

A NEW RECORD OF SPECIES OF *SEROLIS* (CRUSTACEA, ISOPODA, FLABELLIFERA)  
FROM OFF SOUTHERN BRAZIL

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PLÍNIO SOARES MOREIRA

*Instituto Oceanográfico da Universidade de São Paulo*

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SYNOPSIS

The marine isopod species *Serolis foresti* Bastida & Torti, 1970, is reported from the southern Brazilian continental shelf. It is described the up to date unknown male. Few additional morphological informations are given on the female. The geographical distribution of the species is considerably extended northernwards, being the Lat. 23° S the new northernmost limit of occurrence of the species.

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INTRODUCTION

The serolid fauna from the continental shelf of southern Brazil is yet very poorly known. Few papers (Moreira, 1966, 1971, 1973, 1974; Bastida & Torti, 1970) have reported species, or dealt with biological aspects, of species, *Serolis* from Lat. 21° S southwards. The study of the rich material collected by the author through the ISOTAN-DRAGA I Program (MBT serie), will contribute to enlarge the present knowledge on the serolid species from southern Brazil.

The aim of this paper, based on part of the collected material, is to report the occurrence along the continental shelf of southern Brazil of the species *Serolis foresti* Bastida & Torti, 1970, previously recorded from one single locality off Argentina, and known by its female form only.

*Serolis foresti* Bastida & Torti, 1970  
(Figs 1-39)

*Serolis foresti* Bastida & Torti, 1970, p. 70-75, figs 2-4.

HOLOTYPE — Ovigerous female, 7.9 mm long (Bastida & Torti, 1970).

MATERIAL EXAMINED — St. A. Off Ilha Grande, State of Rio de Janeiro, 23°22' S, 44°26' W; depth 50 m; February 1969; T°C 15.95; S°/oo 35.71; Forster grab. 1 spent female, 6.0 mm long. St. MBT 128. Off Torres, State of Rio Grande do Sul, 29°23' S, 49°10' W; depth 54 m; June 1970; MBT dredge. 1 adult male, 5.5 mm long; 1 female with developing oostegites; 2 juveniles.

PREVIOUS RECORDS — St. 173. Off Argentina, 38°25' S, 56°14' W, 81 m depth (Bastida & Torti, 1970).

DIAGNOSIS — Head with a well marked, arcuate, transverse carina forwardly placed between the eyes; head and pereonites I-IV each with 1 small, middistal carina ending in a tubercle-like point about equal size, that on head slightly larger. Eyes composite, brownish, placed on projections raised up at the inner side. Antenna 2 with flagellar process on ventral side of flagellum articles. Maxilla 2, 3-lobed. Maxilliped, upper epipod free; palp 2 articulate. Pereonites V-VI and pleonite 1 fused together at midline. Coxal plates marked off by dorsal sutures on pereonites II-IV. Pereonite VI extending rearwards to well beyond both pleonites 2 and 3. Pleonites 2-3 very short, not exceeding anterolateral margins of pleotelson, 2nd pleonite extending not beyond pleonite 3. Pleotelson roughly V-shaped, slightly concave dorsally, constricted at the lateroposterior margins; 1 distinct but not sharp midlongitudinal carina interrupted by a smooth area about middle; 2 well marked carinae on either side joining posteriorly in a broad, rounded angle, confining an elongate area; terminal portion vaulted, tumid, slightly upturned, ending in a short, rounded-pointed apex, on either side of which the margins are distinctly straight. Pleopods 1-3, protopod strongly projected at the inner angle, where two elongate, plumose coupling setae are placed. Pleopod 4, endopod entire, uniarticulate. Pleopod 5 with both exo- and endopod biarticulate; exopod outer margin distally with 2 nonplumose setae and a row of delicate setae. Uropod biramous; exopod much shorter than endopod, distally with long, plumose setae; endopod margins with setae, the inner one fringed by long, plumose setae.

DESCRIPTION — *Body. Adult male.* Similar to the female (Fig. 1) but slightly broader. Color light brownish, lighter on marginal region of pereon, flagellum of both antennae 1 and 2, and pereopods, transparent.

*Head* — Greatest width across frontal margin; frontal carina distinctly marked laterally, and prolonging for a while on pereonite I.

*Pereon* - Pereonite I with a short transverse carina on each expanded side not reaching to lateral margins.

*Pleon* - Shaped as that of adult female (Fig. 1), with the dorsal carinae similarly arranged and marked as in the female.

*Antenna 1* (Fig. 2). Outer and inner margins of peduncular articles bordered by short, bifid setae (Fig. 3); peduncle articles 1 and 2 broader than articles 3 and 4 (Fig. 4); article 3 the longest of peduncle; article 4 about 2.1 times shorter than 3. Flagellum composed of 17 articles decreasing in width posteriorly; both articles 1 and last deprived of aesthete, remainder ones bearing aesthetes; excepting article 2 and the last four terminal articles, which bear 1 aesthete each (Fig. 5), all the remaining bear 2 aesthetes, one arising from the ventral side of the article, from about middle close to the margin, and the other from the inner-distal angle (Fig. 6), as usually founded in species of *Serolis*; aesthete elongate, thick, delicate, almost transparent, showing a distinct constriction about middle and an opening like-pore apically (Fig. 6); penultimate flagellar article short and broad, terminal one narrow and elongate, both combined shorter than antepenultimate (Fig. 5).

*Antenna 2* (Fig. 7). Peduncle, article 2 with fine setae covering inner margin; articles from 3 to 5 bearing tufts of moderately elongate setae arising from the ventral side of articles; in addition, inner and outer margins of articles 3-5 bordered by short setae, many of them of the bifid type (Fig. 3), more densely placed along inner margin. Flagellum composed of 16 articles gradually decreasing in width distally; articles 6 to 15 bearing ventrally an elongate, narrow, minutely serrated flagellar process (Fig. 8), which begins by a large, broad, acutely-pointed, prominent scale like-tubercle; inner margin of articles bordered by few short, minutely pectinate setae, inner-distal angle with 3-4 longer, also minutely spinous setae (Figs 7-8); terminal article shorter than penultimate, both combined about 1.3 times shorter than antepenultimate (Fig. 9).

*Pereopod I* (Fig. 16). Basis stout, elongate, about 2.7 times narrower than maximum length of article, ventral margin with fine, short setae proximally. Ischium naked, deprived of dorsal projection, upper and lower margins sub-parallel. Merus short, with 2 unequal setae at the lower-distal angle. Carpus, a tuft of setae on the ventro-distal angle, and distally 2 stout, composite setae setulate at the apex (Fig. 17). Propodus strong, with lower margin bordered by one row of elongate trifold setae, and one row of shorter, expanded, leaf-like setae, each bearing transverse rows of minute setae which are not distinctly visible (Fig. 18). Dactylus elongate, curved, apex heavily chitinized, claw not discernible (Fig. 19).

*Pereopod II* (Fig. 24). Basis and ischium elongate, both articles with upper and lower margins bordered by fine setae, specially those of basis; in addition, basis with 1 broom seta proximally on the dorsal margin, and ischium with long, finely pectinate setae (Figs 25-26) on both dorsal and ventro-distal angles, seta on dorsal angle of ischium single and shorter. Merus and carpus, ventral margin and distal angles with transverse rows of pectinate setae, those from the ventral margin usually remarkably longer. Propodus stout, broader proximally, ventral margin with pairs of blunt setae (Fig. 27) similar to those found on carpus of pereopod I (Fig. 17), pairs of distal setae very elongate, acutely-pointed and stiffly setulate apically (Fig. 28); upper-distal margin bordered by long, pectinate setae. Dactylus short, when retracted not extending beyond ventro-proximal angle of propodus, claw stout and distinct (Fig. 29), unequal, short pectinate setae arising from the lower and upper bases of claw.

*Pereopod VII* (Fig. 30). Pattern of setation and types of setae basically similar to those found on the ischium through carpus of pereopod II. Ventral margin of merus, carpus and propodus, in addition to the transverse rows of pectinate setae, bearing short, fine setae. Dactylus strongly curved (Fig. 31), claw distinct, stout and rounded at apex.

*Pleopod 2* (Fig. 32). Protopod about equal length maximum length of endopod, lower-inner angle strongly prominent and bearing 2 stout, elongate, plumose coupling setae. Exopod shaped as usually in species of the genus. Endopod, proximal portion laminar and bordered by plumose setae, inner-distal angle narrow, naked, and prolonged strongly; length of this prolongment (measured from apex to the first plumose seta) about equal to length of expanded portion (actually slightly shorter); appendix masculinum extremely long and narrow, about 4.3 times longer than maximum length of endopod.

*Pleopod 4* (Fig. 33). Exopod longer than endopod, inner margin straight and with fine setae, outer margin bordered by plumose setae. Endopod delicate, branchial, much narrower than exopod, devoid of setae, narrowing to a rounded-pointed apex.

*Pleopod 5* (Fig. 34). Both rami delicate, branchial and bi-articulated. Exopod slightly longer than endopod, apex narrow and rounded, outer margin distally with 2 simple setae and few elongate fine setae regularly disposed (Fig. 35). Endopod devoid of setae, apex narrow and rounded (Fig. 36).

*Uropods* (Fig. 37). Biramous, bordered partially by a very narrow, irregular, crenulate hyaline membrane. Protopod, outer margin with about 3 slender, unequally bifid setae (Fig. 3), inner-distal angle bearing a single plumose seta. Both exo- and endopod narrow and elongate. Exopod about 2.3 times shorter than endopod, outer margin with slender bifid setae placed regularly along margin, inner margin devoid of setae, distal margin with 4 elongate

plumose setae (Fig. 38). Endopod narrower and distinctly curved inwards at the distal portion, outer margin bordered by slender bifid setae, and with 3 broom setae distally (Fig. 39), inner margin fringed by plumose setae, curved distal portion naked, apex widely rounded.

*Spent female. Body* (Fig. 1). Both *head* and *pereonite I*, respectively, with indistinct frontal carina and latero-transversal carina.

*Antenna 1* - Flagellum composed of 12 articles.

*Antenna 2* - Flagellum composed of 15 articles gradually decreasing in width posteriorly; articles bearing ventrally a flagellar process (Fig. 11) similar to that of male; prominent scale like-tubercle of flagellar process not too pronounced on last articles (Fig. 12); apex as shown in Figure 10.

*Maxilliped* (Fig. 13). Endite distally broad, and with a stout, apical seta, inner margin covered by both delicate setae and few elongate setae. Upper epipod well developed, not fused to endite, distally rounded and narrower than basal portion, outer margin fringed by fine setae. Palp 2-articulate (Fig. 14); 1st article small, 2nd much larger, elongate and with minutely pectinate setae; palp (both articles combined) about 1.8 times shorter than endite; apex of upper epipod (Fig. 15), palp and endite partially bordered by a narrow, irregularly crenulate hyaline membrane.

*Pereopod I* (Fig. 20). Morphologically similar to that of male. Basis stout and the longest article. Ischium as in the male, with the upper and lower margins sub-parallel. Merus short, bearing a minute seta on the lower-distal angle. Carpus with few scattered short setae, and with 2 stout, distal, composite, apically pointed, stiffly setose setae distally (Fig. 21). Propodus, ventral margin bearing 2 rows of composite setae (Fig. 22) similar to those on male propodus (Fig. 18); short, leaf-like setae from proximal portion of ventral margin smaller and usually with a slightly more irregular outline (Fig. 23).

*Pereopods II-VII*. Similar to those of male pereopods III-VII.

*Uropods*. As figured by Bastida & Torti (1970), and similar to that of male (Fig. 37).

REMARKS - *Serolis foresti* is easily distinguished from other members of the genus by the peculiar shape of the pleotelson, and by the arrangement of the two dorsal carinae on either side of it.

The holotype female was described and figured by Bastida & Torti (1970). The male was unknown, being described for the first time.

In the spent female examined (6.0 mm long) the flagellum of both antenna 1 and 2 is composed of, respectively, 12 and 15 articles (Bastida & Torti,

*op. cit.*, recorded for an ovigerous female 7.9 mm long, respectively, 12 and 15 articles), while in the adult male 5.5 mm long it is composed of 17 (antenna 1) and 16 articles (antenna 2). Both sexes exhibit on the ventral side of the flagellar articles of the antenna 2 a serrated, structurally similar flagellar process (cp. Figs 8 and 11). This characteristic does not represent, thus, a sexual dimorphic feature.

Remarkable in the species is the arrangement of the aesthetes on the flagellar articles of the antenna 1. Excepting some articles that bear only one aesthete, most of the flagellum articles bear 2 aesthetes, one, as usually, placed on the ventrodistal angle, the other on the ventral side of the article, close to the inner margin.

Also remarkable in the species, as was pointed out by Bastida & Torti (1970), is the 2-articulate maxillipedal palp (Fig. 14). Excepting for such striking feature, the maxillipeds are of the usual shape.

The pereopod I is morphologically similar in both sexes, inclusive regarding to the two types of setae composing the setal armature of the ventral margin of the propodus. However, the carpus differs in both sexes, that of male bearing on the ventro-distal angle a tuft of setae, while that of female is devoid of such setal pattern. In addition, both sexes present on the carpus two apical, stout, distally setose setae, which in the male are stronger and blunty, in the female distinctly narrowed apically (cp. Figs 17 and 21).

The exopod of the pleopod 5 bears apically two slender, simple setae and few delicate setae, a feature not so commonly found in species of *Serolis*. The uropods are elongate, narrow and biramous, being worthy of attention the smaller size of the exopod compared to that of the endopod.

Secondary sexual dimorphism is exhibited by the species, but it is not remarkable. Secondary sexual male features are mostly found in the higher number of flagellar articles of the antenna 1, and on the types of setae and pattern of setation of the male carpus pereopod I.

The species was recorded before from off Argentina (Lat. 38° S), at 81 m depth. The present first records from Brazil, specially that off Rio de Janeiro (Lat. 23° S, 50 m depth), extend considerably northernwards the geographical distribution of *Serolis foresti*.

#### RESUMO

O isópode marinho *Serolis foresti* Bastida & Torti, 1970, é pela primeira vez assinalado ao longo da plataforma continental centro-sul do Brasil. Descreve-se o macho, até então desconhecido, e redescreve-se parcialmente a fêmea, com algumas observações morfológicas inéditas. A distribuição geográfica da espécie é consideravelmente ampliada, passando a Lat. 23° S a ser agora o seu limite mais setentrional de ocorrência.

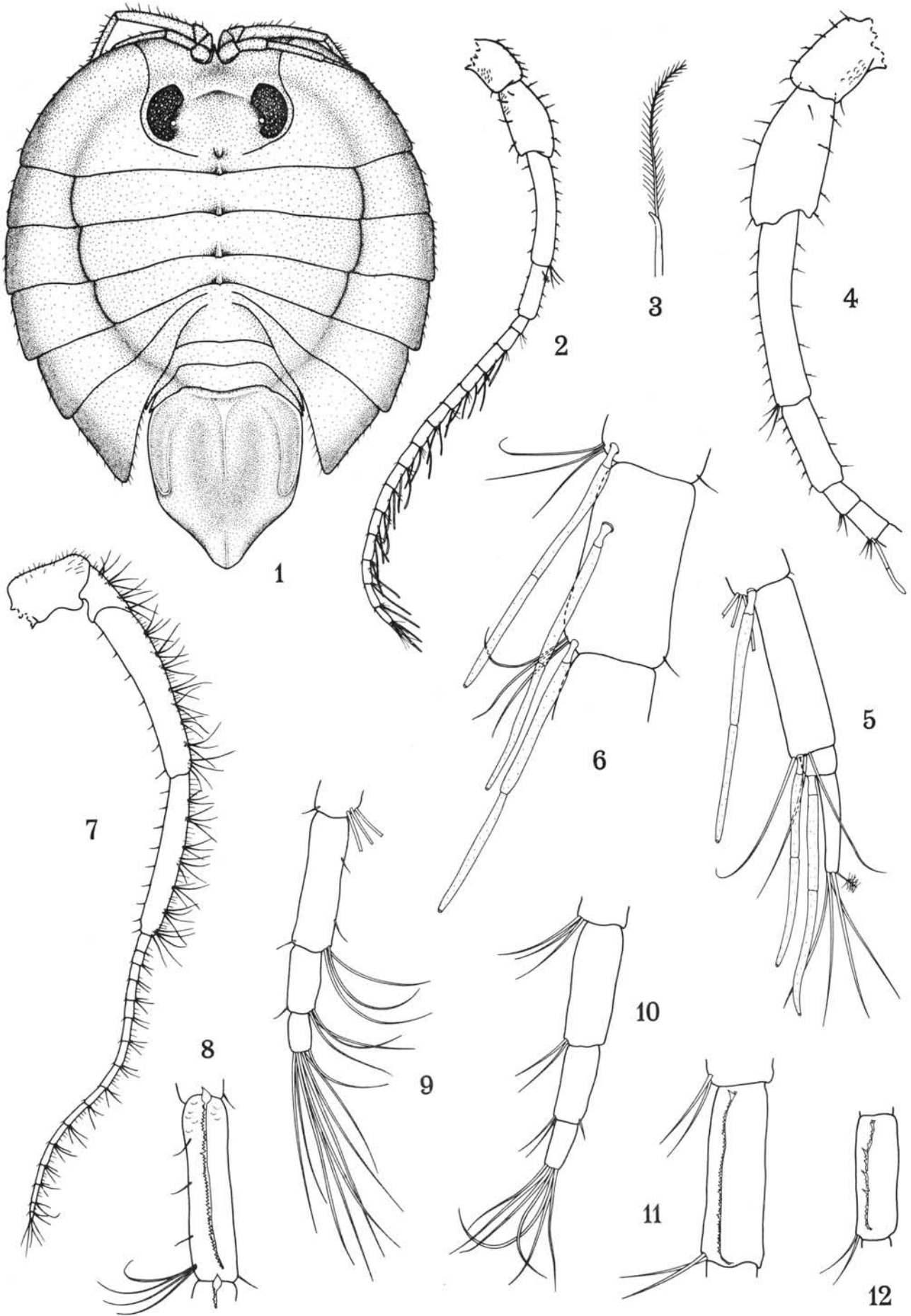


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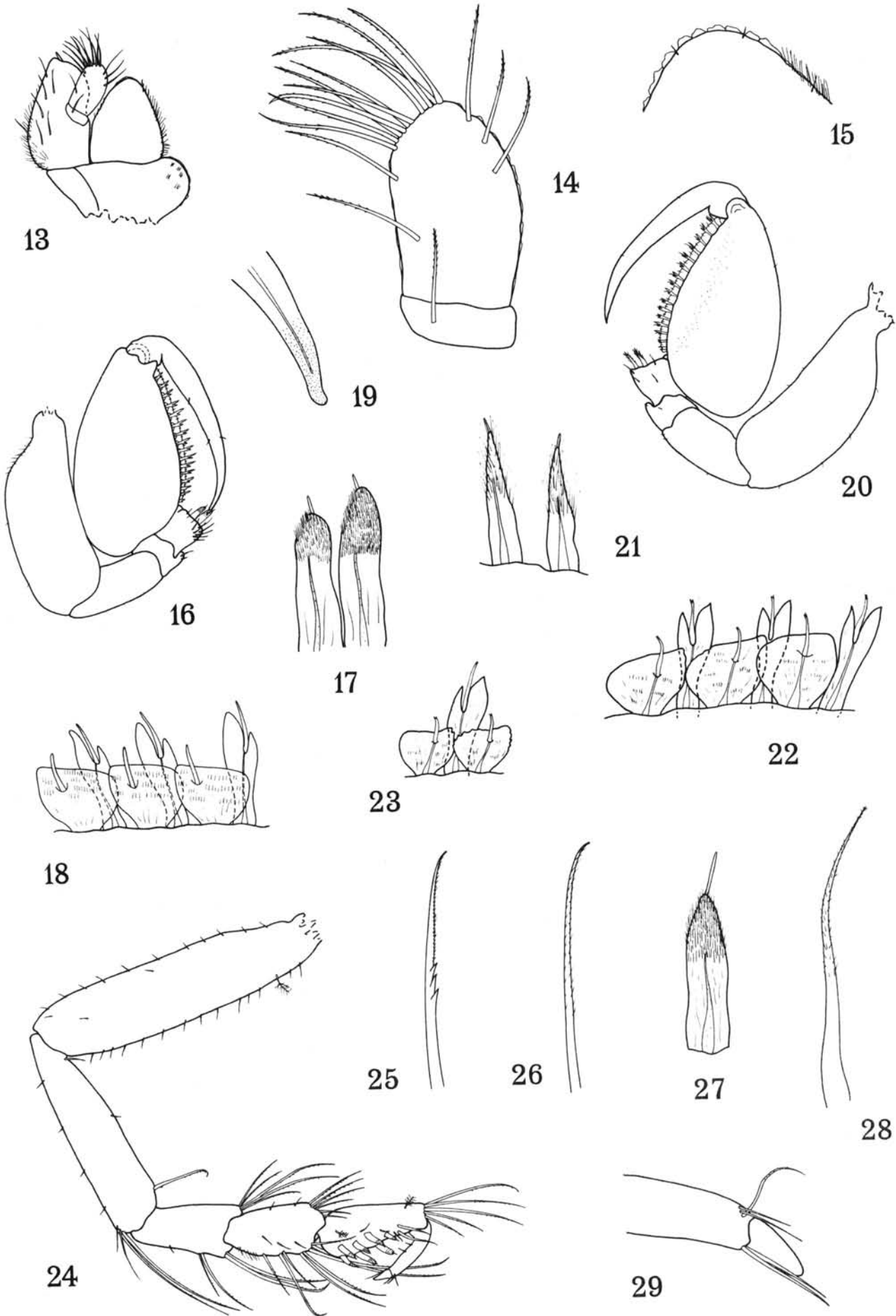
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Figs 1-12 - *Serolis foresti* Bastida & Torti. Adult male, 5.5 mm long (Figs 2-9), spent female, 6.0 mm long (Figs 1, 10-12). 1, body, dorsal; 2, antenna 1; 3, slender bifid seta from antenna 1; 4, antenna 1, peduncle ant 1st two flagellar articles; 5, antenna 1, apex of flagellum; 6, antenna 1, flagellar article, ventral; 7, antenna 2; 8, and 11-12, antenna 2, articles of flagellum, ventral; 9 and 10, antenna 2, apex of flagellum.





*Figs 13-29* - *Serolis foresti* Bastida & Torti. Adult male, 5.5 mm long (Figs 16-19, 24-29), spent female, 6.0 mm long (Figs 13-15, 20-23). 13, maxilliped; 14, maxillipedal palp; 15, apex of upper epipod of maxilliped; 16 and 20, pereopod I; 17 and 21, pereopod I, composite setae from apex of carpus; 18 and 22-23, pereopod I, composite setae from ventral margin of propodus; 19, pereopod I, apex of dactylus; 24, pereopod II; 25-26, pereopod II, pectinate setae; 27-28, pereopod II, composite setae from propodus ventral margin; 29, pereopod II, apex of dactylus.



*Figs 30-39* - *Serolis foresti* Bastida & Torti. Adult male, 5.5 mm long. 30, pereopod VII; 31, pereopod VII, dactylus; 32, pleopod 2; 33, pleopod 4; 34, pleopod 5; 35-36, pleopod 5, apex of exo- and endopod; 37, uropod; 38-39, uropod, apex of exo- and endopod.

