

***Nelima doriae* introduced to Argentina, first record of the subfamily Leiobuninae (Opiliones: Gagrellidae) from South America**

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Summary

The harvestman *Nelima doriae* (Canestrini) is reported from seven localities in Argentina. These are the first records of the subfamily Leiobuninae from South America and the first records of this species from the New World. Because of its ability to migrate around the world, notes are provided for the identification of this exotic species.

Introduction

The subfamily Leiobuninae consists of approximately 20 genera and its members are primarily Holarctic in distribution, although some species can be found in tropical areas of Asia and North America (Shear, 1982). Three genera and one species from South America were, until recently, referred to the Leiobuninae (*Carmenia* Roewer, *Thrasychirus* Simon, *Thrasychiroides* Soares & Soares, and *Leiobunum monticola* Chamberlin) but all have now been transferred to other families or subfamilies (Cokendolpher, 1984).

New material, compiled by one of us, reveals the presence of *Nelima doriae* (Canestrini) at seven different localities in Argentina. These constitute the first correct records of the subfamily from South America and the first records of this species from the New World. *Nelima doriae* was originally known from southern Europe and northwestern Africa, from where it probably came to be introduced into the New World. How and when this species was introduced is unknown, but it might have migrated during the turn of this century. At that time, many people were emigrating from Europe to Argentina, mainly from Italy, and could have accidentally brought the species to South America. This species is most widely distributed in Italy (Martens, 1978: fig. 815). *Nelima doriae* has also been transported to Australia, New Zealand, and Norfolk Island, where it has established numerous populations (Gruber & Hunt, 1973; Hunt, 1987). This species apparently has a good aptitude for existing as a stow-away and ability to adapt to human-modified habitats where it is introduced.

Since the records from Argentina are the first for the New World, we present here an abbreviated synonymy and comments on its identification and habits.

***Nelima doriae* (Canestrini) (Figs. 1-4)**

Lejobunum doriae Canestrini, 1871: 384.

Nelima doriae: Roewer, 1910: 244, pl. 5, figs. 31, 32; 1923: 913; Martens, 1966: 360 [= *Nelima maroccana*]; 1969: 398 [synonymy]; 1978: 426; Gruber & Hunt, 1973: 383, figs. 1-3 [= *Nelima dunni*]; Chemini, 1986: 127 [designation of lectotype].

Nelima dunni Forster, 1947: 174 [description of Australian specimens].

Nodala dunni: Forster, 1949: 70.

Nelima maroccana Roewer, 1957: 398 [description of Moroccan specimens].

Nelima pisarskii Staręga, 1966: 407; figs. 23, 24 [description of U.S.S.R. specimens]. First synonymised with *Nelima doriae* by Martens, 1969.

Nelima doriai Staręga, 1966: 407 [unjustified emendation].

Nomenclatural note

Staręga (1966) and later Marcellino (1970) emended the specific name to *doriai* because this species was named after a man, Marchese Giacomo Doria. Other recent authors (Martens, 1969, 1978; Gruber & Hunt, 1973; Chemini, 1986) have retained the original spelling of *doriae*, in one case (Martens, 1969) remarking that the change was based only on a "recommendation" in the International Code of Zoological Nomenclature. The current edition of the Code (1985) gives the provision that if a personal name is latinised, the genitive is to be formed in accordance with the rules of Latin grammar (Art. 31a(i)); thus, *doriae*, even though based on the name of a man, is acceptable as the genitive case of the first declension.

Distribution

Nelima doriae has been known to date from four regions: (1) Spain and Morocco; (2) south of France, Italy, Yugoslavia, and on the Balearic Islands, Corsica, Sardinia, Sicily and Crete; (3) U.S.S.R. (Caucasus

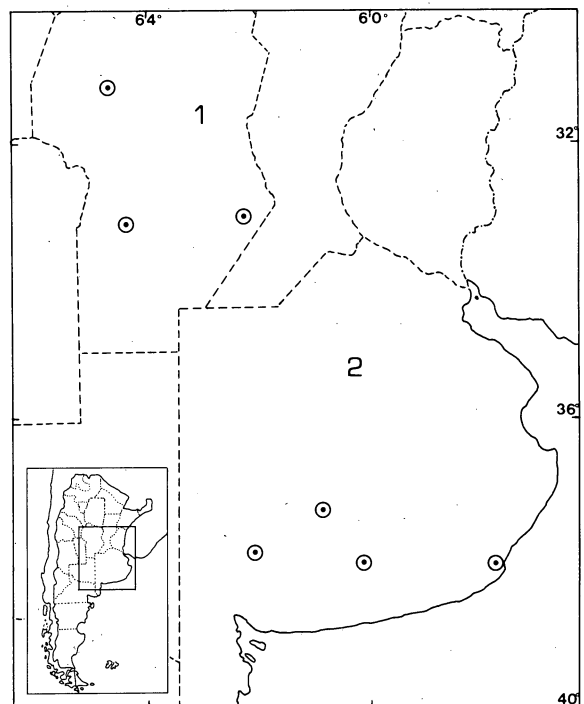


Fig. 1: Map of *Nelima doriae* distribution in Provincia de Córdoba (1) and Buenos Aires (2) in Argentina.

region); and (4) New Zealand and Australia. The populations on Crete were presumably introduced (Martens, 1978), as were those on Australia and New Zealand. The type locality is Genova (Martens, 1966; Chemini, 1986). In Australia it has been recorded from New South Wales, Victoria and South Australia. Its presence in New Zealand and Norfolk Island is probably due to it being transported from Australia. *Nelima doriae* has been collected in seven different places in Argentina (Fig. 1): General Baldissera (33°07'S, 62°19'W), Río Cuarto (33°08'S, 64°21'W) and Valle Hermoso (31°07'S, 64°29'W), in provincia de Córdoba, and Parque Provincial Ernesto Tornquist, Sierra de la Ventana (38°04'S, 61°59'W), Laprida (37°33'S, 60°49'W), near González Chaves (38°02'S, 60°06'W) and Mar del Plata (38°00'S, 57°33'W), in provincia de Buenos Aires.

Habitat

In Mediterranean countries *Nelima doriae* occurs in open places with low vegetation, under stones or in sandy areas (Martens, 1978). In Australia, New Zealand, Norfolk Island and Crete, where it was introduced, this species appears to be limited to areas modified by humans (principally gardens and parks in urban places). In these areas autochthonous species are generally absent because of the alteration of the natural vegetation.

Similar habitats seem to be exploited in Argentina. In Sierra de la Ventana, *N. doriae* was found near the hotel of the Parque Provincial Ernesto Tornquist, in the artificial gardens with conifers and other cultivated plants. The specimens were found in a dark place under stones, with their bodies and legs held tightly against the under surface of the stone. In the city of Río Cuarto

there was a large concentration of specimens under an uprooted tree stump resting on tall grass, near the beach of the river. The stump was in a situation which was rather humid and shaded by a grove of exotic willow. A few juveniles were also captured under a fallen tree trunk on sandy soil at the bank of the river, which is generally exposed to the sun. At General Baldissera this species was collected in courtyards of houses (F. Giolitti, pers. comm.). There were many individuals among 20-30cm of dead leaves and they could easily be found by removing the leaves; the place was quite humid and under the dense shade of cultivated trees. Occasionally, some specimens were in the corners of a low, walled fence, resting in the typical way (bodies and legs pressed against the wall). Other specimens were found under a pile of masonry rubbish, that was exposed to the sun and completely covered by an invasive bindweed. No other species of harvestmen were found in association with *N. doriae* in these three localities.

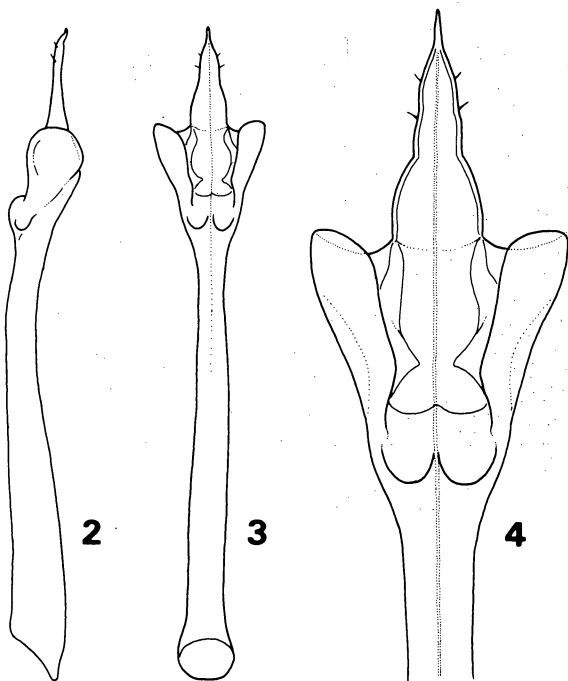
Specimens from Mar del Plata were encountered inside a house in the El Faro district. The single specimen collected near González Chaves was found walking over leaf-litter in an artificial forest of eucalyptus 15km from the town (E. A. Maury, pers. comm.). Habitat data from the other localities are not available. All the places where this species was collected in Argentina have a subhumid temperate climate, an annual mean temperature of 14-17°C, and an annual mean precipitation between 700-900mm.

Comparisons

Being the sole member of the Leiobuninae in South America, this species is relatively easy to identify. The lack of pseudo-articular nodules on all leg femora will separate *N. doriae* from all Gagrellinae and many Neopilionidae in South America. The character, lack of lateral rows of denticles on the leg coxae, used to separate *Nelima* from other leiobunine genera in the Old World, should be used with caution because juveniles of all Gagrellinae and all neopilionids from South America also lack these denticles. On the ocular tubercle of adults of *N. doriae* there are small denticles which are never present on any South American neopilionids.

Nelima doriae resembles the native North American species "*Leiobunum*" *elegans* Weed and "*L.*" *paessleri* Roewer [Crawford (1977) recently listed "*L.*" *paessleri* in combination with *Nelima* without comment on the new combination]. Because of this similarity, introductions of *N. doriae* into the U.S.A. or Canada may have been overlooked. This exotic species is most easily separated from the North American species by differences in the genitalia [see Figs. 2-4, and illustrations by Martens (1978: figs. 810-814) and Staręga (1966: figs. 23, 24)].

Although no sharp distinction can be made, the penes of Argentinian populations of *N. doriae* (Figs. 2-4) look more like Yugoslavian ones than those from Spain, Morocco, or U.S.S.R. (Martens, 1969: figs. 15-22). Unfortunately, that author does not illustrate



Figs. 2-4: *Nelima doriae*, penis of male from Río Cuarto (Córdoba, Argentina). 2 Lateral view; 3 Dorsal view; 4 Detail of glans.

the penis of Italian specimens. Gruber & Hunt (1973) also note a clear similarity between the Australian and Yugoslavian male genitalia of this species.

Like most exotic species, *N. doriae* appears to be restricted to sheltered areas in urban situations. Specimens have been reported to enter houses, especially in the morning.

New Records

ARGENTINA: *Provincia de Córdoba:* General Baldissera, 30 September 1986 (F. Giolitti), 27♂, 29♀, 89 juv. (CZI), 1♂ (JCC); same locality and collector, 8 November 1986, 4♂, 15♀, 1 juv. (CZI), 1♀ (JCC); Río Cuarto, 28 November 1987 (L. E. Acosta), 19♂, 10♀, 10 juv. (CZI); Valle Hermoso (O. de Ferrariis), 1♀, 1 juv. (MACN 8630). *Provincia de Buenos Aires:* Sierra de la Ventana, Parque Provincial Ernesto Tornquist (Hotel), 15 December 1985 (L. E. Acosta), 8♂, 2♀, 3 juv. (CZI); Laprida, 9 January 1981 (R. Taberner), 2♂, 6♀ (MACN 8627); 15km S of González Chaves, 26 January 1983 (E. A. Maury), 1♀ (MACN 8628); Mar del Plata, February 1986 (J. Genise), 2♂, 1♀ (MACN 8629).

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