



***Gigantolaelaps gilmorei* Fonseca, 1939 (Acari: Laelapidae): taxonomic status, lectotype and paralectotype designation and new distributional records**

Marcela Lareschi¹, Fernanda Nieri-Bastos², Darci Moraes Barros-Battesti², Santiago Nava¹, Pablo Beldoménico³, Analía Autino⁴ & Donald Gettinger⁵

¹Centro de Estudios Parasitológicos y de Vectores, Calle 2 No. 584, 1900 La Plata, Argentina.

²Laboratório de Parasitologia, Instituto Butantan, Av. Vital Brasil 1500, 05503-900, São Paulo, Brazil

³Facultad de Ciencias Veterinarias, Universidad Nacional del Litoral, R.P. Kreder 2805 (3080) Esperanza, Santa Fe, Argentina

⁴Facultad de Ciencias Naturales e Instituto Miguel Lillo, Universidad Nacional de Tucumán, Miguel Lillo 205, San Miguel de Tucumán (4000), Argentina

⁵Department of Biology, University of Central Arkansas, Conway, Arkansas 72035, USA

Accepted for publication 13th May, 2004

Abstract

A lectotype series is designated for *Gigantolaelaps gilmorei* Fonseca, 1939 in the Acari Collection of the Instituto Butantan in São Paulo, Brazil. This laelapid mite species has a widespread geographical distribution. We report a close association with *Oryzomys russatus* (Wagner) in southeastern Brazil and Argentina, the most southerly part of its range. In Paraguay, the primary host is *O. nitidus* (Thomas).

Gigantolaelaps Fonseca, 1939 consists of very large laelapid mites which are known only from South and Central America, apart from one species whose range extends north as far as the southern United States. Nineteen species are formally recognised (Furman, 1972). *G. gilmorei* Fonseca, 1939 is one of the largest species of this genus; it has previously been recorded from Brazil (Fonseca, 1939; Bossi et al., 2002), Venezuela (Furman & Tipton, 1961) and Panama (Tipton et al., 1966). This species was originally described by Fonseca from specimens collected on wild rodents captured at Anapolis, Goiás State, Brazil, and subsequently deposited in two series in the Acari Collection of the Butantan Institute (IBSP) in São Paulo, Brazil. Fonseca named one of the series as 'Type Series No. 913'. The other series, collected on *Echimyis* sp. from the same locality, was identified as 'Series No. 951'. Although he did not mention it in the description, the author of the species wrote on record card No. 1032 that the specimens recorded with this number (2 females 'cotypes' mounted on two different slides) belonged to the type-series No. 913,

which were collected on 'rats', along with *G. oudemansi* Fonseca, 1939. When Furman (1971) examined the Fonseca Collection, she reported that: 'no specimens of the type series of *G. gilmorei* were found in the Fonseca Collection, but a female specimen identified as this species by Fonseca was located. It is mounted on slide 1032 of the collection and is marked *face ventral desenhada*. It agrees well with the ventral view of this species illustrated by Fonseca (1939)'. We have located and studied two females mounted on two slides labelled No. 1032 deposited in the IBSP Collection. Because Fonseca illustrated the description of the species without mentioning the number of specimens that belonged to series No. 1032, we conclude that this series is Fonseca's 'Type Series No. 913', on the basis of the information written in the record card of the collection, as well as on Furman's (1971) comments. Consequently, we hereby formally designate the specimen on slide No. IBSP 1032a as the lectotype and that on slide No. IBSP 1032b as the paralectotype. In the IBSP Collection, we have also found and studied specimens belonging to the type-series No. IBSP 951,

some of them mounted on slides and others preserved in a liquid medium. In addition, specimens belonging to more than 30 series, collected on different host species from the Santa Catarina, São Paulo, Pernambuco, Bahia, Ceará and Amazonas States of Brazil, are deposited in the above-mentioned collection. Specimens collected in Brazil, Paraguay and Argentina have also been cleared in lactophenol, mounted in Hoyer's medium and identified as *G. gilmorei*. Subsequently, they were deposited in the Manter Laboratory of Parasitology, Lincoln, Nebraska, USA (HWML), the Field Museum of Natural History, Chicago, Illinois, USA (FMNH), the Colección de Parásitos de Vertebrados Silvestres de la Universidad Nacional del Litoral, Argentina (UNL) and the Anexos de la Colección Mamíferos Lillo, Argentina (CML). The list of specimens collected is given below, with the locality, collection number (Coll. No.), host species, collector, collection date (day/month/year) and institution where they are deposited.

BRAZIL: São Paulo State: Boraceia (23°32' S, 45°51' W), Coll. No. BDP3050, BDP3117, BDP3122 and BDP3131, *Oryzomys russatus* (Wagner), B.D. Patterson, vii/1992, FMNH.

PARAGUAY: Departamento de Itapúa: Estancia Parabel (26°21' S, 55°31' W): Coll. No. TK66255 and TK66256, *O. nitidus* (Thomas), C.W. Dick, 26/viii/1998, HWML.

ARGENTINA: Salta Province: Parque Nacional El Rey (24°15' S, 44°40' W): Coll. No. 358, *Akodon simulator* Thomas, P. Beldoménico, 13/iii/2001, UNL; Coll. No. 396, *O. russatus*, P. Beldoménico, 04/vi/2001, UNL; Departamento de Orán (22°57' S, 64°33' W): Coll. No. PIDBA773, PIDBA774, PIDBA783, PIDBA786, PIDBA787 and ARG5529, *O. russatus*, A. Autino, D. Flores & M.M. Díaz, 06-07/viii/1999-05/vii/2002, CML; Departamento de Metán (25°28' S, 50°01' W): PIDBA 724 and PIDBA727, *O. russatus*, M.M. Díaz, 23-

25/viii/1998, CML; Jujuy Province: Departamento de General Manuel Belgrano (24°02' S, 65°07' W): Coll. No. ARG4226, *O. russatus*, M.M. Díaz, 02/vii/1998, CML.

These records constitute the first mention of *G. gilmorei* in Paraguay and Argentina, and they represent the southern limit of the species. Most of the host individuals were also parasitised by *G. oudemansi*, an association which agrees with the literature (Fonseca, 1939). These new records confirm the strong association between *G. gilmorei* and the oryzomyine species, *Oryzomys russatus* and *O. nitidus*; the new record from *Akodon simulator* may be a transitory or an accidental association. Because records of *G. gilmorei* are likely to represent a species complex, the establishment of a lectotype series will provide taxonomic stability and identify the Instituto Butantan as the repository of the type-material.

References

- Bossi D.E.P., Linhares, A.X. & Godoy Bergallo, H. (2002) Parasitic arthropods of some wild rodents from Juréia-Itatins Ecological Station, State of São Paulo, Brazil. *Mémoires do Instituto Oswaldo Cruz*, **97**, 959–963.
- Fonseca, F. da (1939) Notas de Acarologia. XXV. Os laelaptidae gigantes, parasitas de roedores sul-americanos; gênero e espécies novos (Acari). *Mémoires do Instituto Butantan*, **12**, 7–102.
- Furman, D.P. (1971) Observations on some laelapid and macronyssid mites in the Fonseca Collection (Acari: Mesostigmata). *Papéis Avulsos de Zoologia*, **25**(9), 69–88.
- Furman, D.P. (1972) Laelapid mites (Laelapidae: Laelapinae) of Venezuela. *Brigham Young University Science Bulletin, Biological Series*, **27**, 1–58.
- Furman D.P. & Tipton, V.J. (1961) Acaros parásitos Laelaptine (Acarina: Laelaptidae) de Venezuela. *Memoria de la Sociedad de Ciencias La Salle*, **21**, 166–212.
- Tipton V.J., Altman, R.M. & Keenan, C.M. (1966) Mites of the subfamily Laelaptinae in Panamá (Acarina: Laelaptidae). In: Venzal, R.L. & Tipton, V.J. (Eds) *Ectoparasites of Panamá*. Chicago: Field Museum of Natural History, pp. 23–45.