

## SCANNING ELECTRON MICROSCOPY OF THE FIRST INSTAR LARVAE OF *SARCODEXIA LAMBENS* AND *PECKIA CHRYSOSTOMA* (DIPTERA: SARCOPHAGIDAE)

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*The first instar larvae of Sarcodexia lambens (Wiedemann, 1830) and Peckia chrysostoma (Wiedemann, 1830) dissected from females reared in laboratory, are described under scanning electron microscope (SEM).*

Key words: Diptera – Sarcophagidae – *Sarcodexia lambens* – *Peckia chrysostoma* – first instar larva – scanning electron microscopy

*Sarcodexia lambens* and *Peckia chrysostoma* belongs the Sarcophaginae, tribe Sarcodexiini and occur in the Neotropical Region. Larvae of *S. lambens* has been found on dead Arthropods (Lopes, 1953) and *P. chrysostoma* on dead fish, human faeces and the adults are attracted by rotten bananas (Lopes, 1973). The adult male genitalia of both species were described under SEM (Leite & Lopes, 1989) and the egg of *S. lambens* was studied, also under SEM, by Lopes & Leite (1989).

The present paper is part of a series concerning Sarcophagidae larvae (Lopes & Leite, 1986; Leite & Lopes, 1987 and Lopes & Leite, 1987).

### MATERIALS AND METHODS

The first instar larvae of *S. lambens* and *P. chrysostoma* were obtained by dissecting females reared in the Laboratory of the Department of Biology, Instituto Oswaldo Cruz. The specimens were processed for SEM by the methods described by Leite & Lopes (1987) in the Electron Microscopy Center, Institute of Biological Sciences, Federal University of Minas Gerais.

### RESULTS

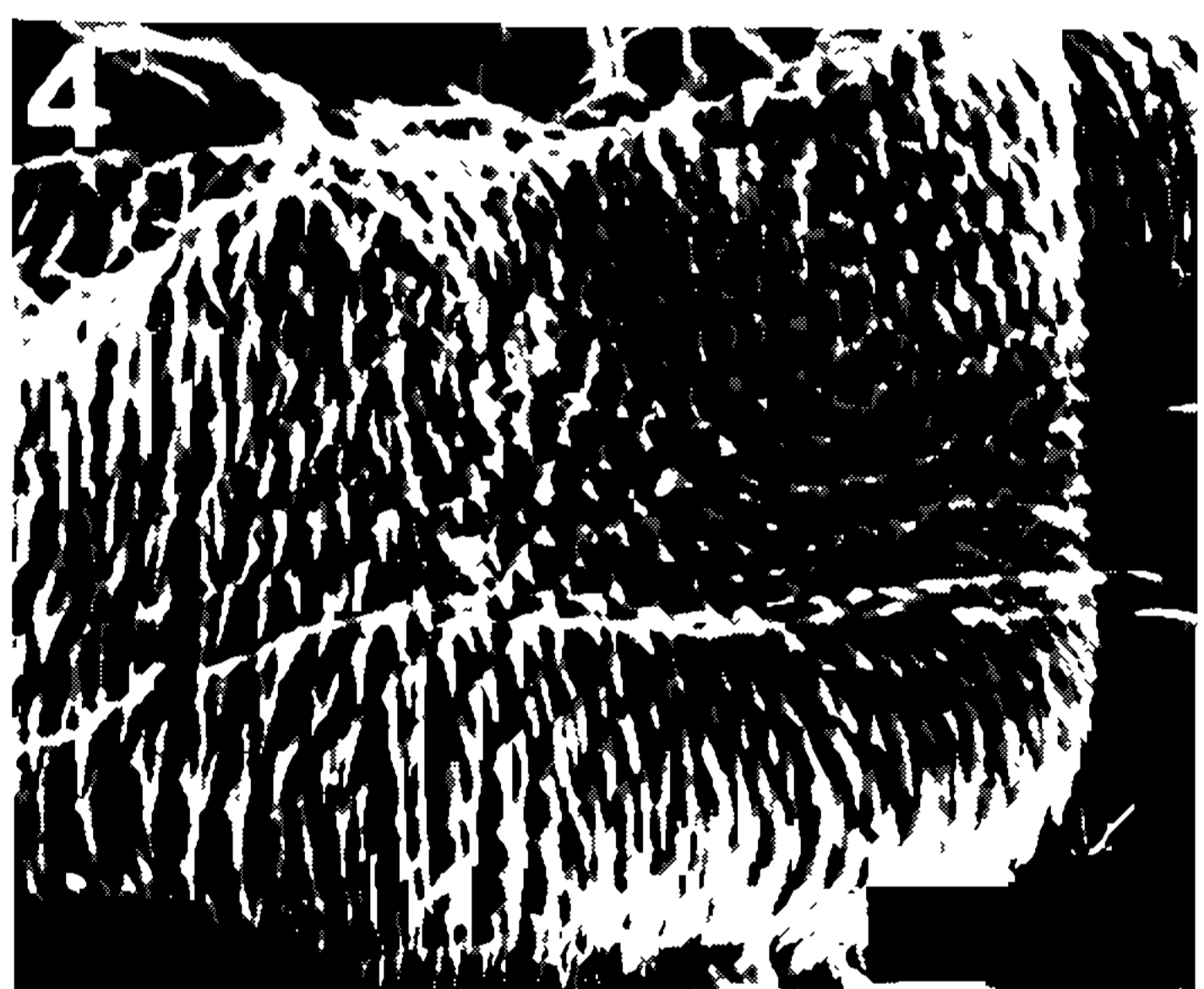
*Sarcodexia lambens* (Wiedemann, 1830)  
(Figs 1 to 12)

The first instar larvae of *S. lambens* show long antenna and palpi represented by numerous sensorial papillae (Figs 1, 2). The maxillae present fine longitudinal striae (Fig. 3); two papillae are seen in the oral opening (Fig. 1); all thoracic segments bear anterior spines directed backwards and a pair of sensorial pits, each containing a trilobed process. On each thoracic segment two papillae lie close the trilobed process. The opening of the anterior spiracle is present on the latero-posterior region of the first thoracic segment and has a transverse slit and an adjacent small pit (Fig. 6). The first abdominal segment bears anterior spines like of the thoracic segment and presents few posterior spines, all directed forwards. From second to eight abdominal segments, the spines are distributed on the surface but are more numerous and more slender on first; on the lateral surface of each abdominal segment there is a sensorial papilla. The circumspiracular cavity is surrounded by hair-shaped spines and all tubercles are small (Fig. 11). The posterior spiracles have two openings (Fig. 12); the spiracular hairs bear three lateral points and one dorsal point.

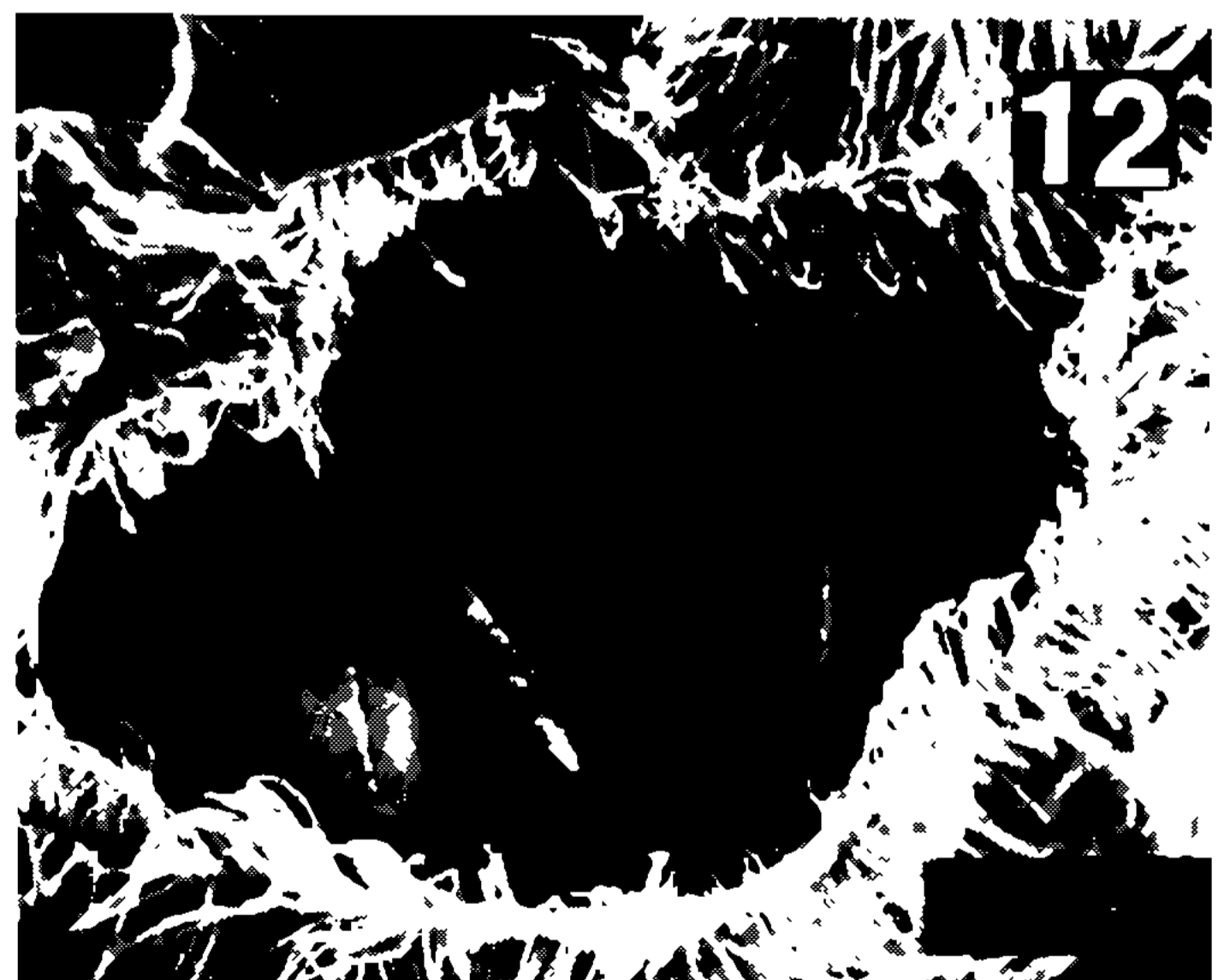
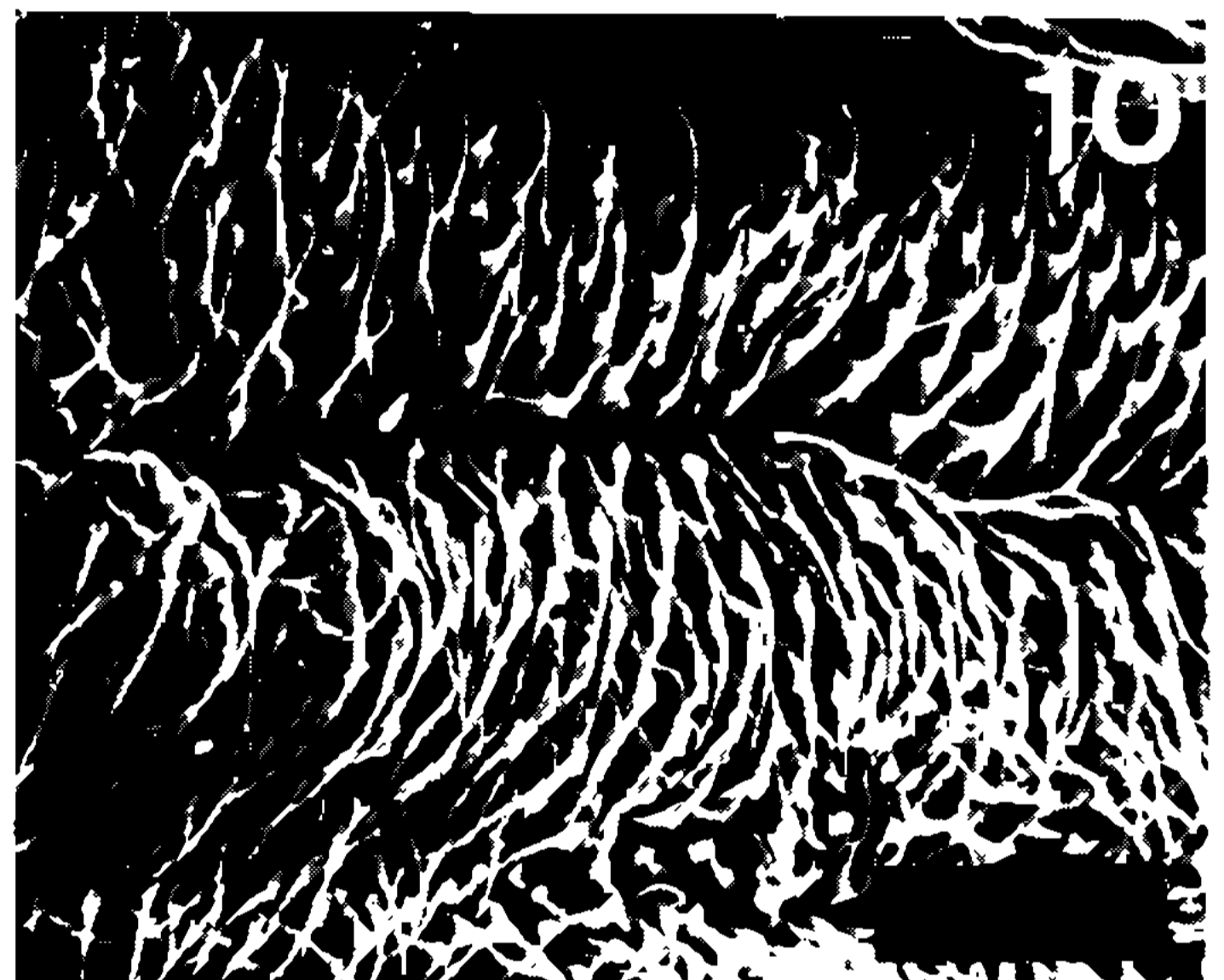
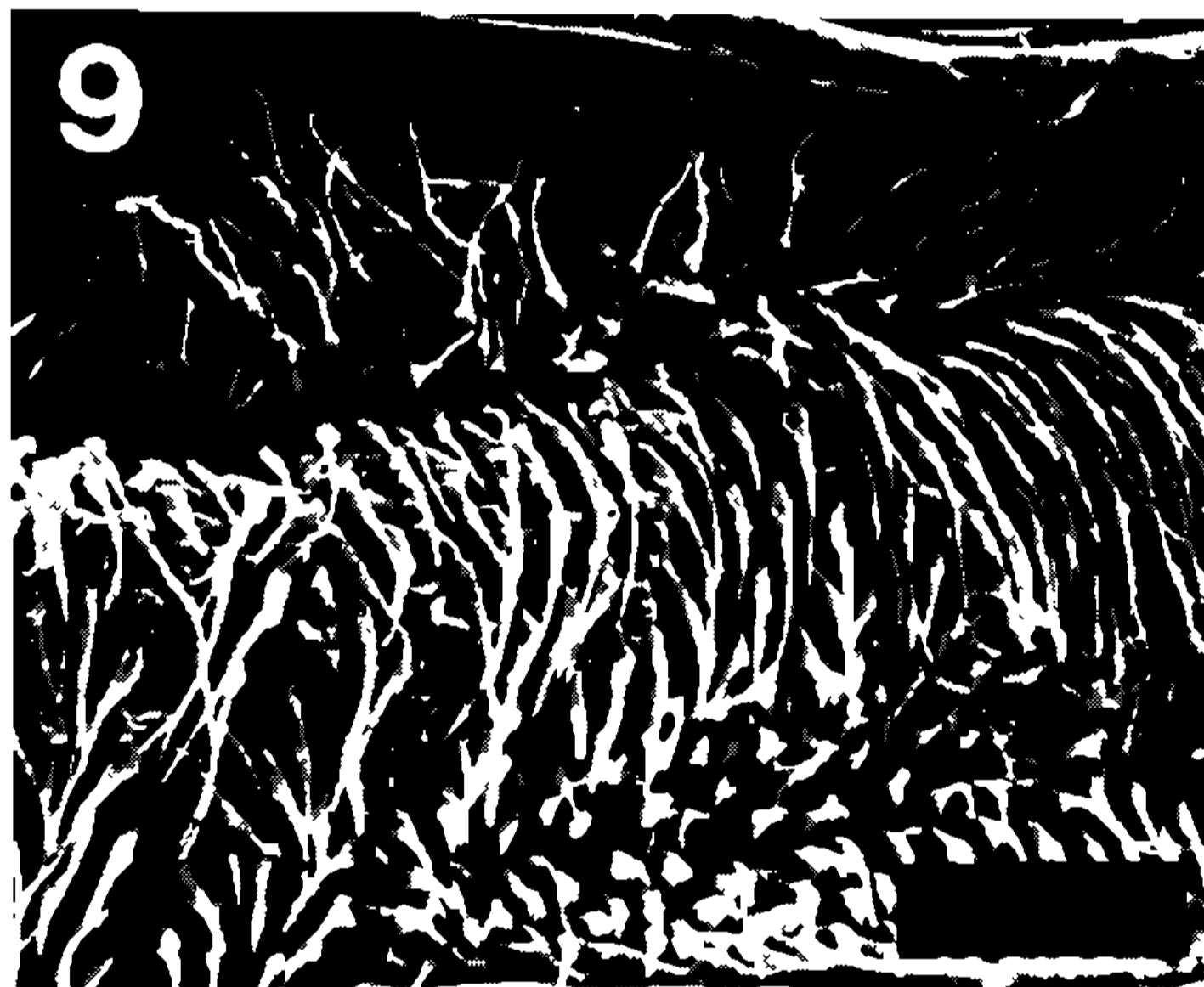
*Peckia chrysostoma* (Wiedemann, 1830)  
(Figs 13 to 18)

The first instar larvae of *P. chrysostoma* has small antenna, palpi bearing numerous papillae and delicate furrows to mouth on pseudo-cephalon (Fig. 13). The maxillae are smooth. The first thoracic segment has strong spines directed backwards, forming a broad collar

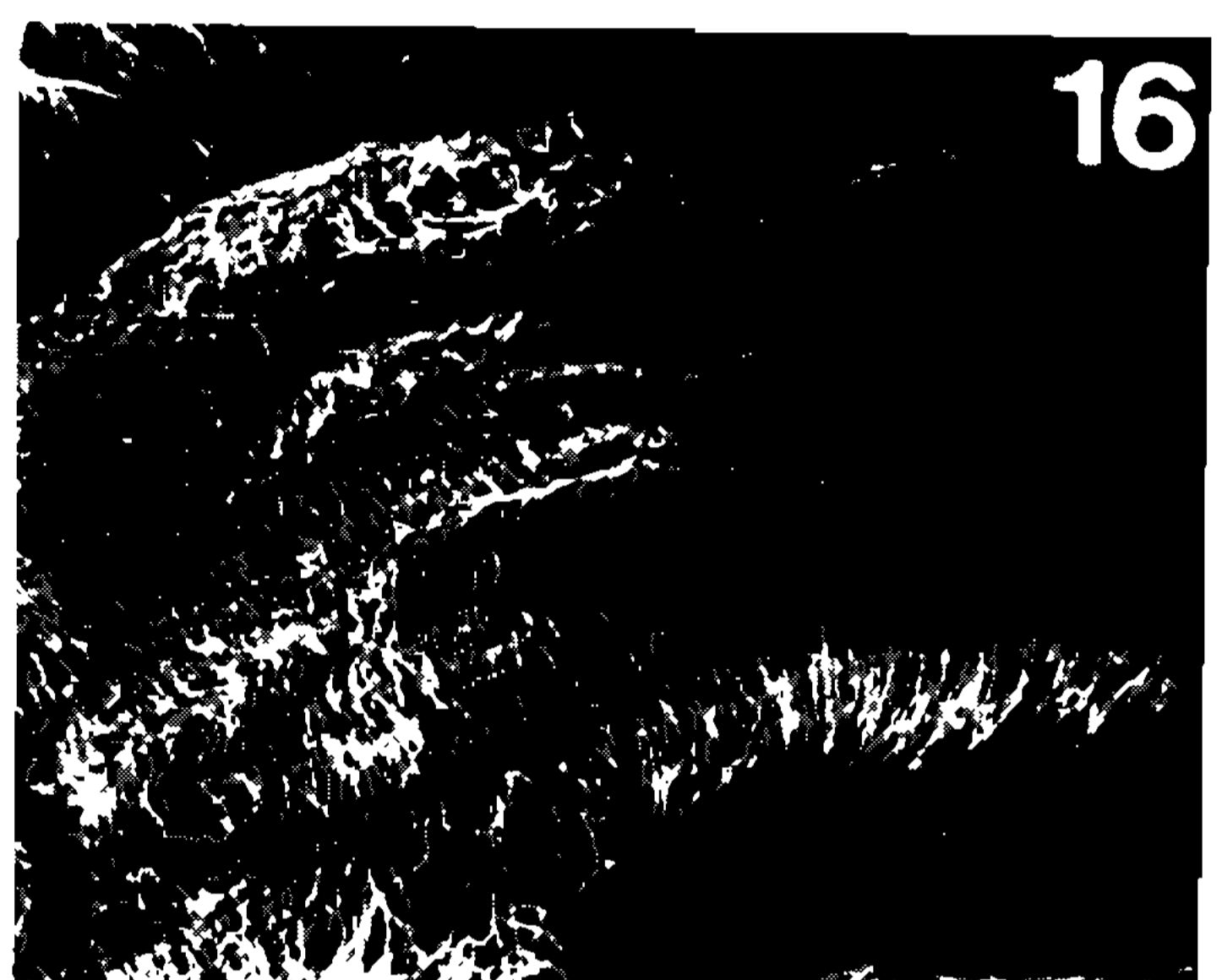
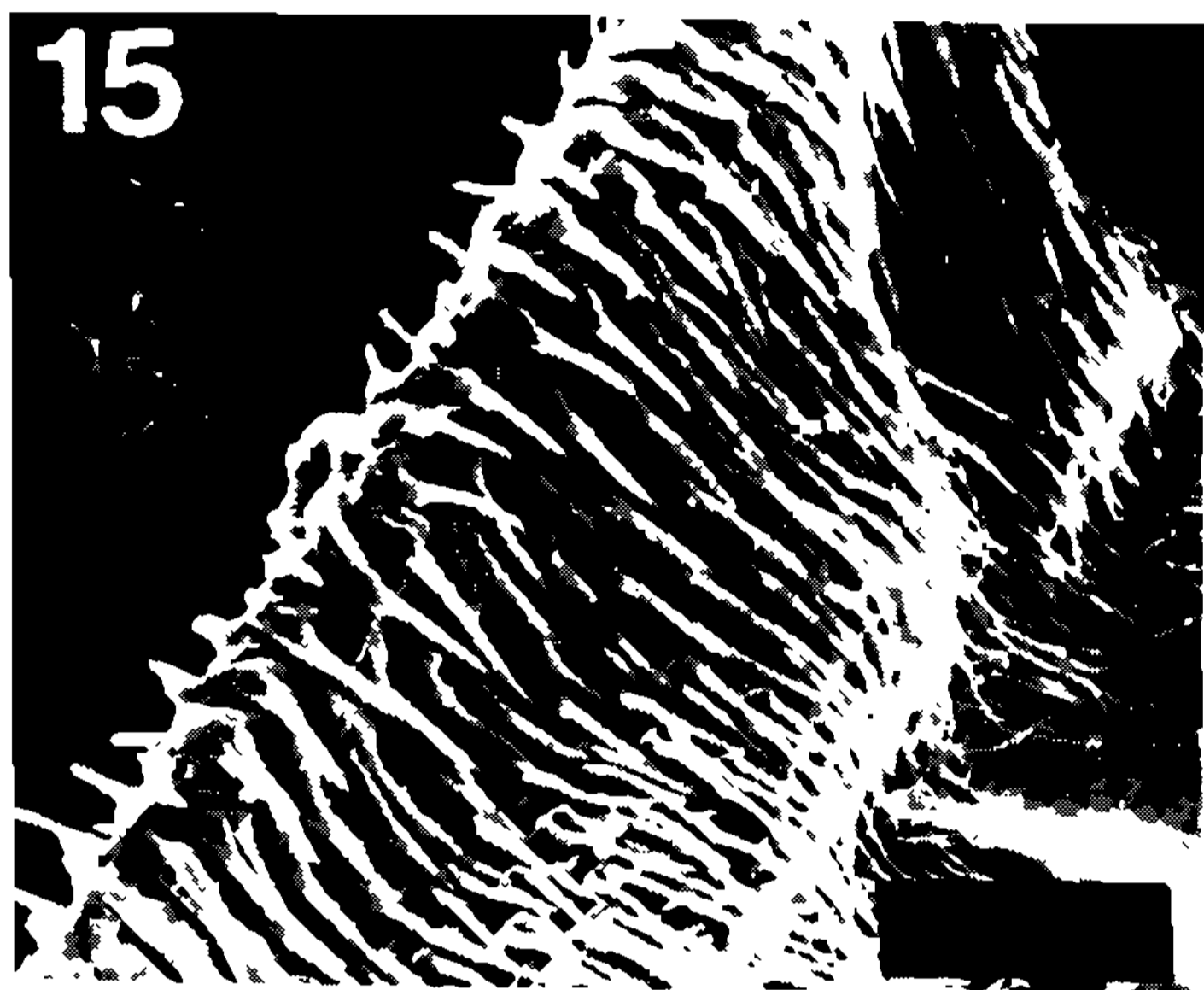
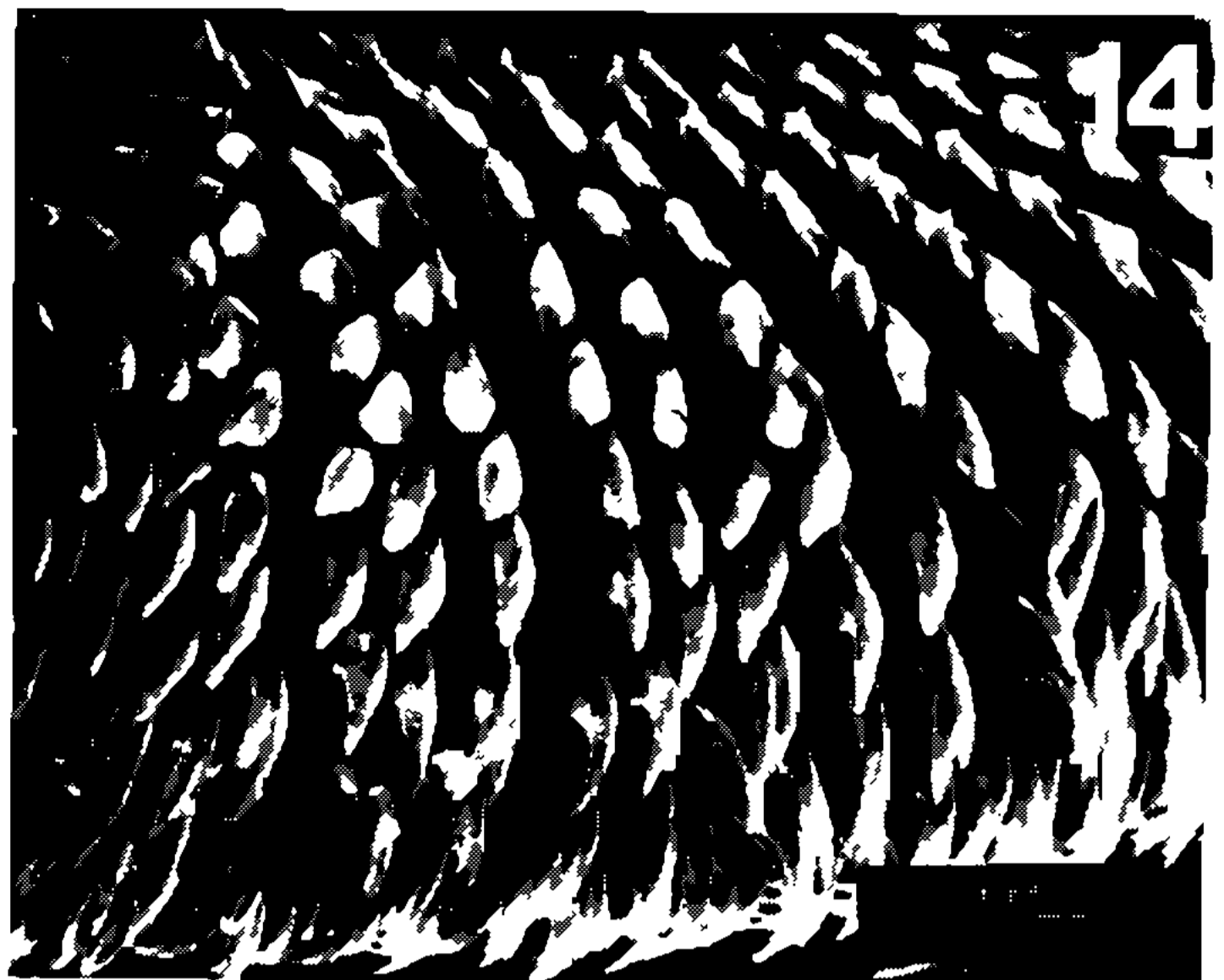
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SEM photographs of the first instar larva of *Sarcodexia lambens*. Fig. 1: anterior region, ventral view. Fig. 2: anterior region, lateral view. Fig. 3: maxillae. Fig. 4: anterior spines of the first thoracic segment, latero-ventral view. Fig. 5: anterior spiracular opening and anterior spines of the second thoracic segment, lateral view. Fig. 6: anterior spiracular opening, at higher magnification.



SEM photographs of the first instar larva of *Sarcodexia lambens*. Fig. 7: anterior spines of the third thoracic segment, ventral view. Fig. 8: anterior spines of the first abdominal segment, ventral view. Fig. 9: posterior spines of the first abdominal segment (above) and posterior spines of the second abdominal segment (below), ventral view. Fig. 10: posterior spines of the fifth abdominal segment (above) and anterior spines of the sixth abdominal segment (below), ventral view. Fig. 11: posterior end, latero-terminal view. Fig. 12: spiracular cavity, showing the spiracles and spiracular hairs.



SEM photographs of the first instar larva of *Peckia chrysostoma*. Fig. 13: anterior region, ventral view. Fig. 14: anterior spines of the first thoracic segment, ventral view. Fig. 15: anterior spiracular opening and anterior spines of the second thoracic segment, lateral view. Fig. 16: spines on all surface of the fifth abdominal segment, anteriors (above) and posteriors (below), ventral view. Fig. 17: posterior end, ventral view. Fig. 18: posterior spiracle.

(Figs 13, 14); the spiracular opening is wrinkled (Fig. 15). The second and third thoracic segments have filamentous spines with apices, all directed backwards (Fig. 15); two sensorial pits with trilobed process and two additional papillae are present on each segment. The entire

surface of the abdominal segments present filamentous spines (Fig. 16) directed backwards and forwards; on the lateral surface of each segment there is a sensorial papilla. The circumspiracular cavity shows long hair-shaped spines and the outer dorsal tubercles large, inner and

middle dorsal ones small; outer ventral a little more developed than the others which are reduced (Fig. 17). The posterior spiracles have two openings and spiracular hairs bear three slender lateral points and one dorsal point.

#### DISCUSSION

The first instar larvae of *S. lambens* and *P. chrysostoma*, both included in the tribe Sarcodexiini, are distinct from those of the Raviniini by the absence of the striated ribbon, the festoons, found in the latter (Lopes & Leite, 1986; Leite & Lopes, 1987 and Lopes & Leite, 1987). The first instar larvae of *P. chrysostoma* is like those of *P. pexata* (Wulp, 1895) (Lopes, 1983).

Although the first instar larvae of the Sarcodexiini had been considered very similar (Lopes, 1983), some differences can be observed by SEM. The pseudocephalon of *S. lambens* bears antennae more elongated than that of *P. chrysostoma*; all thoracic segments of *S. lambens* have similar spines while *P. chrysostoma* shows strong spines on first thoracic segment and filamentous spines on the other two. The spines of the abdominal segments of *S. lambens*, except the eighth, do not cover the whole surface but in *P. chrysostoma* the slender spines conceal the segments. This character does not occur in the Raviniini. The circumspiracular tubercles are reduced in *S. lambens*, the outer dorsal tubercles of *P. chrysostoma* is very large. The spiracular hairs of both species

are similar but those of *S. lambens* show wider points. The anterior spiracles of the present species differ from the larvae described by Cantrell (1981) for the Australian species.

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