RESEARCH NOTE

Ophyra aenescens (L.) (Diptera: Muscidae) a New Biological Vector of *Dermatobia hominis* (L. Jr) (Diptera: Cuterebridae) in Minas Gerais, Brazil

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The production of meat, milk and leather from cattle in the Neotropics is severely affected by infestations with the larvae of *Dermatobia hominis* (VG Mateus 1975 CIAT Circ Tec 1 p. 146). According to MR Honer et al. (1990 Embrapa/ CNPGC Circ Tec p. 22) the "berne" or larva of *D. hominis* is currently the most important ectoparasite affecting meat-producing cattle in Brazil, with infestations sometimes reaching 600 larvae per animal. The economic damage caused by *D. hominis* to the cattle industry in Brazil and Central America is enormous, losses being estimated at some $200 million per year (D Steelman 1976 *Ann Rev Entomol 21*: 155-178).

Understanding the epidemiology of dermatobiasis in the Neotropics depends on knowledge of the biology, ecology and ethology of the biological vectors implicated in the transmission of the ectoparasite in a particular region. *D. hominis* differs radically in its biology from other muscoids in that it depends on other Diptera for its development, this relationship being discovered by R Morales in Guatemala in 1911 (A Neiva & JF Gomes 1917 *An Paul Med Cirur 8*: 209-217). The tick *Amblyomma cayennense* was also incriminated as a possible biological vector of *D. hominis* (LH Dunn 1918 *J Parasitol 4*: 154-158) an observation that has since been contested by other researchers (WW Neel et al. 1955 *Turrialba 5*: 91-104).

Diptera belonging to the families Culicidae, Calliphoridae, Muscidae, Simuliidae, Tabanidae, Fanniidae, Anthomyiidae, Sarcophagidae, Tipulidae, Syrphidae, Asilidae, Dolichopudidae, Drosophilidae, Ephydridae, Tachinidae, Otitidae, Stratiomyidae and Trupaneidae have been described as phoretic hosts/biological vectors of *D. hominis* in various Neotropical countries (M Bates 1943 *Ann Ent Soc Am 36*: 21-24, Neel et al. 1955 *loc. cit.*, PT Artigas & RG Serra 1965 *Ciên Cult 17*: 21-29, JH Guimarães et al. 1983 *Rev Bras Zool 4*: 239-416, AAM Maia & AG Gomes 1988 *Rev Fac Med Vet Zoot 25*: 47-51, E Sancho 1988 *Parasitol Today 4*: 242-246, RC Leite et al. 1994 In Cong Bras Med Vet SBMV p. 195, JGW Brum et al. 1995 In Sem Bras Parasitol Vet CBPV p. 92, Z Rodríguez & RC Leite 1997 In Cong Bras Med Vet SBMV p. 190, Cong Bras Parasitol SBP p. 224, *Rev Bras Parasitol Vet 6*: 80).

In this note we report for the first time in the Neotropics the exploitation of *Ophyra aenescens* as a biological vector of *D. hominis*, a specimen bearing eggs of the ectoparasite having been collected by us near the municipality of Pedro Leopoldo, Minas Gerais, Brazil. This specimen was collected in September 1995 and bore 41 eggs of *D. hominis* on the left side of the abdomen. Three different types of traps were used in sampling: the Manitoba (RM Nowierski & AR Gittins 1975 *The Horse Flies and Deer Flies of Idaho,* Idaho University Press, Idaho, 48 pp.), Magoon (RH Roberts 1965 *Mosq New 25*: 281-285) and Wind-Oriented Traps (AB Broce et al. 1977 *J Econ Entomol 70*: 413-416) in each of three different biocenoses designated the stable agrobiocenose, pasture agrobiocenose and the eubiocenose (B Greenberg 1971 *Flies and Disease: Ecology, Classification and Biotic Associations*, Princenton University Press, Princenton, 483 pp.). The parasitized specimen of *O. aenescens* was collected in a Magoon trap in the first of these habitais.

According to D Pamplona and SM Curri (1989 *Mem Inst Oswaldo Cruz 84*: 419-429) six members of the genus Ophyra are known to occur in the Neotropics: *O. capensis*, *O. calchogaster*, *O. leucostoma*, *O. solitaria*, *O. albuquerquei* and *O. aenescens*. The general coloration of this new vector species is shining black with reddish brown legs. The parafacialia and genae of *O. aenescens* are

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dusted silver and the antennae reddish brown with the entire second segment and base of the third segment pale reddish brown or yellow. The aristae are reddish brown and the palps yellow. The calyptrae are whitish and the halteres have a reddish stem and black head. The adults of *O. aenescens* are attracted to blood or wounds. The males are active in sunlight and form swarms. The life cycle (egg-adult) has a duration of approximately 26-30 days.