

THIRD CONTRIBUTION TO THE KNOWLEDGE OF THE RAVINIINI (DIPTERA, SARCOPHAGIDAE), BASED ON OBSERVATIONS OF THE LARVAE, USING SCANNING ELECTRON MICROSCOPE

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L1, L2 and L3 of Oxysarcodexia paulistanensis (Mattos), L3 of O. confusa Lopes, L2 of Ravinia belforti (Prado & Fonseca) and L2 of Oxyvinia excisa (Lopes) were described and figured using scanning electron microscope.

Key words: *Oxysarcodexia paulistanensis* (Mattos) – *O. confusa* Lopes – *Ravinia belfordi* (Prado & Fonseca) – *Oxyvinia excisa* (Lopes) – larvae – scanning

Larvae of first and second instars of some species of Raviniini were studied in two previous papers: two species of *Oxysarcodexia*, two species of *Ravinia* and one species of *Oxyvinia*.

Using the same methods, all instars of *Oxysarcodexia paulistanensis* (Mattos) third instar of *O. confusa* Lopes, second instar of *Ravinia belfordi* (Prado & Fonseca) and second instar of *Oxyvinia excisa* (Lopes) were compared with the previously known species.

All material was obtained from females collected in Petropolis, State of Rio de Janeiro, Brazil, dehydrated in 90% and 100% ethanol, critical point dried in CO₂, coated gold, photographed using a Novascan-30-Zeiss scanning electron microscope of the Department of Morphology, Institute of Biological Sciences, Federal University of Minas Gerais, Belo Horizonte.

Oxysarcodexia paulistanensis (Mattos) (Figs. 1 to 6)

Sarcophaga paulistanensis Mattos, 1919: 72, pl. 3; ref.: Lopes, 1943: 146, Figs. 42-46.

First instar larvae showing festoons of pseudocephalon with ventral sinuous branches (Fig. 1) similar to those of *O. thornax* (Walker); the teeth of maxillae are more rounded, few in number than those of *O. confusa* Lopes and *O. thornax* (Walker) (Fig. 2), palpi with about six papillae.

Thoracic segments with numerous, slender spines showing filamentous apices, on anterior margin of the segments; third segment with scattered filamentous spines (Fig. 3). On each segment there are two ventral sensilla showing trilobed process and lateral papillae which became more near to the trilobed process from first to third segment.

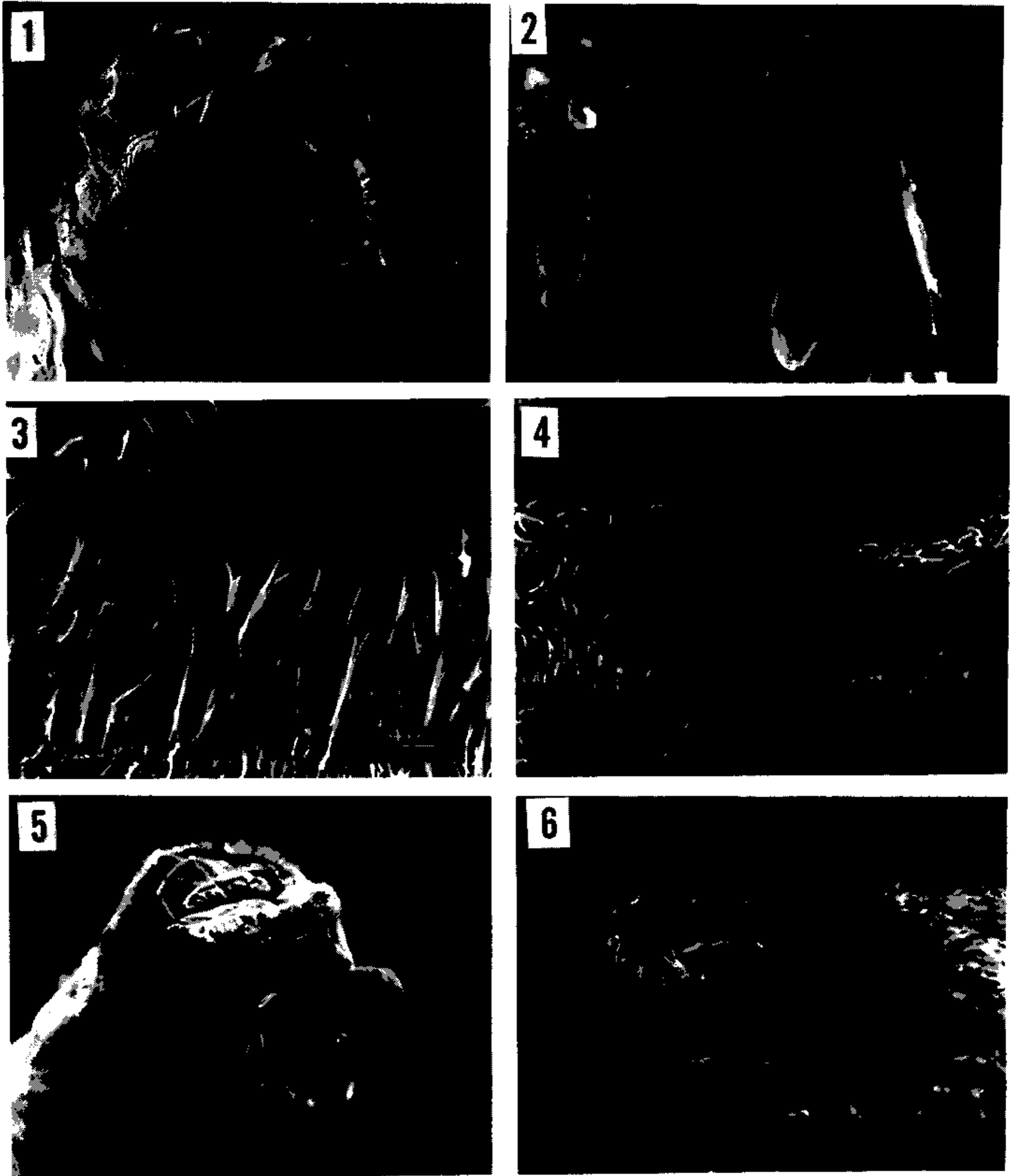
Abdominal segments with anterior spines like those of the thoracic segments and few posterior scattered ones, anteriorly directed (Fig. 4), besides the sensorial papillae. Eight segment with abundant pile covering the vestigial tubercles; perianal pads very large, anal papillae conspicuous (Fig. 5). Peritreme slender, bilobed spiracular hairs between and outside the openings (Fig. 6).

Second instar larvae: pseudocephalon with conspicuous striae, convergent to mouth; lip (labial lobe) with a large central lobe and a pair of small lateral ones; irregular polygonal plates between antennae and the striae of mouth (Fig. 7); anterior margin of first thoracic segment with broad band of plates bearing one, two or three, sometimes small, spines, well different from the spinous band of second instar larvae of *O. confusa* Lopes (see Leite & Lopes, 1987, fig. 33). Sensorial trilobed pair showing erect papillae (Fig. 9); anterior spiracle with 14 openings not in the same level (Fig. 10); the elongated spines of posterior margins are directed anteriorly, and those of anterior margins are directed posteriorly on the abdominal segments (Fig. 11); posterior end with abundant slender spines; the six pairs of circumspiracular tubercles show almost the same development (Figs. 12, 13), no tubercles are reduced, like those of *O. confusa* Lopes. Peritreme broad, hairs ("sun rays") with a large number of rays on outside and innerside of spiracles (Fig. 14).

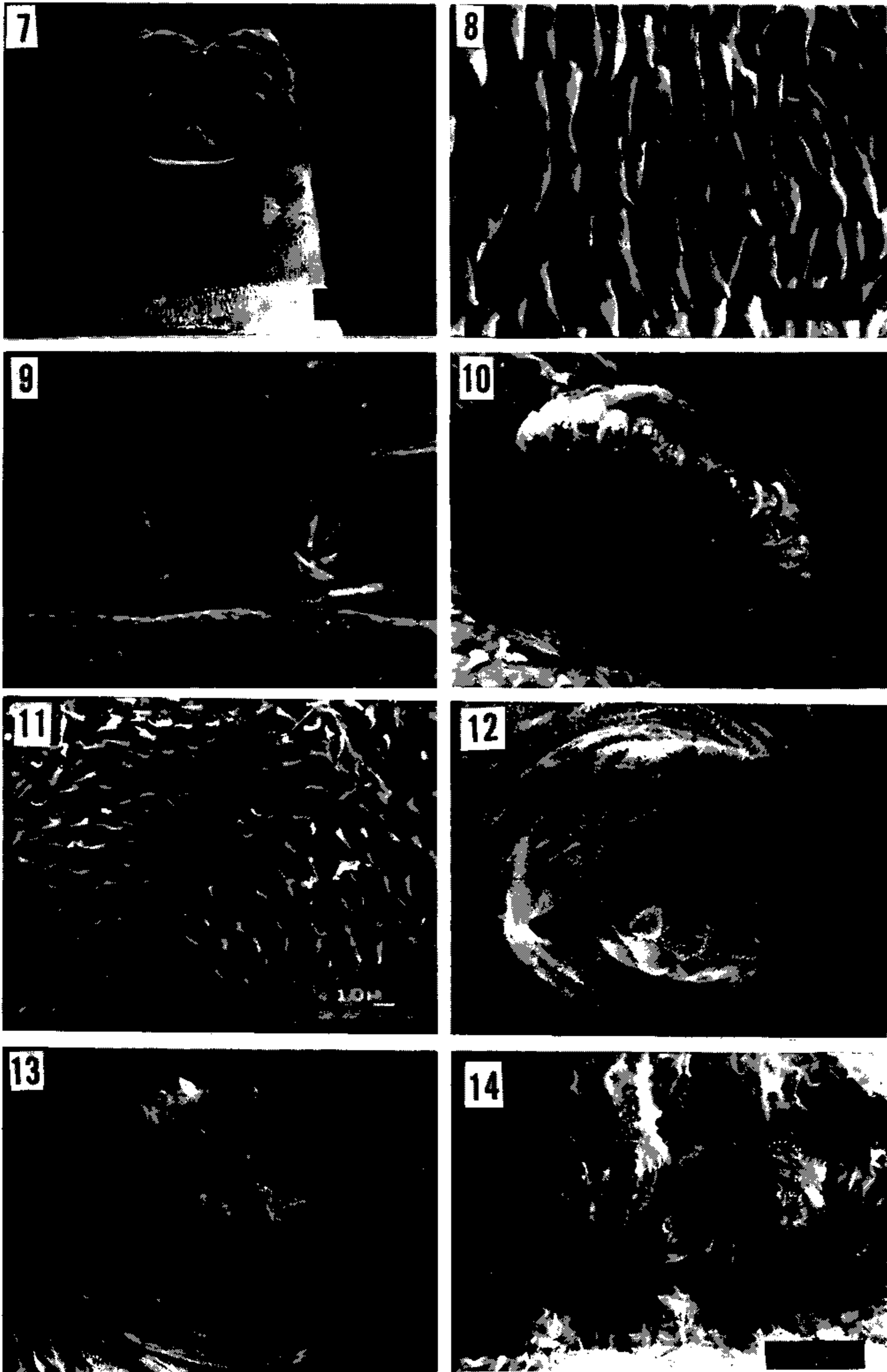
Work undertaken in the Laboratories of the University of Minas Gerais and Institute Oswaldo Cruz, partially supported by the "Conselho Nacional de Desenvolvimento Científico e Tecnológico, CNPq".

Received December 30, 1986.

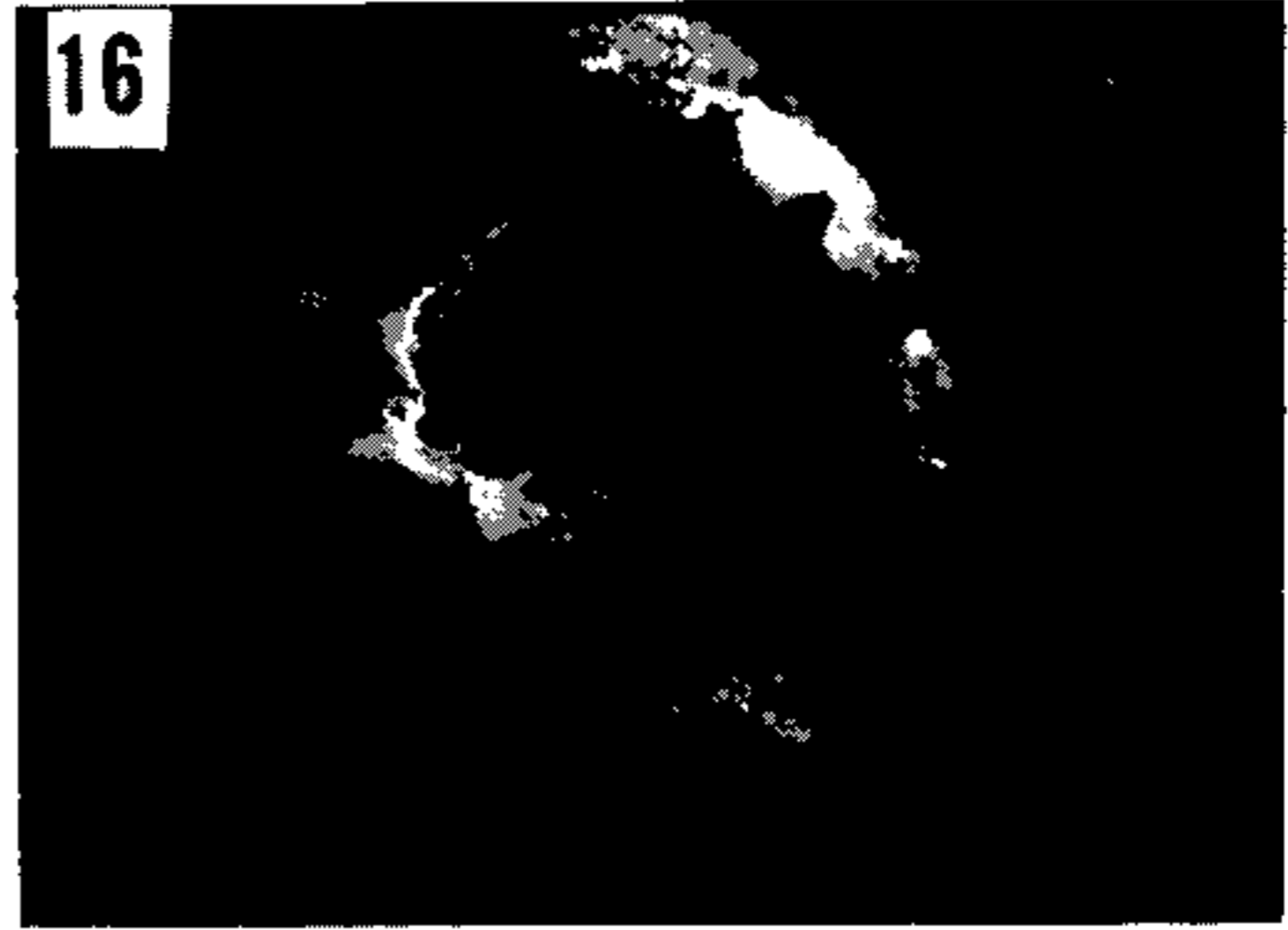
Accepted April 14, 1987.



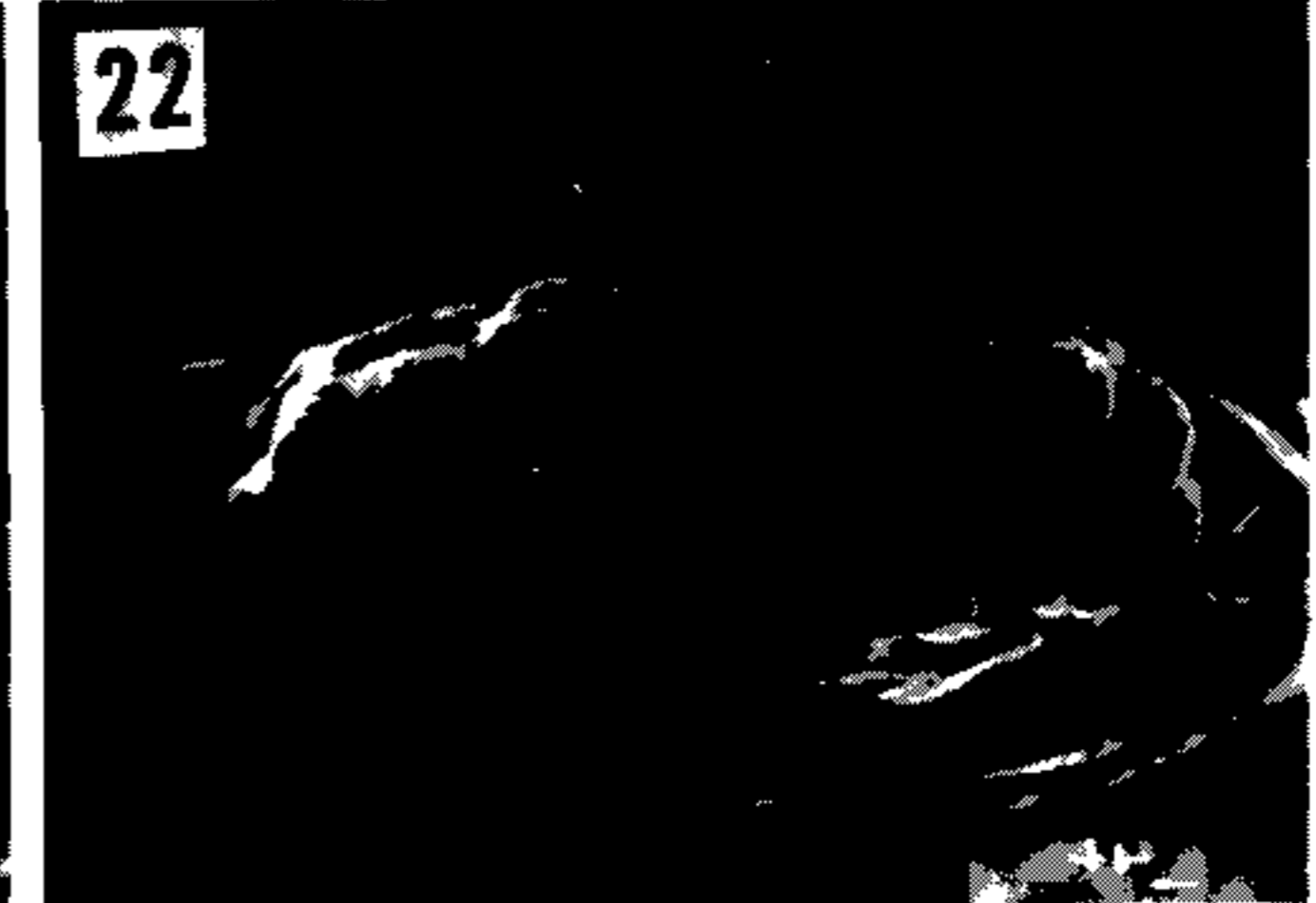
Oxysarcodexia paulistanensis (Mattos), first instar larvae. Fig. 1: anterior end, ventral view. Fig. 2: maxillae. Fig. 3: posterior margin of third thoracic segment (above) and anterior margin of first abdominal segment (below). Fig. 4: posterior margin of fourth and anterior margin of fifth abdominal segment. Fig. 5: posterior end; Fig. 6: posterior spiracles.



Oxysarcodexia paulistanensis (Mattos), second instar larvae. Fig. 7: anterior end, ventral view. Fig. 8: ventral side of anterior margin of first thoracic segment. Fig. 9: trilobed sensilla of first thoracic segment. Fig. 10: anterior spiracle. Fig. 11: posterior margin of sixth (right) and anterior margin of seventh abdominal segment (left). Fig. 12: posterior end, dorsal view. Fig. 13: posterior end, ventral view. Fig. 14: posterior spiracles. Third instar larvae.



Oxysarcodexia paulistanensis (Mattos), second instar larvae. Fig. 15. anterior spiracle. Fig. 16: posterior end.



Oxysarcodexia confusa Lopes, third instar larvae. Fig. 17: anterior end, ventral view. Fig. 18: antenna and palpus. Fig. 19: maxillae. Fig. 20: anterior spines of first thoracic segment. Fig. 21: trilobed sensilla. Fig. 22: anterior spiracle.

Third instar larvae also with 14 openings in the anterior spiracle (Fig. 15); circumspiracular tubercles conspicuous, outer dorsal ones very elongated, subanal and extranal papillae (Ishijima, 1967, Figs. 1G, 1N) well visible, anal pads moderate (Fig. 16).

Oxysarcodexia confusa Lopes
(Figs. 17 to 26)

Oxysarcodexia confusa Lopes, 1946: 96, figs. 83-86.

First and second instars of this species were described and figured (Lopes & Leite, 1986, Figs. 1, 3, 5, 8, and Leite & Lopes, 1987, Figs. 26-33).

Third instar larvae showing, on pseudocephalon, concentric striae bearing conspicuous

dentations directed posteriorly (Figs. 17, 19); squamous region between antennae and palpi; papillae of palpi encircled by elongate plates (Fig. 19); lip composed of a single lobe (Fig. 17).

First thoracic segment with numerous plates bearing one to three points, covering a broad band on anterior margin (Fig. 20); segments I to III with slender posterior spines and a pair of trilobed sensilla (Fig. 21), having laterally a single mamilliform sensilla on each segment; anterior spiracle with 11 openings almost on same level (Fig. 22).

Abdomen with anterior margins of the segments bearing spines somewhat curved (Fig. 24) or strongly curved (Fig. 25); posterior spines directed anteriorly, small and scattered (Fig. 24) circumspiracular tubercles not so developed as in *O. paulistanensis* (Mattos).



Oxysarcodexia confusa Lopes, third instar larvae. Fig. 23: anterior spines and trilobed sensilla, second thoracic segment. Fig. 24: spines of first abdominal segment. Fig. 25: anterior spines of fourth abdominal segment. Fig. 26: posterior end.

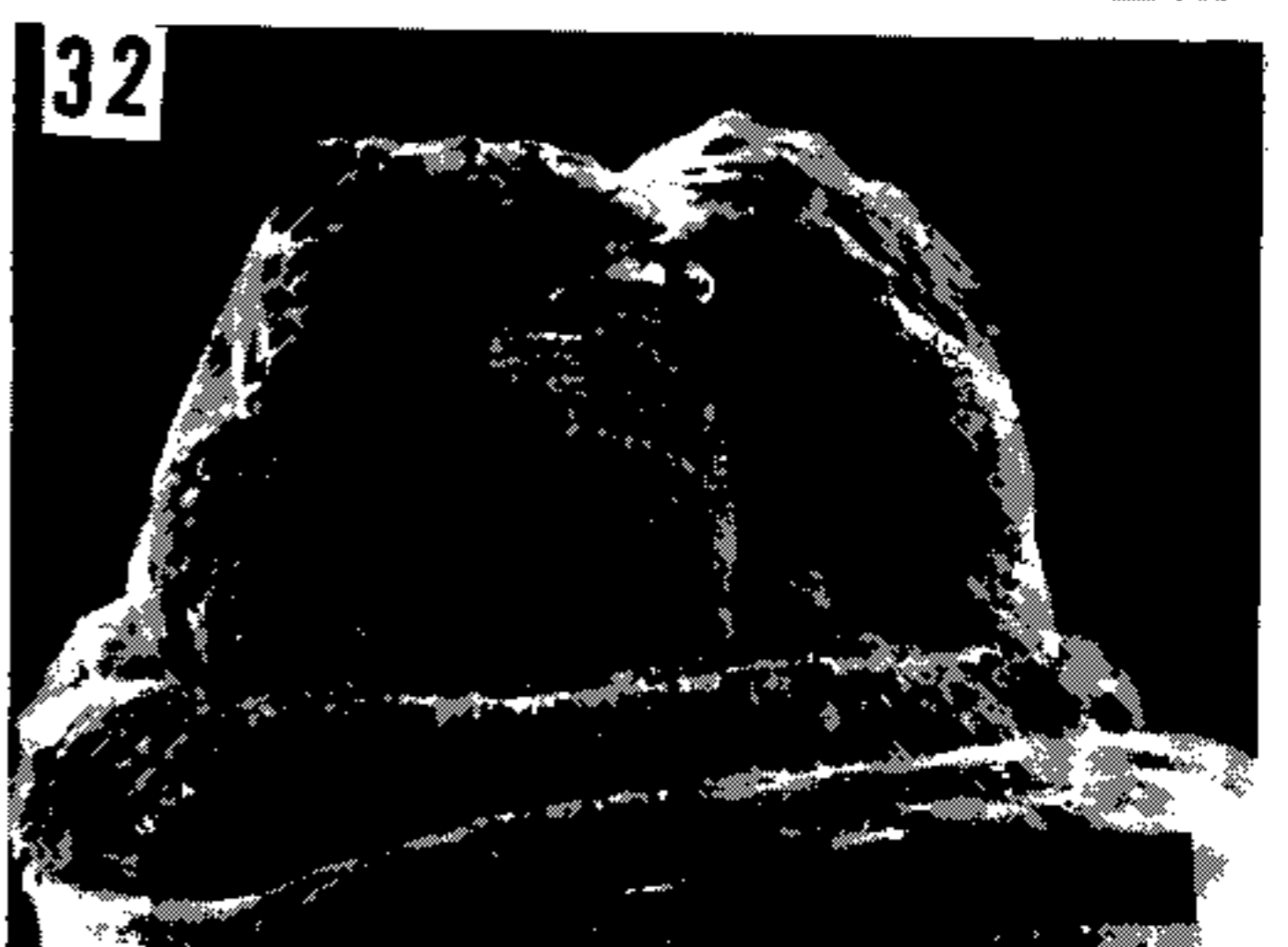
Ravinia belforti (Prado & Fonseca)
(Figs. 27 to 31)

Euravinia belforti Prado & Fonseca, 1932:
39, Fig. 7.

Uterine larvae were described by Leite & Lopes (1987). Second instar larvae with numerous concentric striae on pseudocephalon, dorsally two or more confluent striae form each stria, all bearing posterior dentations; antennae salient,

palpus with large median papilla, lip with lateral lobes (Figs. 27, 28).

First thoracic segment with a broad band of conspicuous plates bearing spines (Fig. 27); anterior spiracle showing the openings in more than one row (fig. 29); anterior spines short and robust, not forming plates; posterior spines few in number, most of them directed forwards (fig. 30); circumspiracular tubercles not pointed, all almost of the same size, anal pads reduced (fig. 31).



Ravinia belfordi (Prado & Fonseca), second instar larvae. Fig. 27: anterior end, lateral view. Fig. 28: idem, anterior view. Fig. 29: anterior spiracles. Fig. 30: posterior margin of third (above) and anterior margin of fourth abdominal segment. Fig. 31: posterior end. *Oxyvinia excisa* (Lopes), second instar larvae. Fig. 32: anterior end, ventral view.



Ravinia belfordi (Prado & Fonseca), second instar larvae. Fig. 33: anterior spiracle. Fig. 34: posterior end.

Oxyvinia excisa (Lopes)
(Figs. 32 to 34)

Dexosarcophaga excisa Lopes, 1950: 361, figs. 19-26.

To the description of the second instar larvae by Leite & Lopes (1987) shall be added the following: dentations of the concentric striae of pseudocephalon very conspicuous; anterior margin of first thoracic segment with plates bearing several spines (Fig. 32); anterior spiracle with 8 openings on same level (Fig. 33); circumspiracular tubercles moderate; subanal and extranal tubercles well visible (Fig. 34).

RESUMO

Terceira contribuição para o conhecimento de Raviniini (Diptera, Sarcophagidae) baseada em observações de larvas, usando-se o microscópio de varredura — L1, L2 e L3 de *Oxysarcodexia paulistanensis* (Mattos), L3 de *O. confusa* Lopes, L2 de *Ravinia belfordi* (Prado & Fonseca) e L2 de *Oxyvinia excisa* (Lopes) foram descritas e figuradas usando-se microscópio de varredura.

Palavras-chave: *O. paulistanensis* (Mattos) — *O. confusa* Lopes — *Ravinia belfordi* (Prado & Fonseca) — *Oxyvinia excisa* (Lopes) — larvas — varredura

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