex pointing forward; the part of it closest to the mouth is spoon-shaped and furnished with stiff hairs on its posterior free border. Near its apex is a ventral horn.

The mandible is slender without a palp and with, in the main only the teeth of the incisor part developed. These teeth are placed in two to three rows across the mandible, and each tooth is furnished with smaller spines or teeth to the effect that it can function as a small saw (Fig. 71).

The labium or lower lip is deeply cleft, with a short or hardly any stalk and with strong combing setae on the inner, medially turned margins of the two lobes.

The first maxilla consists of the usual two endites with barb-like, plumose setae. The endopod is three-jointed, each of the two first joints has two setae, and the third joint is tipped with five setae. The endopod