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Deinopis amica (ARANEAE, DEINOPIDAE) IN THE PROVINCE OF BUENOS AIRES, ARGENTINA

Deinopis amica *(Araneae, Deinopidae) en la Provincia de Buenos Aires, Argentina*

Luis A. Giambelluca[1], Cecilia S. Gabellone[1] and Alda González[1]

[1]Centro de Estudios Parasitológicos y de Vectores (CEPAVE)(CONICET- UNLP) Boulevard 120 #1437, 1900 La Plata, Argentina. giambelluca@cepave.edu.ar, csgabellone@cepave.edu.ar, asgonzalez@cepave.edu.ar

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umai Universidad Maimónides

Resumen. Las arañas de la familia Deinopidae son nocturnas y se caracterizan por sus grandes ojos medios posteriores, que les otorgan el nombre común de "arañas ogro". Tejen tela que utilizan para capturar a sus presas, la cual sostienen entre su primer y segundo par de patas. Esta familia tiene una distribución pantropical, con tres géneros y 68 especies. La familia Deinopidae y el género *Deinopis* fueron previamente reportados en la Provincia de Buenos Aires. Sin embargo, en ese momento no fue posible determinar la especie debido a que solo se disponía de especímenes juveniles. Para identificar la especie, se realizaron muestreos nocturnos y diurnos en la selva en galería de la Reserva Natural Punta Lara (RNPL), Buenos Aires, Argentina. Los especímenes fueron determinados mediante claves taxonómicas y comparados con material de referencia. Los resultados confirman que la población de la RNPL pertenece a *Deinopis amica*, una especie que habita en la vegetación cercana a cuerpos de agua. Su comportamiento depredador y postura críptica, observados en condiciones controladas, coinciden con lo documentado para otras especies del género. Este nuevo registro amplía el rango geográfico conocido de *D. amica*, resaltando las conexiones biogeográficas entre las provincias Paranaense y Esteros del Iberá. Además, subraya el papel crítico de la RNPL como refugio de biodiversidad. Los hallazgos también sugieren la existencia de corredores biológicos a lo largo de los principales sistemas fluviales de la región, favoreciendo la dispersión de esta especie.

Palabras Clave. Araña ogro, Reserva Natural Punta Lara, nuevo registro

Abstract. Spiders of the family Deinopidae are nocturnal and characterized by their large posterior median eyes, which give rise to their common name, "ogre spiders". They weave a web used for prey capture, held between their first and second pairs of legs. This family has a pantropical distribution, encompassing three genera and 68 species. The family Deinopidae and the genus *Deinopis* were previously reported in Buenos Aires Province. However, the species could not be determined at that time due to the availability of only juvenile specimens. To identify the species, nocturnal and diurnal samplings were conducted in the gallery forest of the Punta Lara Nature Reserve (PLNR), Buenos Aires, Argentina. Specimens were identified using taxonomic keys and compared with reference material. The results confirm that the PLNR population belongs to *Deinopis amica*, a species inhabiting vegetation near water bodies. Its predatory behavior and cryptic posture, as observed under controlled conditions, align with those documented for other species of the genus. This new record extends the known geographical range of *D. amica*, highlighting the biogeographical connections between the Paranaense and Esteros del Iberá province. Moreover, it underscores the critical role of the PLNR as a biodiversity refuge. The findings further suggest the existence of biological corridors along the region's major river systems, promoting the dispersal of this species.

Keywords. Ogre spiders, Punta Lara Nature Reserve, new record.

INTRODUCTION

The family Deinopidae C.L. Koch, 1850 comprises spiders commonly referred to as net-casters or ogre spiders. These arachnids are of medium size, with an elongated body, eight eyes arranged in three rows, large posterior median eyes, an abdomen with one or two pair of prominences, cribellate silk-producing organs, long anterior legs, and tarsi equipped with three claws (Dippenaar-Schoeman and Jocqué 1997). The family consists of three genera and 68 species (World Spider Catalog 2025): the genus *Deinopis*, first described by MacLeay (1839) based on *Deinopis lamia* from Cuba; the genus *Menneus*, described by Simon in 1877, based on *Menneus tetragnathoides* from Angola; and the genus *Asianopis*, proposed by Lin and Li in 2020, based on *Asianopis zhuanghaoyuni* from China.

In Argentina, the genus Deinopis is found in the northeastern provinces of Misiones, Corrientes, Chaco (Schiapelli and Gerschman de Pikelin 1957, Ávalos *et al*. 2007, Rubio and Moreno 2010, Escobar *et al*. 2012) and in Buenos Aires Province (Gabellone *et al*. 2018). This genus is characterized by its brown body, with a longitudinal, bright dorsal median band on the prosoma, legs marked with black spots, a leg formula of 1-2-4-3, and an elongated abdomen with two humps (Gabellone *et al*. 2018). Within this genus, *Deinopis amica* Schiapelli and Gerschman, 1957 has a cephalothorax that is longer than wide, with a median posterior notch, a very long, narrow, triangular sternum that tapers to a point, and an elongated and thin light brown abdomen,, the general color have darker areas, showing a pattern of brown spots and longitudinal lines (Schiapelli and Gerschman de Pikelin 1957).

The species *D. amica* was first described for Misiones Province (Schiapelli and Gerschman de Pikelin 1957), and has been recorded in Uruguay (Laborda *et al*. 2012) and on Martín García Island (iNaturalist 2015, 2016, 2021).

The Punta Lara Nature Reserve (PLNR) (Buenos Aires, Argentina) (34°47′28″S; 57°59′49″W) is located in the districts of Ensenada and Berazategui, bordering the district of La Plata and the Río de la Plata. The Reserve's management plan has as primary objective the "Conservation of the biodiversity of the Río de la Plata riparian ecosystem". This conservation goal constitutes the mission of the plan for this protected area, set in a region undergoing significant anthropogenic transformations. To enhance and update the knowledge of the conservation values present within the PLNR, scientific activities are promoted.

This reserve covers an area of 6000 hectares and, due to the moderating effect of the Río de la Plata, the area experiences a warmer and humid climate. It is the largest protected area in the Pampean Region, belonging to the biogeographic province of Esteros del Iberá, and Delta del Paraná district (Arana *et al*. 2021). Although in a previous study (Gabellone *et al*. 2018) we first cited the genus *Deinopis* for Buenos Aires Province, we were unable to confirm the species due to the availability of only juvenile specimens at that time. Based on the collection of new specimens, this study provides a new geographic distribution record for *D. amica* in Buenos Aires Province, Argentina, representing the southernmost record for the species. We present data on the specie's natural history and a geographic distribution map with comments on the biogeographic provinces where it is found.

MATERIAL AND METHODS

Sampling was conducted in the PLNR during both diurnal and nocturnal periods, across climatically contrasting conditions,

to determine the presence of *D. amica*. The collection was carried out manually, with headlamps used for nocturnal sampling. Five immature specimens were collected and maintained in glass terrariums (14x29x19 cm) with a substrate of sand, leaves, and small branches to provide shelter and structure for web construction. The specimens were raised in laboratory conditions of temperature (24 ± 2 °C), relative humidity (70% ± 5%), and a 12:12 h light:dark cycle until reaching adulthood. They were fed with adults of *Culex* sp. and *Musca domestica* on demands, since web construction. (Figure 1).

The specimens were examined and photographed by a Leica MC120HD and M205A stereomicroscope and a Nikon 3100 camera. The distribution map was created using QGIS 3.22.16, based on bibliographic sources including findings from iNaturalist (2024) and data obtained from GBIF (2024).

Figure 1 - *Deinopis amica* in its natural habitat (Punta Lara Nature Reserve, Buenos Aires, Argentina).

For specimen identification, we used references by Schiapelli and Gerschman de Pikelin (1957), Coddington *et al*. (2012), Grismado *et al.* (2014) and material from the collection of the Museo Argentino de Ciencias Naturales, Bernardino Rivadavia was reviewed. The collected specimens were incorporated into the collection of the Museo de La Plata.

We used the codes: MLP-Ar, Museo de La Plata; MACN-Ar, Museo de Ciencias Naturales Bernardino Rivadavia.

RESULTS

The sampling of the arachnofauna allowed the identification of *D. amica* specimens in the PLNR. This species is difficult to detect due to its positioning in the environment, often going unnoticed unless its hunting web is extended (Figure 1).

The peculiar web is used to an only one preycapture. Both field and laboratory observations revealed that the specimens became active after sunset, constructing their hunting webs. After consuming and abandoning the prey, the web is dismantled, and the specimens adopt their cryptic posture, with their bodies pressed against the branches, their first and second pairs of legs extended forward and the third and fourth pairs extended backward, camouflaging. The environmental structural complexity, humidity, and the abundance of flying insects, considered as potential prey, seem to be determining factors for its presence.

In the laboratory, hunting activity was observed to continue for up to two or three hours after sunrise. In terms of behavior, the spiders were shy and, when disturbed, they folded their hunting webs and remained motionless.

The genitalia of the male *D. amica* from the PLNR features palps bulbs with a long embolus that makes several turns (Figure 2A).

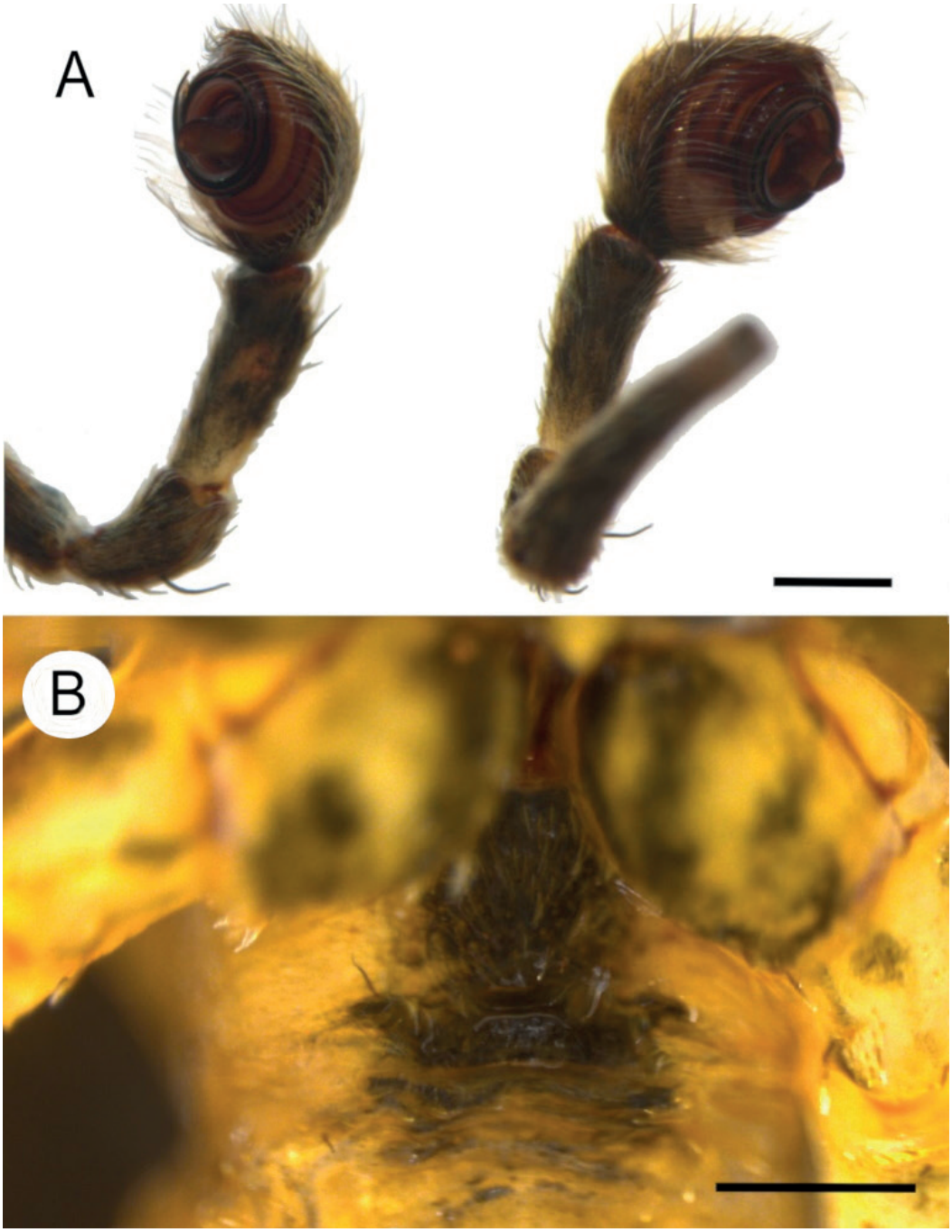

Figure 2 - Genitalia of *Deinopis amica* from the Punta Lara Nature Reserve, Buenos Aires, Argentina. **A -** Male. Lateral views of the palp, specimen MLP-Ar 21113. **B -** Female. Epigyne of specimen MLP-Ar 21114. Scale 0.5 mm.

Both the male palps and the female epigyne (Figure 2) match the original description of the type material consulted.

In Argentina, *D. amica* is found in the Paranaense phytogeographic province, in the Selvas Mixtas district, and in the province of Esteros del Iberá, Delta del Paraná district, whose plant formations are similar,

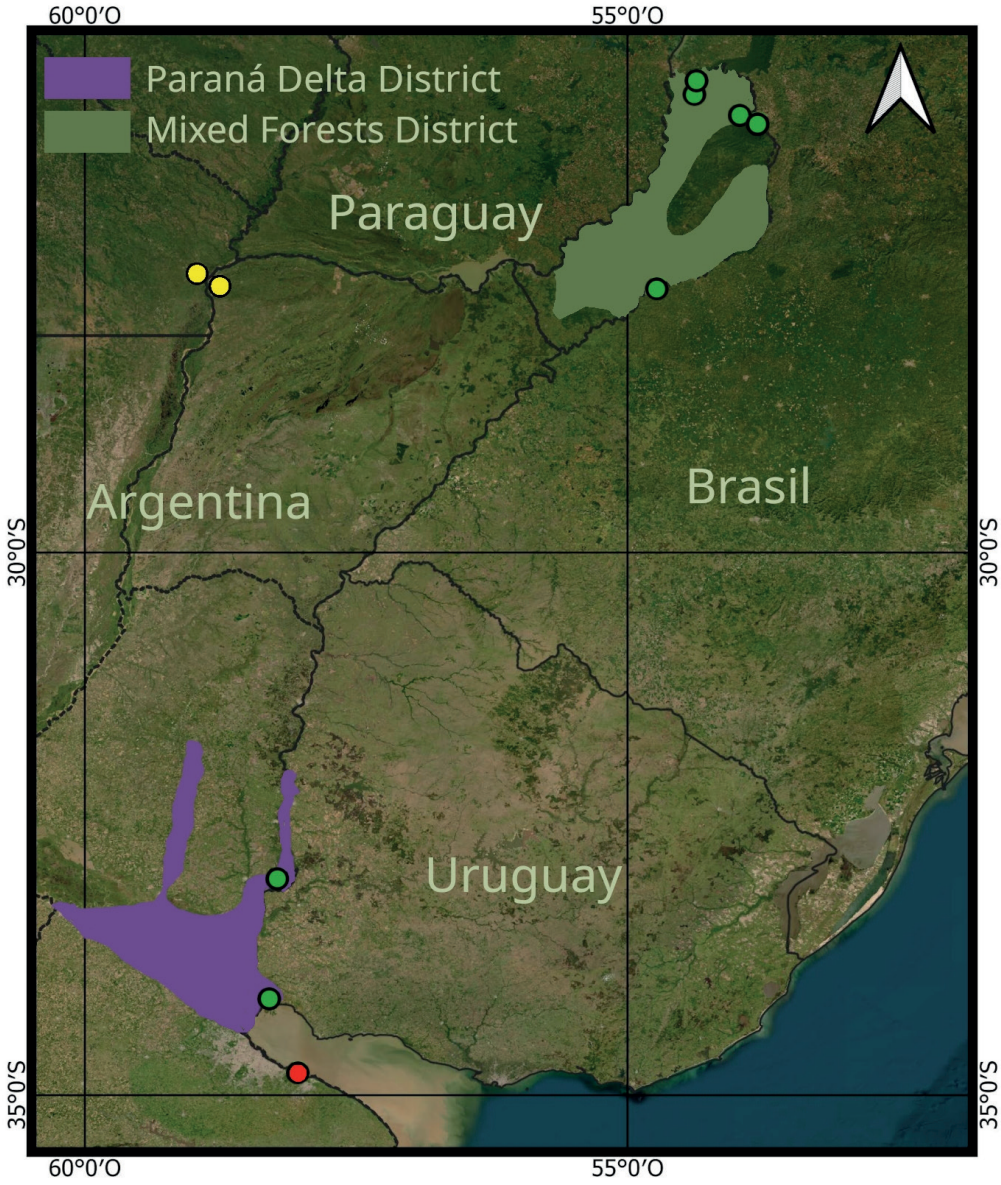

Figure 3 - Location of *Deinopis amica* in Argentina and Uruguay. Red circle, finding in the Punta Lara Nature Reserve; green circles, other findings. Location of *Deinopis* sp. yellow circles.

although more impoverished in the latter province (Figure 3). The predominant vegetation is gallery forest with large trees (20 to 30 meters in height in the Selvas Mixtas district and 15 meters in the Delta del Paraná district), accompanied by an undergrowth and a substantial amount of leaf litter covering the ground.

The Delta del Paraná district extends from 31°50′S to the mouth of the Gualeguay and Uruguay rivers, and from the mouth of Arroyo del Medio in the Paraná River to Bahía del Samborombón at 35°25′S (Figure 3) (Arana *et al*. 2021).

In the RNLP, this species was found at heights ranging from 30 cm to 150 cm, on vegetation composed of small-diameter branches, near bodies of water.

Material examined: *Deinopis amica* (Schiapelli and Gerschman de Pikelin, 1957), Argentina. Buenos Aires: one juvenil, Ensenada, PLNR, (34°47'19.49" S; 58° 0'3.54" W), 28 Apr. 2017, Gabellone CS, Addamo P, Giambelluca LA, Reboredo GR, González A, MLP-Ar 20100; one juvenil, Ensenada, PLNR, (34°47'19.49" S; 58° 0'3.54" W), 3 May 2023, González A, Giambelluca LA, MLP-Ar 21112; one ♂, Ensenada, PLNR, (34°47'19.49" S; 58° 0'3.54" W), 3 May 2023, González A, Giambelluca LA, MLP-Ar 21113; one ♀, Ensenada, PLNR, (34°47'19.49" S; 58° 0'3.54" W), 1 Agust 2023, González A, Giambelluca LA, MLP-Ar 21114; one juvenile, Ensenada, PLNR, (34°47'19.49" S; 58° 0'3.54" W), 1 Agust 2023, González A, Giambelluca LA, MLP-Ar 21115; one juvenile, Ensenada, PLNR, (34°47'19.49" S; 58° 0'3.54" W), 10 Jun 2024, Giambelluca L, MLP-Ar 21116; one ♂, Isla Martín García, (34°11′ S, 58°15′ W), 25 May 1990, Ramírez MJ, MACN-Ar 43754; Misiones: one ♂ holotype, San Antonio, (25.98° S, 53.90° W), Nov 1954, Schiapelli, De Carlo, MACN-Ar 4273; one ♂ paratype, San Antonio, (25.98° S, 53.90° W), Nov 1954, Schiapelli, De Carlo, MACN-Ar 4272; one ♂ allotype , San Antonio, Misiones, Argentina (25.98° S, 53.90° W), Nov 1954, Schiapelli, De Carlo, MACN-Ar 4274; one ♀ paratype, San Antonio, (25.98° S, 53.90° W), Nov 1954, Schiapelli, De Carlo, MACN-Ar 4275; one ♀, Iguazú National Park, Garganta del Diablo, (25°42′ S, 54°26′ W), 2005, Ramírez MJ, Labaque FM, Michalik P, MACN-Ar 43739; one ♀, Iguazú National Park, (25°50′ S, 54°17′ W), Nov 1986, M.E. Galeano, MACN-Ar 43745; one ♀, Iguazú National Park, (25°40′ S, 54°10′ W), Apr 1968, M.E. Galeano, MACN-Ar 43748.

DISCUSSION

The species *D. amica* is well established in the PLNR, as juvenile specimens have been found in different years and at different times of the year. The spatial distribution in the field, up to a height of one and a half meters, is consistent with the observations made by Laborda *et al*. (2012). According to Laborda *et al*. (2012), there would be a corridor of flora and fauna extending from the Misiones jungle along the Uruguay River, which *D. amica* would use as a means of dispersal. The findings of *D. amica* in Isla Martín García and in the PLNR would extend this corridor further south. Regarding the dispersal of the genus *Deinopis*, as addressed by Gabellone *et al.* (2018), we suggest a corridor similar to the one proposed by Laborda *et al*. (2012) for the Paraná River. Considering the specimens of *Deinopis* sp. collected in Chaco and Corrientes (Ávalos *et al*. 2007, Escobar *et al.* 2012), along with the material from the PLNR, two dispersal routes for this genus appear to exist: one along the Uruguay River and another along the Paraná River.

Although the distribution of *D. amica* currently appears disjunct, with one well-established population in the Selvas Mixtas district and another in the Paraná Delta district,

it cannot be ruled out that there is a continuity of populations of this species along the gallery forests of the Paraná and Uruguay rivers, connecting both districts. The difficulty in observing *D. amica* in its natural environment justifies the under-sampling in surveys of this species. It would be important to intensify sampling efforts directed at *D. amica* in the areas of potential dispersal.

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