

RESEARCH NOTE

Morphology of Abdominal Bristles Determined by Scanning Electron Microscopy in Six Species of Triatominae (Hemiptera, Reduviidae)

João Aristeu da Rosa, José Maria Soares Barata*, Nilso Barelli**

Faculdade de Ciências Farmacêuticas, UNESP, Caixa Postal 502, 14801-902 Araraquara, SP, Brasil

*Faculdade de Saúde Pública, USP, Av. Dr. Arnaldo 715, 01246-904 São Paulo, SP, Brasil **Instituto de Química, UNESP, R. Prof. Francisco Degne, s/nº, 14800-900 Araraquara, SP, Brasil

Key words: Triatominae - bristle - abdominal

The bristles of Triatominae are taxonomically valuable elements which may vary among species in outer appearance, i.e., shape, density, length, thickness and mode of implantation.

With respect to the systematic value of bristles several reports have been published (Lent, Wygodzinsky 1979 *Bull Am Mus Nat Hist* 163: 123-520, Mc Iver, Siemicky 1984 *J Morphol* 180: 19-28, Gonçalves et al. 1985 *Mem Inst Oswaldo Cruz* 80: 263-276).

The present morphological study of the ventral abdominal bristles of six species of Triatominae using 5th instar nymphs and scanning electron microscopy (SEM) confirmed the systematic importance of this structure, since the predominant bristles of each species were different.

The 5th instar nymphs of triatomines used in the present study were obtained from colonies maintained in the insectary of the Department of Epidemiology, Public Health College, University of São Paulo, Special Health Service in Araraquara. The species studied were *Panstrongylus megistus* (Burmeister, 1835); *Rhodnius neglectus* Lent, 1954; *Triatoma brasiliensis* Neiva, 1911; *Triatoma infestans* (Klug, 1834); *Triatoma matogrossensis*

Leite and Barbosa, 1953, and *Triatoma tibiamaculata* (Pinto, 1926).

The specimens were examined with a SEM JEOL model JSM-P15 and JSM-T330A by the method described by Rosa et al. (1992 *Mem Inst Oswaldo Cruz* 87: 257-64).

The predominant ventral abdominal bristles of 5th instar nymphs of six species of Triatominae presented differentiated shapes. *P. megistus* have spiniform bristles implanted into tubercles, each bristle presenting spines at different points in the posterior 2/3 (Fig. 1) and frizzled and barbed bristles implanted in raised tubercles shaped like small volcanoes, located on the connexivum (Fig. 2). *R. neglectus* have claviform and dentate bristles in the posterior half, implanted in circular alveolo which are inserted in prominent oval tubercles recalling an American football in shape (Fig. 3). *T. brasiliensis* have frizzled and serrate bristles implanted into alveolar tubercles (Fig. 4). The bristles are frizzled in the beginning and serrate on the posterior end (Fig. 4). *T. infestans* have frizzled and serrate bristles implanted into alveolar tubercles (Fig. 5). *T. matogrossensis* have frizzled and serrate curved bristles finer in the initial portion, becoming thicker in the subintermediate portion and ending in a thin point and implanted in alveolo (Fig. 6). *T. tibiamaculata* have grooved, barbed and curved bristles (Fig. 7).

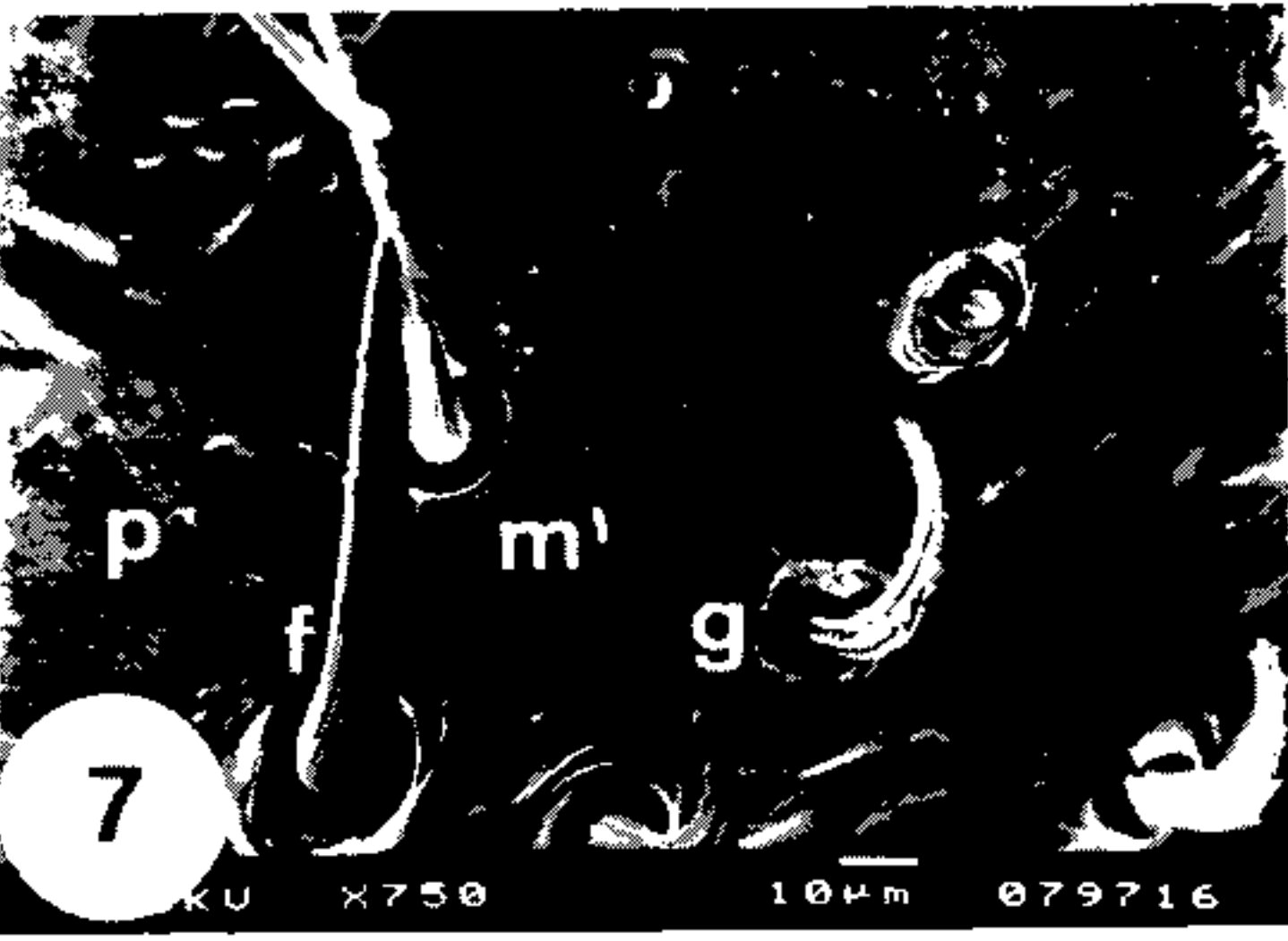
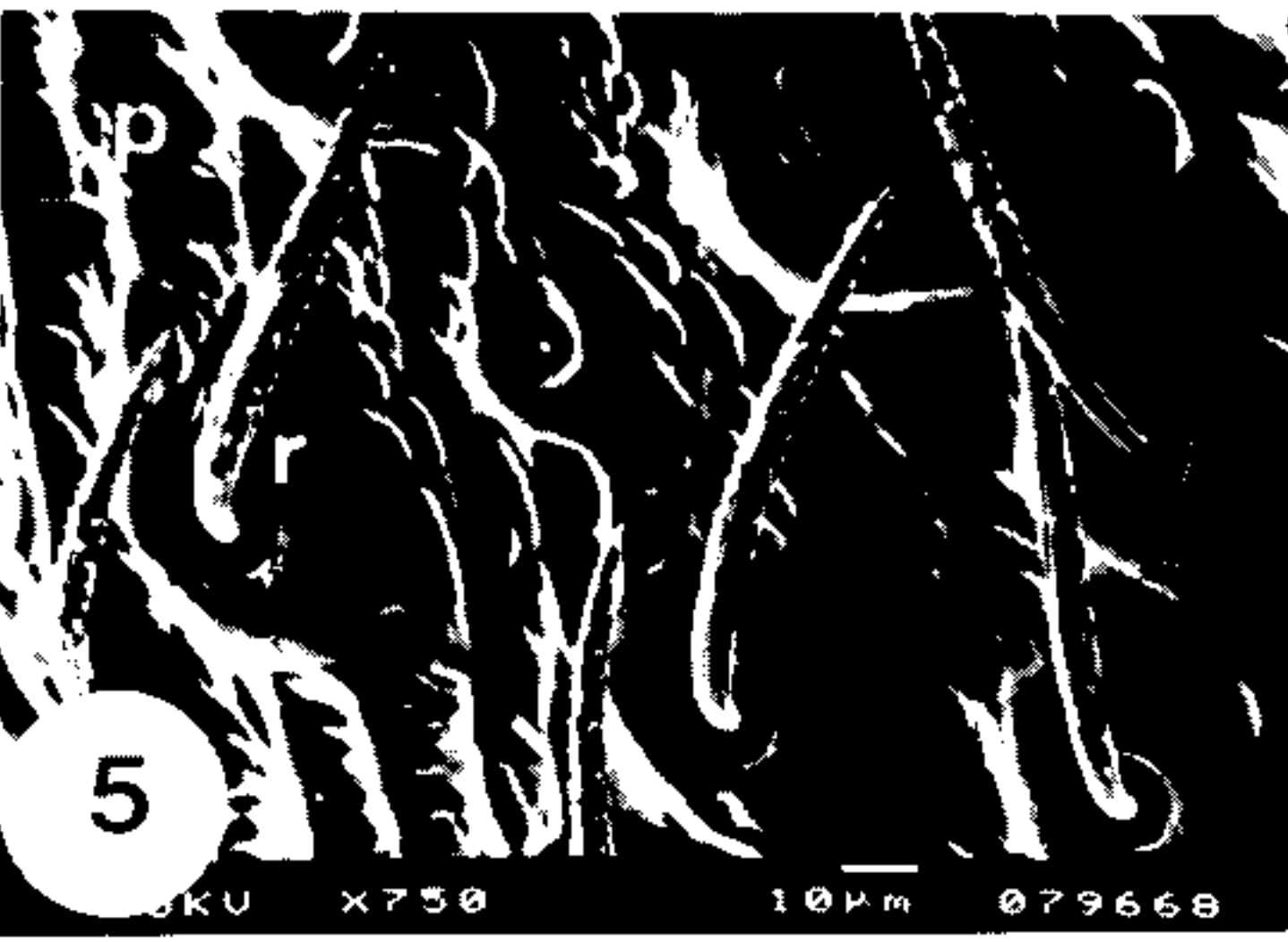
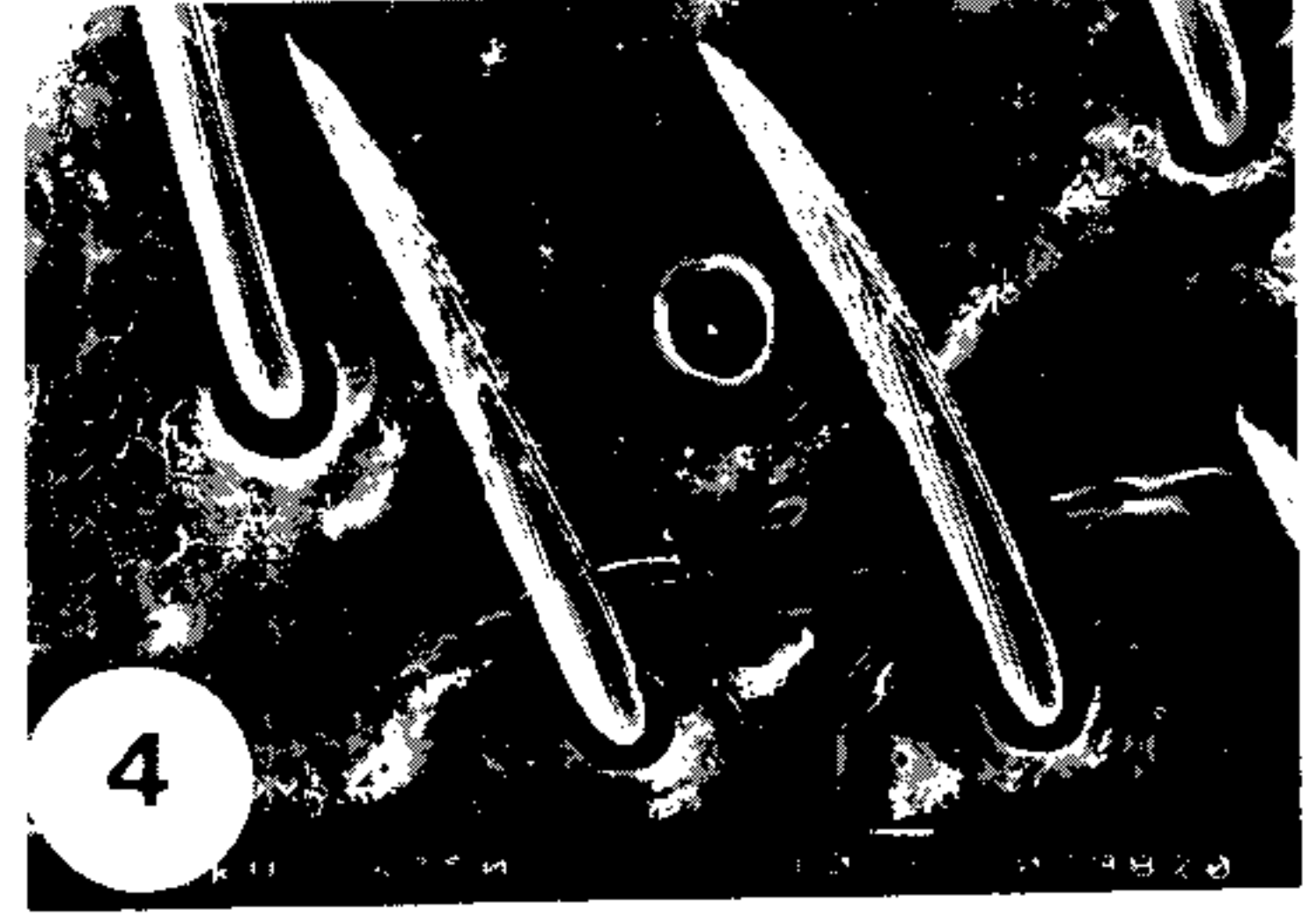
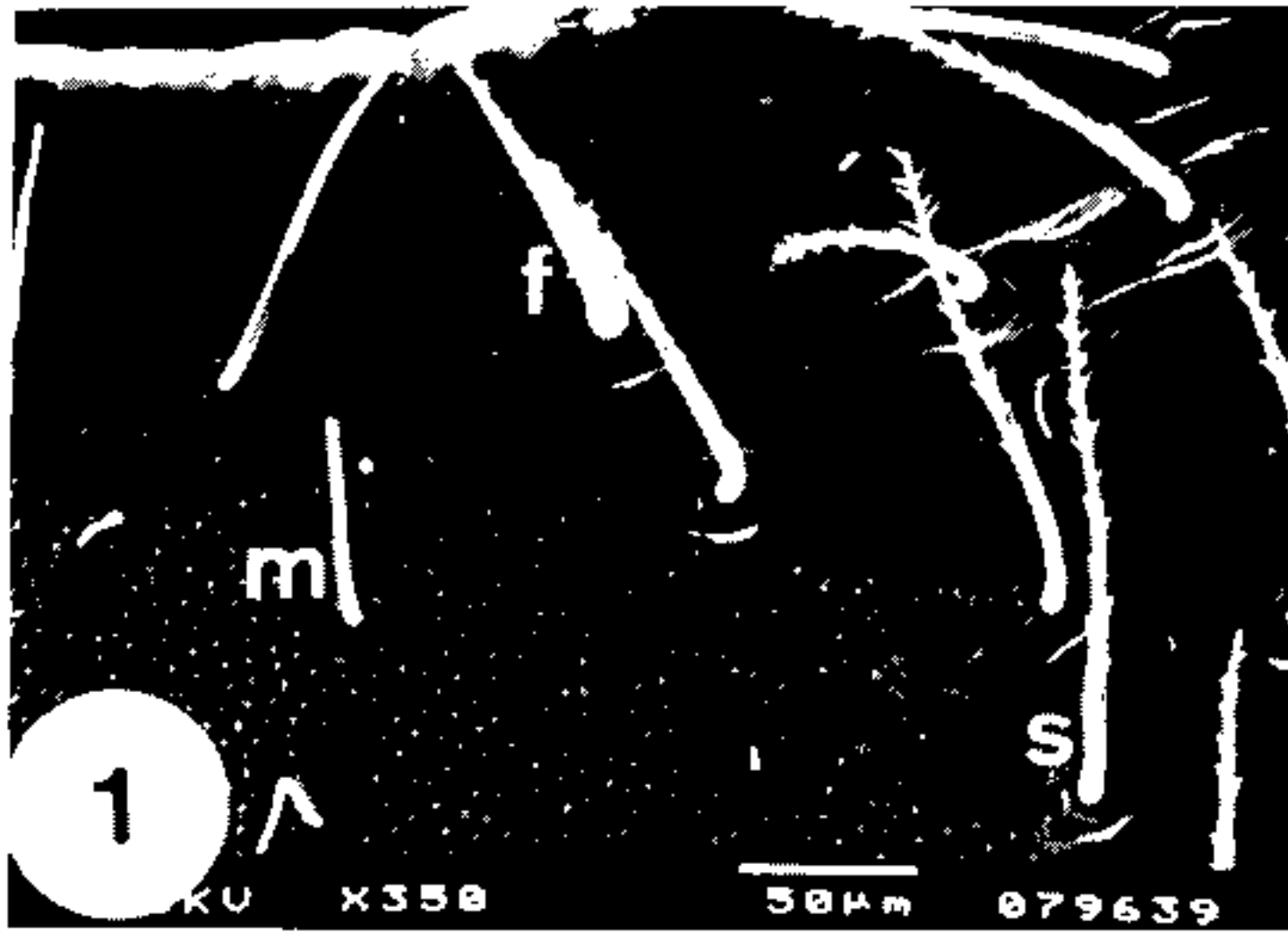
The six species presented smooth bristles on the central portion of the eighth segment and on connexivum always in small numbers (Figs 1, 2, 7). Similar bristles were also detected by Costa et al. (1991 *Mem Inst Oswaldo Cruz* 86: 247-263) in the antennal segments of *Cavernicola lenti*.

The 8th abdominal segment of *P. megistus* and *T. tibiamaculata* presented frizzled bristles of similar shape, location and number (2) (Figs 1, 7). Costa et al. (*loc. cit.*) have detected similar bristles in *C. lenti*.

P. megistus presented four types of bristles (Figs 1, 2). *T. tibiamaculata* presented three types of bristles (Fig. 7). *R. neglectus*, *T. brasiliensis*, *T. infestans* and *T. matogrossensis* presented two types of bristles.

The others characteristics shared by the six species were the presence of pores and spiniform structures in the 9th segment (Figs 2-8).

Acknowledgements: to Bento Gregório de Jesus and João Luis Molina Gil from Special Health Service in Araraquara. To Aparecida Bernardete Rocateli Jesus and Solange Maria Torres for typing the manuscript.



Ventral abdominal bristles of 5th instar nymph - SEM. Figs 1, 2: *Panstrongylus megistus*. Fig. 3: *Rhodnius neglectus*. Fig. 4: *Triatoma brasiliensis*. Fig. 5: *T. infestans*. Fig. 6: *T. matogrossensis*. Figs 7,8: *T. tibiamaculata*. Figs 1, 3, 4, 5, 6, 7: 8th segment. Fig. 2: connexivum of 7th segment. Fig. 8: 9th segment (b - frizzled and barbed bristle, c = claviform and dentate bristle, f - frizzled bristle, g - grooved, barbed and curved bristle, m - smooth bristle, p = pore, r - frizzled and serrate bristle, s = spiniform bristle).