ABSTRACT BOOK

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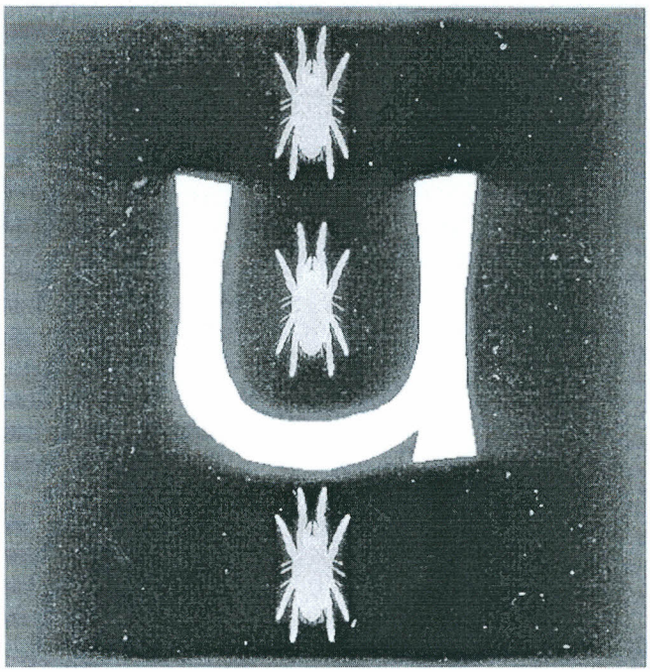

Amsterdam - City of Mites

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Thu 24, Auditorium, Posters-3

Redescription of the larva of *Amblyomma dubitatum* (Ixodidae) by light and scanning electron microscopy

FÁBIO DA SILVA BARBIERI, LUCIANA GATTO BRITO[1], KÁTIA MARIA FAMADAS[2], DARCI MORAES BARROS-BATTESTI[3], MARCELO BAHIA LABRUNA[4] AND LUIS MARCELO ARANHA CAMARGO

Instituto de Ciências Biomédicas 5/USP, 78965-000, Monte Negro, RO, Brazil, Email: fabaobarbieri@gmail.com; [1]Embrapa Rondônia, 78900-970, Porto Velho, RO, Brazil; [2]Departamento de Parasitologia Animal, UFRRJ, 23890-000, Seropédica, RJ, Brazil; [3]Laboratório de Parasitologia, Instituto Butantan, 05503-900, São Paulo, SP, Brazil; [4]Faculdade de Medicina Veterinária e Zootecnia/USP, 05508-270, São Paulo, SP, Brazil

The larval stage of *Amblyomma dubitatum* Neumann, 1899 is redescribed, using optical and scanning electron microscopy. Unfed larvae were obtained from a colony of *A. dubitatum* originating from an engorged female collected on capybara (*Hydochaeris hydrochaeris*) from Sorocaba county (23°30'06" S, 47°27'29" W) state of São Paulo, Brazil. Fifteen larvae were prepared and mounted in Hoyer's medium on slides, and observed under light microscope equipped with a drawing tube. Five specimens were prepared for scanning electron microscopy. Several morphological characters were revised as chaetotaxy of idiosoma, palps and Halle's organ, besides morphological characters of idiosoma, gnatosoma and legs. In addition, topographical and numerical patterns of sensilla were presented using a new nomenclature proposed by the recent literature. Three types of sensilla (auriformia, hastiformia, and sagittiformia) were identified in the idiosoma of *A. dubitatum* larvae. They were also observed isolated or associated over the entire idiosoma, except in the scutum where only the sensilla hastiformia were present. Larvae of *A. dubitatum* showed similar topographical and numerical patterns of integumentary sensilla, with five pairs of sensilla sagitiformia (1 pair dorsal/ 4 pairs ventral), 23 pairs of auriformia (10 pairs dorsal/ 13 pairs ventral), and 79 pairs of hastiformia (51 pairs dorsal/ 28 pairs ventral). These topographical and numerical patterns of integumentary sensilla of the larva of *A. dubitatum* showed great differences when compared with patterns of the larvae of others *Amblyomma* species. On just one pair of posthypostomal setae, contrary to the previous description of this larva in the literature. Although there are indeed evidences that the integumentary sensilla pattern can be useful in the specific identification of the immature stages of Ixodidae ticks, there is very little information about its use as a diagnostic character.

Tue 22, F001

Investigation into the diapause and cold hardiness of *Ixodes ricinus* eggs

H. DAUTEL[1] AND W. KNÜLLE

Institut für Biologie, AG Angewandte Zoologie/Ökologie der Tiere, Freie Universität Berlin; [1]Present adress: IS Insect Services GmbH Haderslebener Str. 9, 12163 Berlin, Germany, Email: dautel@insectservices.de

Ixodes ricinus is the medically most important tick species in temperate Europe. The present study was undertaken to evaluate the role of photoperiod and of low temperatures on termination of embryonic diapause and to determine the cold hardiness of the eggs. Engorged *I. ricinus* females (n=9) were kept at 90% RH, 15°C long-day (L:D=17:7 h) or shortday (L:D=14:10 h), or at an outdoor site providing natural temperature and daylength. Eggs of defined ages were continuously kept under the same conditions or subjected to changes in photoperiod and temperature, and the effect on diapause incidence was observed.

At 15°C non-diapausing and diapausing eggs hatched after 70-120 and 140-240 days, respectively. Interestingly, most egg masses did not display an all-or-nothing reaction, but exhibited certain percentages of diapausing and nondiapausing eggs. A 6-week cold exposure of eggs at 4°C completely terminated diapause, whereas the effect of photoperiod was negligible. A 24-h exposure at a temperature between -10 and -20°C also terminated diapause. At the outdoor site, eggs were laid in winter, from mid-October to early April. All eggs hatched between mid-June and early July. The supercooling point of these eggs was -28°C and remained stable between November and January, but rose to -27°C in April. The lower lethal temperature in diapausing and non-diapausing eggs was -21.6 and -18.0°C, respectively, but the difference was not significant. Further studies are