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First record of the subfamily Newportiinae (Chilopoda: Scolopendromorpha: Scolopocryptopidae) from Argentina

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Primer registro de la subfamilia Newportiinae (Chilopoda: Scolopendromorpha: Scolopocryptopidae) de la Argentina

RESUMEN. La subfamilia Newportiinae y la especie *Newportia (Tidops) balzanii* (Silvestri, 1895) son registradas por primera vez en Argentina sobre la base de especímenes colectados en la provincia de Misiones. Esta contribución incrementa el conocimiento de la diversidad de los quilópodos en la Argentina.

PALABRAS CLAVE . Newportiinae. *Newportia (Tidops)*. Misiones. Argentina.

ABSTRACT. The subfamily Newportiinae and the species *Newportia (Tidops) balzanii* (Silvestri, 1895) are recorded for the first time from Argentina from specimens collected in Misiones Province. This contribution increases the knowledge of the diversity of Chilopoda from Argentina.

KEY WORDS. Newportiinae.*Newportia (Tidops).* Misiones. Argentina.

Centipedes of the subfamily Newportinae (Scolopocryptopidae) are neotropical medium sized scolopendromorphs without ocelli, and with 23 pairs of legs (Fig. 1), pectinate second maxillary claws, kinked and pineapple-shaped processes in the gizzard, and second tarsus of the ultimate leg pair divided in "pseudoarticles" (Fig. 2) (Shelley & Mercurio, 2005; Edgecombe *et al.*, 2015). At present, the subfamily embraces only the nominal genus (Vahtera *et al.*, 2013) and has not been previously recorded from Argentina (Pereira, 1998; Schileyko & Minelli, 1999; Chagas-Júnior, 2011). The subgenus *Newportia (Tidops)* Chamberlin has been originally established with the rank of genus and lowered to subgenus by Vahtera *et al.* (2013) as a result of a phylogenetic analysis of the order Scolopendromorpha. According to Chagas-Júnior (2011), the diagnostic characters of the subgenus are: cephalic plate with two short incomplete sutures at the posterior border; forcipular coxosternum with short tarsungula, of which only the apices overlap in closed position (Fig. 3); coxosternal tooth plates dentiform (Fig. 3); first trunk tergite with anterior transverse sulcus giving rise to paired furcate sutures extending posteriorly in a "W-shaped" configuration (Fig. 4); tibia of the ultimate legs without spines or spinose processes, very much thicker than the tarsus I, somewhat clavately widening on the ventral face of distal end bearing a cylindrical process (Fig. 2). The subgenus currently comprises four species recognized as valid, spanning a wide distribution range within South America: *N. (T.) balzanii* (Silvestri, 1895) from Brazil, Bolivia, and Paraguay; *N. (T.) collaris* (Kraepelin, 1903) from French Guiana, Guyana, Venezuela and Brazil; *N. (T.) sinus* Chamberlin, 1915 from Grenada and Brazil; and *N. (T.) nisargani* Chagas-Júnior, 2011 from Brazil (Chagas-Júnior, 2011).

As a result of a survey of soil fauna in the Refugio de Selva y Centro de Investigaciones "Antonia Ramos" *(CIAR)* six individuals belonging to the species *Newportia (Tidops) balzanii* have been collected in leaf litter of a dense forest using Berlese-Tullgren funnels. The CIAR is located in Misiones Province: Oberá Department: Campo Ramón Municipality. According to

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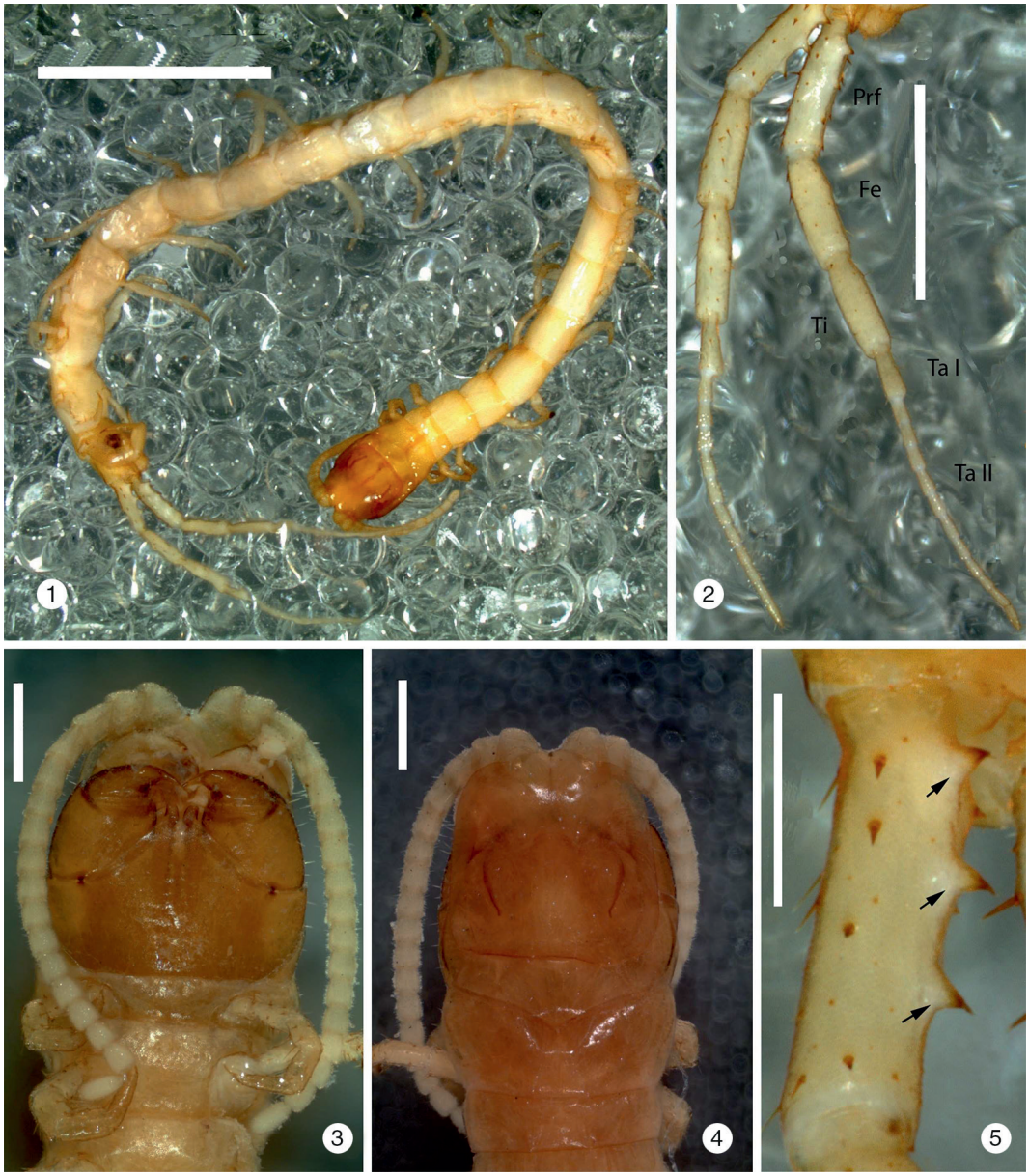
Cabrera & Willink (1973) it belongs to the Paraná province of the Neotropical region. Collecting data for the aforementioned specimens are: GPS: -27.440313° -54.944468°, 195 m.a.s.l., 12-14 January 2014, A. O. Porta leg. Five exemplars (two adults, "a" and "b", and three immatures) have been deposited in the National Collection of Myriapods in the Museo Argentino de Ciencias Naturales "Bernardino Rivadavia" (MACN-My36) and one adult at the Museo de La Plata (MLP-Ar 19442). Moreover, in order to obtain more records of the subfamily, a search has been performed at the MACN. As a result, only one additional exemplar of *N. (T.) balzanii* was found; with collecting



Figs. 1-5. *Newportia (Tidops) balzanii* (Silvestri) (specimen adult "a" MACN-My36) 1, habitus, anterior region of the body in dorsal view, posterior region in ventral view (scale bar: 2 mm); 2, right ultimate legs, lateroventral view. Abrev.:Prf: prefemur; Fe: femur; Ti: tibia; Ta I: tarsus I; Ta II: tarsus II (scale bar 1 mm); 3, anterior region of head, antennae, forcipular segment, and first leg-bearing segments, ventral view (scale bar 0.5 mm); 4, head with antennae and first leg-bearing segments, dorsal view (scale bar 0.5 mm); 5, detail of prefemur of right last leg in lateroventral view, spinous processes arrowed (scale bar 0.3 mm)

data: Argentina: Misiones: Mártires. IX-1960, col. Apóstol (MACN-My 37). Mártires town is located at 40 km to the west of the CIAR location.

All Individuals of the mentioned samples were assigned the species *N. (T.) balzanii* based on the following characters: number of antennal articles (17) (Fig. 4); femur of the ultimate legs without ventral processes (Fig. 2); presence of three ventral spinous processes on ultimate leg prefemur (Fig. 5); number of tarsomeres in tarsus II of the ultimate legs (11 or 12) (Fig. 2); and tarsus I with a distal ventral expansion (Fig. 2). However, none of the specimens from Misiones presented cylindrical ventral processes on femur and tibia of the ultimate legs. This character is mentioned in the diagnosis of the species in the generic revision by Chagas-Júnior (2011). Nevertheless, in the same publication this character is referred as present in some specimens or perhaps only in males.

These new distribution records extend the range of the genus and make it suitable for phylogeographic studies in the Neotropical Region. Moreover, despite the extensive collecting of chilopods, it is surprising the absence of material of this genus in collections in Argentina (Pereira, 1998). According to Chagas-Júnior (2011), current distribution records of *N. (T.) balzanii* are restricted to open areas. However, all the new records here reported from Argentina come from dense forests, using Berlese-Tullgren funnels. Then, it would be possible that the use of other collecting methods will provide new records in different environments and localities, more to the south on the margins of the Río de La Plata basin. As example, some pseudoscorpions taxa which are present in the Alto Paraná (*Geogarypus fiebrigi* Beier, 1931) or even in the Atlantic Forest near São Paulo (*Pseudochthonius brasiliensis* Beier, 1970) have been only collected recently for the first time using Berlese-Tullgren funnels in the Paraná Delta in Buenos Aires Province, a region intensively sampled (pers. obs.).

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