

A REMARKABLE FINDING OF *PACHYLOIDES SICARIUS* (OPILIONES, GONYLEPTIDAE, PACHYLINAE) IN THE PROVINCE OF CATAMARCA, NORTHWESTERN ARGENTINA.

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ABSTRACT.— A new record of *Pachyloides sicarius* (ROEWER, 1925) is reported from El Potrero, near Andalgalá, province of Catamarca, Argentina. The locality is about 380 km south to the nearest, so far known record of the species, in the province of Jujuy. It is hypothesized that this probable disjunct distributional pattern is the remaining of a once larger range of the species, that became fragmented as the forests retracted during dry periods in the Pleistocene.

KEY-WORDS.— Opiliones, Gonyleptidae, *Pachyloides*, Neotropics, yungas, Pleistocene.

RESUMEN.— Se da a conocer un nuevo hallazgo de *Pachyloides sicarius* (ROEWER, 1925), de El Potrero, próximo a Andalgalá, provincia de Catamarca, Argentina. La localidad se halla a unos 380 km al sur del registro más cercano previamente conocido, en la provincia de Jujuy. Se postula que esta distribución probablemente disyunta es resultado de la fragmentación del rango original de la especie, a causa de la retracción de las selvas durante períodos de aridez en el Pleistoceno.

PALABRAS CLAVE.— Opiliones, Gonyleptidae, *Pachyloides*, Región Neotropical, yungas, Pleistoceno.

According to the material studied in a recent revision (ACOSTA, 1992), the known range of *Pachyloides sicarius* (ROEWER, 1925)¹ extends from southern Bolivia to the Argentinian provinces of Salta and Jujuy. Most localities of the species are clearly related to the Biogeographic Province of the Yungas (= mountain rainforests), since they fall either in the subtropical forest proper or in the so called yungas-chaco transitional woodlands (HUECK & SEIBERT, 1972); only two sites (Sierra de Tilcara and Yala) show no evident correlation with the yungas region. The most meridional record was up to now that from Yala, province of Jujuy.

For this reason, the capture of several individuals of *P. sicarius* about 380 km far away from Yala, in the locality of El Potrero, near Andalgalá, province of Catamarca (Fig. 1) was not only unexpected, but also revealed a particular biogeographical interest. The site lies at the foot of mountains that are subsidiary to the Nevado del Aconquija chain, and the whole area is characterized by its marked aridity. There converge floristic elements typical to different Biogeographic Provinces: the Monte, especially in the plain sector —from the city of Andalgalá southwards—, the Prepuna, and the Sierra Chaco, the two latter more conspicuous on the slopes. Despite of the general xeromorphy of the area, there are some humid valleys at the bases of the mountains, like the one where the mentioned locality of El Potrero is placed. The humans inhabiting the sector profited since long ago by the peculiar microclimate of the valley, that proved to be very suitable for their quince and walnut cultures. Together with the native vegetation, these cultivated plants create many shady and cool environments. The contrast of this humid valley with the surrounding aridity is remarkable, for only several tens of meters from the collecting site develop the typical prepuna vegetation, with arboreal cacti and other xeromorphous plants. The specimens of *P. sicarius* were detected under stones, that integrated the low

¹The species has been currently referred to as *Parabalta sicaria*; it is transferred to *Pachyloides* by ACOSTA (submitted).

cliffs bordering a stream. These individuals show only few, subtle morphological differences with respect to the septentrional populations, and that seems not to be enough to justify the recognition of formal infraspecific entities.

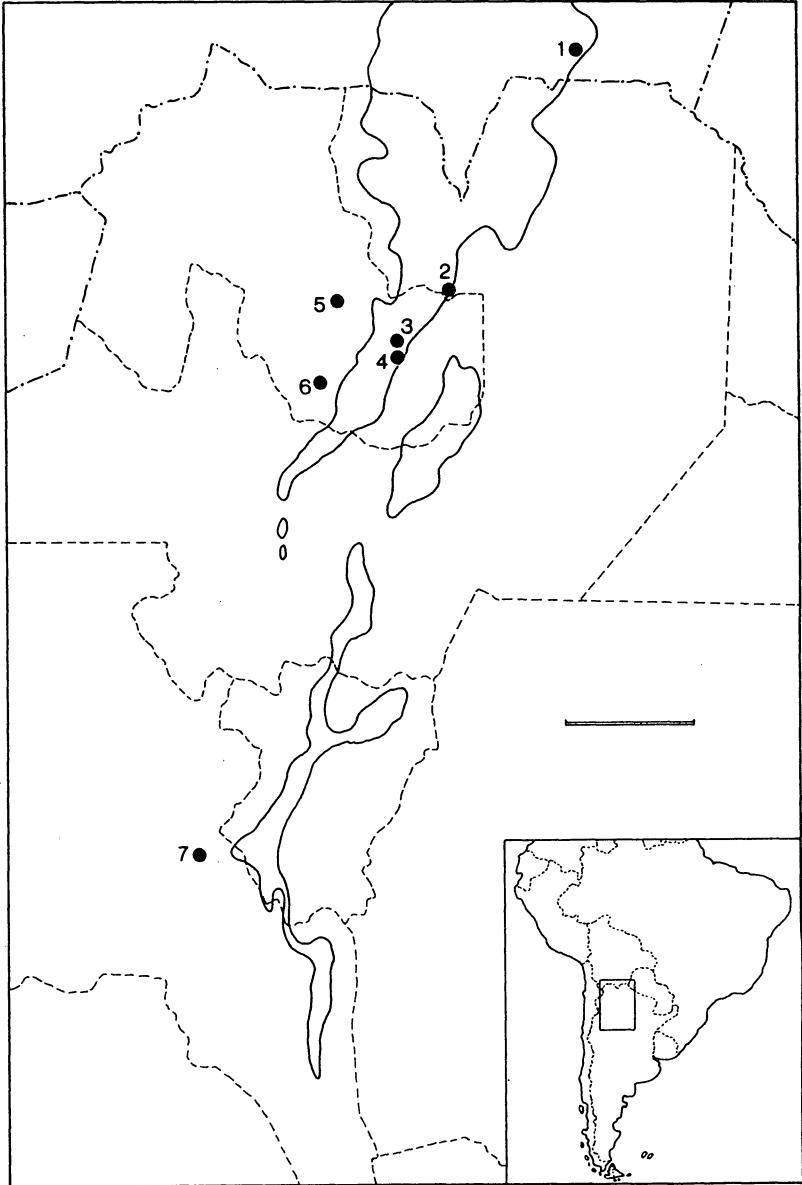


Fig. 1.- Known localities of *Pachyoides sicarius* (ROEWER), in southern Bolivia and northwestern Argentina: 1, Villa Ingavi (formerly Caiza), 2, Urundel, 3, Libertador General San Martín (formerly San Lorenzo), 4, Fraile Pintado, 5, Sierra de Tilcara, 6, Yala, 7, El Potrero. The solid line indicates the yungas region (subtropical rainforest, aliso forest and transitional forest). Scale line = 100 km.

Although the present distributional knowledge of the opilions of northwestern Argentina is still very incomplete, it seems likely that there is no geographical continuity between this population and the main area of the species. It is possible that *P. sicarius* may indeed exist south of Yala, following to some extent the discontinuous forests in the province of Salta; nevertheless, no detailed survey of the harvestmen of this sector is still available. Further southwards, in the province of Tucumán, we meet the continuous subtropical and transitional forests of the eastern slope of the Aconquija, so far the best sampled yungas sector; there and in adjacent areas do exist no lesser than 6 species belonging to the genus *Pachyloides*, but likely not *P. sicarius*, whose presence has not been still proved, although a relatively intensive sampling has been already made (ACOSTA, unpublished). The possibility that the Salta–Jujuy and the Andalgalá areas of *P. sicarius* may be continuous along the western slope of the Aconquija seems not probable at all, since the aridity of this side appears to be incompatible with the humidity requirements of the harvestmen belonging to the genus.

If this disjunct distributional pattern is the true one, there remains the question of its causes. The most plausible explanation is related to the well known processes of forest expansion and retraction, that are deemed to be a consequence of the alternating periods of aridity and humidity in the Pleistocene (MARKGRAF, 1985; NORES & CERANA, 1990). In our case, the presence of *P. sicarius* in the surroundings of Andalgalá may indicate that the forests possibly reached this locality in expansion periods, allowing the ancestral range of the species to attain the area; the Andalgalá population might become isolated in this favoured microclimate as forests retracted during arid periods. NORES & CERANA (1990) cite several forest relics in the provinces of Catamarca and La Rioja, that probably have been connected to the yungas during expansion periods, as it is to be inferred from the analysis of their flora and avifauna. The distance between Andalgalá and the nearest continuous forests (Cuesta del Clavillo area, in the SW corner of the province of Tucumán) is of about 35–40 km, clearly lower than the distances to some of the relics reported by NORES & CERANA (*op. cit.*). Considering the presence of various *Pachyloides* species in the yungas of Tucumán, and the probable absence of *P. sicarius* there, an additional condition is to be assumed: the once continuous range of *P. sicarius*, later fragmented, had to precede the differentiation processes that led to the present generic diversity in the eastern slope of the Aconquija; these various species then replaced *P. sicarius* locally, causing the separation of the two parts of the range. Unfortunately, the phylogenetical relationships within *Pachyloides* remain largely unknown, and thus, there is for the moment no way to test the above hypothesized model.

MATERIAL EXAMINED

ARGENTINA. **Province of Catamarca.** El Potrero, 6 km N of Andalgalá, 15–I–1993 (L. ACOSTA, D. HAUSER col.), 2 males, 2 females, 2 juveniles (CDA = Cátedra de Diversidad Animal I).

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