

THE PRESENCE OF
EUHOPLOPSYLLUS GLACIALIS EXOTICUS
IN ECUADOR
(SIPHONAPTERA: PULICIDAE)

By E. Méndez¹ and R. del Pino Encalada²

Abstract: The subspecies *Euhoplopsyllus glacialis exoticus* (Jordan & Rothschild, 1923), originally described from Panama, is reported from Ecuador. A discussion concerning this taxon and illustrations are presented.

Euhoplopsyllus Ewing, 1940, originally included as a subgenus of the genus *Hoplopsyllus* Baker, 1933, was raised to generic rank by Smit (1967). Members of the genus *Euhoplopsyllus* show a preference for lagomorphs and their geographic range is to some extent correlated with that of these hosts.

According to Cabrera (1958, 1961), the only South American lagomorphs are 2 species of forest rabbits of the genus *Sylvilagus* (which break up into a number of subspecies). One of these species, *Sylvilagus brasiliensis*, is known to occur in Ecuador, Brazil, Peru, Argentina, Bolivia, Venezuela, Paraguay, Mexico and throughout most of Central America and Panama. The other species, *Sylvilagus floridanus*, is apparently restricted, in South America, to Colombia and Venezuela. This species is, however, widely distributed over areas of Canada, the United States of America, Mexico and Middle America.

Despite the wide range of *Sylvilagus*, reports of *Euhoplopsyllus* fleas in the neotropics are scant. Two South American species, *Euhoplopsyllus andensis* (Jordan) and *E. manconis* (Jordan), have been described from Ecuador and Peru, respectively. Another form, *E. glacialis exoticus* (Jordan & Rothschild), originally described from Panama, is reported here for the first time from Ecuador. The nominate form, *E. glacialis glacialis* (Taschenberg), as well as *E. g. affinis* (Baker), *E. g. foxi* (Ewing), and *E. g. lynx* (Baker), are of nearctic distribution. *E. g. profugus* (Jordan) is known to occur in the Palearctic Region. No members of the genus *Euhoplopsyllus* were reported from Venezuela by Tipton & Machado-Allison (1972), which probably indicates the absence of this genus from that country.

During recent surveys for the detection of plague-infected mammals and their fleas in the Province of Loja, Ecuador (conducted by the junior author and personnel of the Instituto "Leopoldo Izquieta Pérez" of Guayaquil), a large series of *Euhoplopsyllus* was collected. The study of these fleas allowed us to conclude that they apparently represent *Euhoplopsyllus glacialis exoticus* (Jordan & Rothschild).

The following material from the Province of Loja, Ecuador, has been examined: 1 ♂, ex *Rattus norvegicus*, 1.VII.1970, Catacocha, Paltas, elevation 1860 m; 2 ♂♂, 4 ♀♀, ex *Sylvilagus brasiliensis*, 10.VII.1970, Amaluza, elevation 500 m; 1 ♂, ex house, 13.VIII.1970, Sunamanga, Celica, elevation 1800 m; 1 ♂, 1 ♀, ex rat nest, 30.VIII.1970, Cangonomá Chico, Larama, elevation 1500 m; 2 ♀♀, ex *Didelphis marsupialis*, 30.VIII.1970, Sozoranga, elevation 1500 m; 15 ♂♂, 23 ♀♀, ex *S. brasiliensis*, 2.XII.1970, Pailitas, Pindal, Celica,

¹ Gorgas Memorial Laboratory, Apartado 6991 Panamá 5, Panamá.

² Laboratorio de Peste, Instituto Nacional de Higiene "Leopoldo Izquieta Pérez," Casilla 3961, Guayaquil, Ecuador.

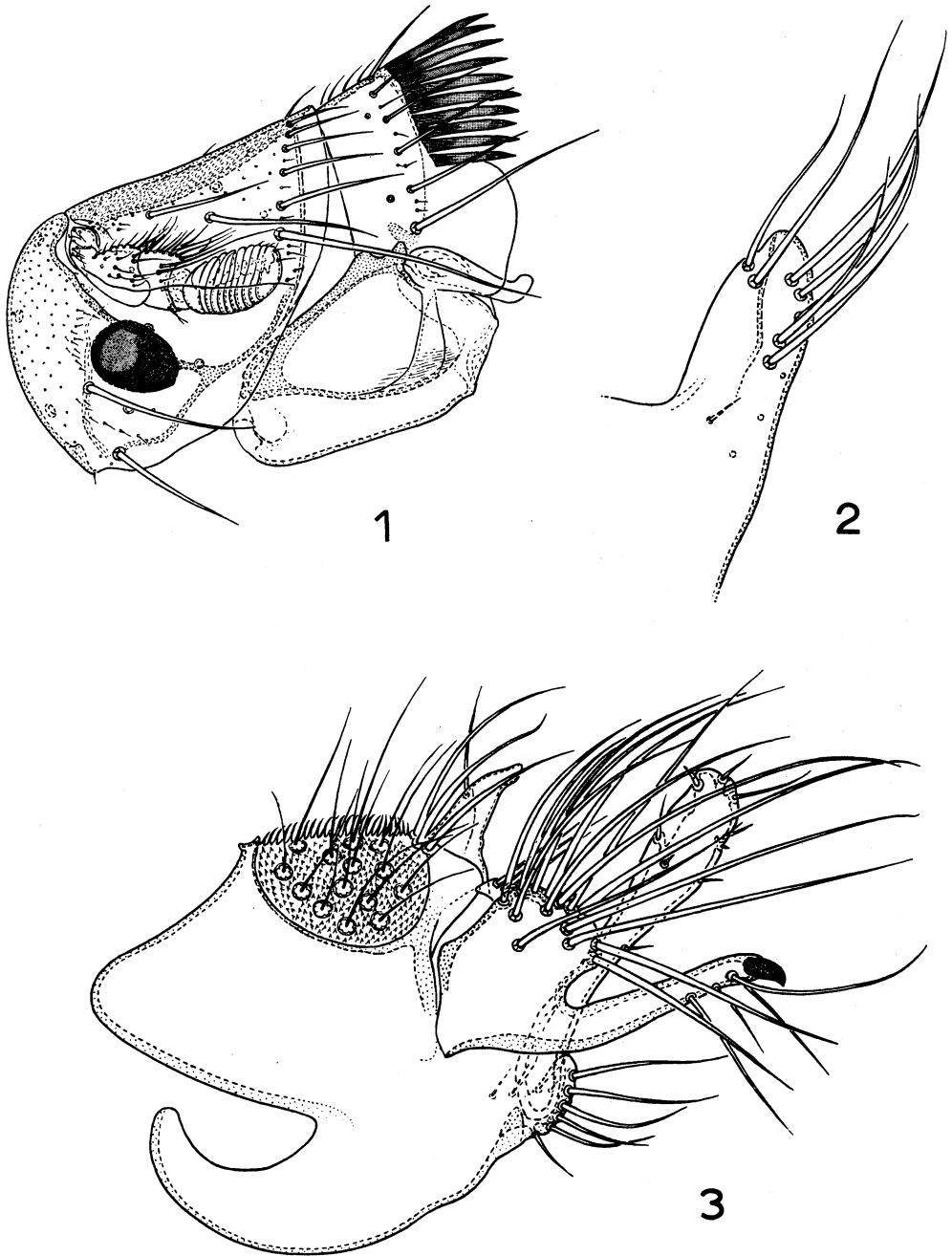


FIG. 1-3. *Euhoplosyllus glacialis exoticus*, from the Province of Loja, Ecuador, ♂. (1) Head and prothorax; (2) 8th sternum; (3) Clasper.

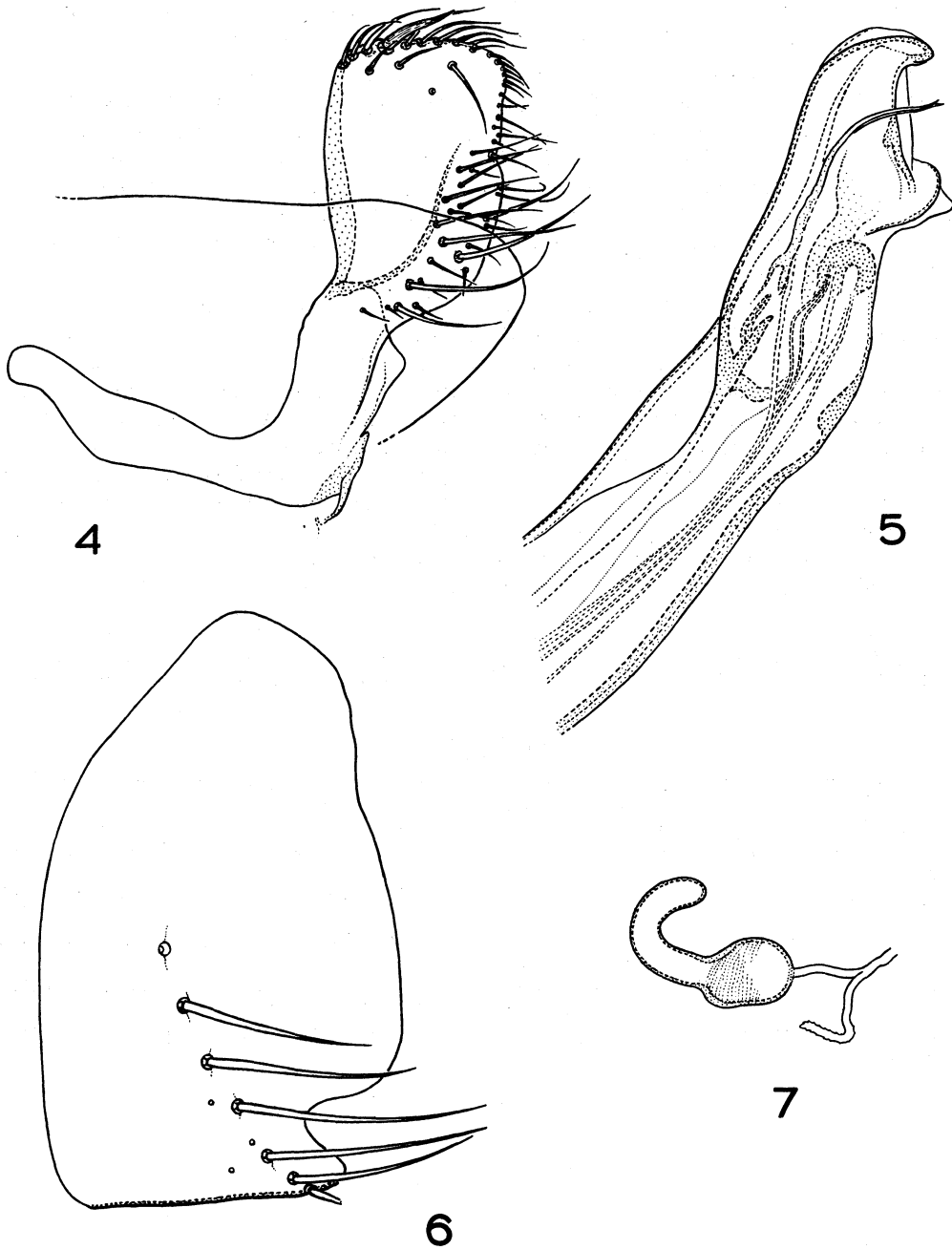


FIG. 4-7. *Euhoplopyllus glacialis exoticus*, from the Province of Loja, Ecuador. ♂. (4) 7th and 9th sterna; (5) Apex of aedeagus, ♀. (6) 7th sternum, (7) Spermatheca.

elevation 739 m; 5 ♂♂, 11 ♀♀, ex *S. brasiliensis*, 10.IX.1971, Consapamba, Amaluza, elevation 500 m; 27 ♂♂, 47 ♀♀, ex *S. brasiliensis*, 18.IX.1971, Casas Quemadas, Celica, elevation 2693 m; 3 ♂♂, ex house, 15.VII.1971, Larama, Macara, elevation 430 m; 1 ♂, 1 ♀, ex house, 22.VII.1971, Portachuelo, Larama, Macara, elevation 500 m.

Discussion: A comparison of our Ecuadorian series with 6 ♂♂ and 18 ♀♀ of *E. glacialis exotica* from the Province of Chiriqui, Panama, (deposited with the Gorgas Memorial Laboratory collection) revealed homologies in both the general anatomy and significant taxonomic characters of the male and female genitalia. In view of the high degree of similarity in the most important anatomic features, particularly those of the genitalia, it is advisable to relegate the Panamanian and Ecuadorian populations to the same subspecies. The above study has revealed a great deal of variation in the taxonomic characters exhibited by this taxon of flea.

It is interesting to note that almost all of the Ecuadorian fleas sampled exhibited certain structural variations which seem typical of the population. In the majority of male specimens from Ecuador, the following features were dominant: the clasper (FIG. 3) generally shows a short manubrium, ending in blunt apex; in Panamanian specimens the manubrium is usually long and acuminate. The dorsal lobe and the ventral lobe of clasper are usually shorter in specimens from Ecuador than in specimens from Panama. The 8th sternum (FIG. 2) is usually narrower, the 9th sternum (FIG. 4) slightly broader, and the aedeagal pseudocrochets (FIG. 5) are generally somewhat more reduced in specimens from Ecuador. In the series of Ecuadorian females, the emargination of the caudal margin of 7th sternum (FIG. 6) is almost always less profound than in comparable Panamanian specimens. For a detailed description of *Euhoplopsyllus glacialis exotica*, the reader is referred to Tipton & Méndez (1961).

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