

Correspondence

First record of *Leposoma caparensis* from Colombia, with confirmation for the presence of *Ptychoglossus myersi* and *P. plicatus* (Squamata: Gymnophthalmidae)

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Recently, several species of squamate reptiles have been documented to occur in Colombia (e.g., CURCIO et al. 2009, MENDOZA & FERNANDEZ-LUCERO 2009, MEDINA-RANGEL & CALDERÓN-ESPINOSA 2010, MORENO-ARIAS 2010a, b, SÁNCHEZ-PACHECO et al. 2010, CALDERÓN-ESPINOSA & MEDINA-RANGEL 2011, SÁNCHEZ-PACHECO et al. 2011, MENDOZA et al. 2012, JARAMILLO-MARTÍNEZ et al. 2013), and more are expected as research continues in the country. This is also the case for three gymnophthalmid lizards: *Leposoma caparensis* ESQUEDA, 2005, originally known from Venezuela, and *Ptychoglossus myersi* HARRIS, 1994 and *P. plicatus* (TAYLOR, 1949), from Panama and Costa Rica, whose presence in Colombia was anticipated (HARRIS 1994), but not yet confirmed.

As currently understood, the gymnophthalmid genus *Leposoma* SPIX, 1825 contains 17 species of small, leaf-litter-dwelling lizards that occur in Neotropical forests in Central and South America (PELLEGRINO et al. 2011, RODRIGUES et al. 2013). In Colombia, the genus is represented by six taxa: *L. hexalepis* AYALA & HARRIS, 1982, *L. ioanna* UZZELL & BARRY, 1971, *L. parietale* (COPE, 1885), *L. percarinatum* (MÜLLER, 1923), *L. rugiceps* (COPE, 1869), and *L. southi* RUTHVEN & GAIGE, 1924 (UETZ 2014). Below, we provide the first Colombian record of *L. caparensis*, a species so far only known from its type locality in western Venezuela (Reserva Forestal de Caparo, Mpio Andrés Bello, Barinas; ESQUEDA 2005).

Between January and April of 2013, Diana Padilla, John Betancourth, and José R. Caicedo collected a juvenile male and an adult female (Fig. 1) at Vda Mata Oscura, Mpio Arauquita, Dpto Arauca, Colombia, ca 165 m a.s.l. (UTM coordinates E 0981022 / N 1253069). Both individuals were encountered in leaf litter in a secondary forest (Fig. 2). The specimens were deposited in the reptile collection of the Instituto de Ciencias Naturales, Bogotá, Colombia (ICN-R 12442–3, respectively). These specimens represent an extension of the known range of the species by approximately 70 km (airline distance) to the southwest of the type locality, and increase to seven the total number of *Leposoma* species known to be present in Colombia.

ICN-R 12442–43 are in general agreement with ESQUEDA's (2005) original description. Relevant scale counts and traits are as follows (variation in the juvenile male in parentheses): Snout–vent length 38.2 mm (18.8 mm); dorsal scales rhomboid, keeled, mucronate, and imbricate; ventral scales smooth (slightly keeled), slightly mucronate (mucronate), slightly imbricate, with posterior margin rounded (straight); no scales or granules between superciliaries and supraoculars; one precloacal and no femoral pores (two precloacal, 6/5 femoral pores per hind limb); transverse dorsal scale rows 33 (34); transverse ventral scale rows 23; scales around body 27 (26); lamellae under finger IV 12; lamellae under toe IV 17.

These two specimens do not significantly add to the diagnosis and description of the species. However, the num-



Figure 1. *Lepsosoma caparensis*. Adult female ICN-R 12443 in life (38.2 mm SVL). Photo: JRC.

bers of transverse dorsal scale rows in ICN-R 12442–3 are two and one more, respectively, than the range (29–32) reported by ESQUEDA (2005), and the number of scales around the body in ICN-R 12442 is one less (27–30). Although ESQUEDA explicitly pointed out that the most similar species was *Lepsosoma parietale*, the phylogenetic affinities of *L. caparensis* are still unclear, as this species was not included in the recent phylogenetic analysis by PELLEGRINO et al. (2011).

Ptychoglossus BOULENGER, 1890 currently comprises 14 species of moderately small gymnophthalmid lizards distributed from Central America to northern South America (HARRIS 1994, PELOSO & AVILA-PIRES 2010). Except *P. kugleri* ROUX, 1927 (endemic to Venezuela), the remaining species occur (*P. bicolor* [WERNER, 1916], *P. bilineatus* BOULENGER, 1890, *P. brevifrontalis* BOULENGER, 1912, *P. danieli* HARRIS, 1994, *P. eurylepis* HARRIS & RUEDA, 1985, *P. festae* [PERACCA, 1896], *P. gorgonae* HARRIS, 1994, *P. grandisquamatus* RUEDA, 1985, *P. romaleos* HARRIS, 1994, *P. stenolepis* BOULENGER, 1908, and *P. vallisensis* HARRIS, 1994), or are expected to occur (*P. myersi* and *P. plicatus*), in Colombia (HARRIS 1994, MEDINA-RANGEL & CALDERÓN-ESPINOSA 2010). HARRIS (1994) presumed *P. myersi* to be distributed in Colombia because the type specimens were collected on the Cerro Pirre, Serranía de Pirre, Darién Province, Panama, near the border with Colombia, and gave the geographic range of this species as “western Darién Gap, Panama–Colombia border area”. Additionally, HARRIS tentatively allocated two female specimens from Alto del Buey, Serranía del Baudó, Chocó, Colombia to *P. plicatus*, with the reservation that “specimens of adult males are needed to clarify the identity of the Alto del Buey population (1994: 257)... to determine if they represent *P. plicatus*, the closely related *P. myersi* or an undescribed species (1994: 271)”. Based on HARRIS’s comments,

subsequent authors (e.g., SAVAGE 2002, UETZ 2014) have included Colombia in the distribution of these two species. However, no specimen of *P. myersi* has to date been registered in Colombia, and the occurrence of *P. plicatus* has not been confirmed. Here we report the first voucher specimens of *P. myersi* from Colombia and corroborate the presence of *P. plicatus* based on material housed in the Museo Javeriano de Historia Natural, Colección de Reptiles, Pontificia Universidad Javeriana, Bogotá, Colombia (MUJ).

Between November and December of 2008, two adult males (MUJ 1092–93), an adult female (MUJ 1094), and a juvenile female (MUJ 1095) of *Ptychoglossus myersi*, and two adult female (MUJ 1090–91, Fig. 3) *P. plicatus* were collected by José Vicente Rueda and Marco Rada in the Comunidad indígena Eyakerá, cabecera río Tanelita, corregimiento de Balboa, Mpio de Unguía, Dpto Chocó,



Figure 2. Habitat of *Lepsosoma caparensis* in northeastern Colombia. Photo: DIANA PADILLA).



Figure 3. *Ptychoglossus plicatus*. Adult female MUJ 1090 in life (55.6 mm SVL). Photo: MARCO RADA.

Colombia, 1,300 m a.s.l. (UTM coordinates E 0979708 / N 1401617). Specimens of both species were found together under fallen tree trunks in forest (Fig. 4). These finds expand the known distribution of *P. myersi* by 59 km to the northeast, and of *P. plicatus* by 8 km to the east (airline distance), and increase to 13 the total number of *Ptychoglossus* species now known to be present in Colombia.

Colombian specimens of *Ptychoglossus myersi* have the following characteristics: maximum snout-vent length in males 46.2 mm, in females 44.0 mm; prefrontal scales medially separated in all but one specimen (MUJ 1095); females without femoral pores, males with 12 femoral pores per hind limb (including precloacal pores); limbs slightly overlapping by two dorsal scale lengths when adpressed against body. For their part, the females of *P. plicatus* found have the following characteristics: snout-vent length 55.6 (MUJ 1090) and 50.0 mm (MUJ 1091); prefrontal scales in medial contact; precloacal pores three, femoral pores absent; limbs greatly overlapping by 6–7 dorsal scale lengths when adpressed against body.

Ptychoglossus myersi differs from *P. plicatus* by its smaller body size, shorter limbs, and hemipenial morphology (HARRIS 1994). Although the hemipenes of the two adult male *P. myersi* are not fully everted, 12 flounces are visible, thus conforming to HARRIS' original description. No male *P. plicatus* was collected; however, species identification is not in doubt because the two adult females (MUJ 1090–91) are considerably larger than the adult female *P. myersi* (MUJ 1094), and their limbs are relatively longer. In addition, HARRIS (1994: 257) mentioned that two large female *P. plicatus* from eastern Panama (Cerro Tacarcuna-Cer-



Figure 4. Habitat of *Ptychoglossus myersi* and *P. plicatus* in north-western Colombia. Photo: MARCO RADA.

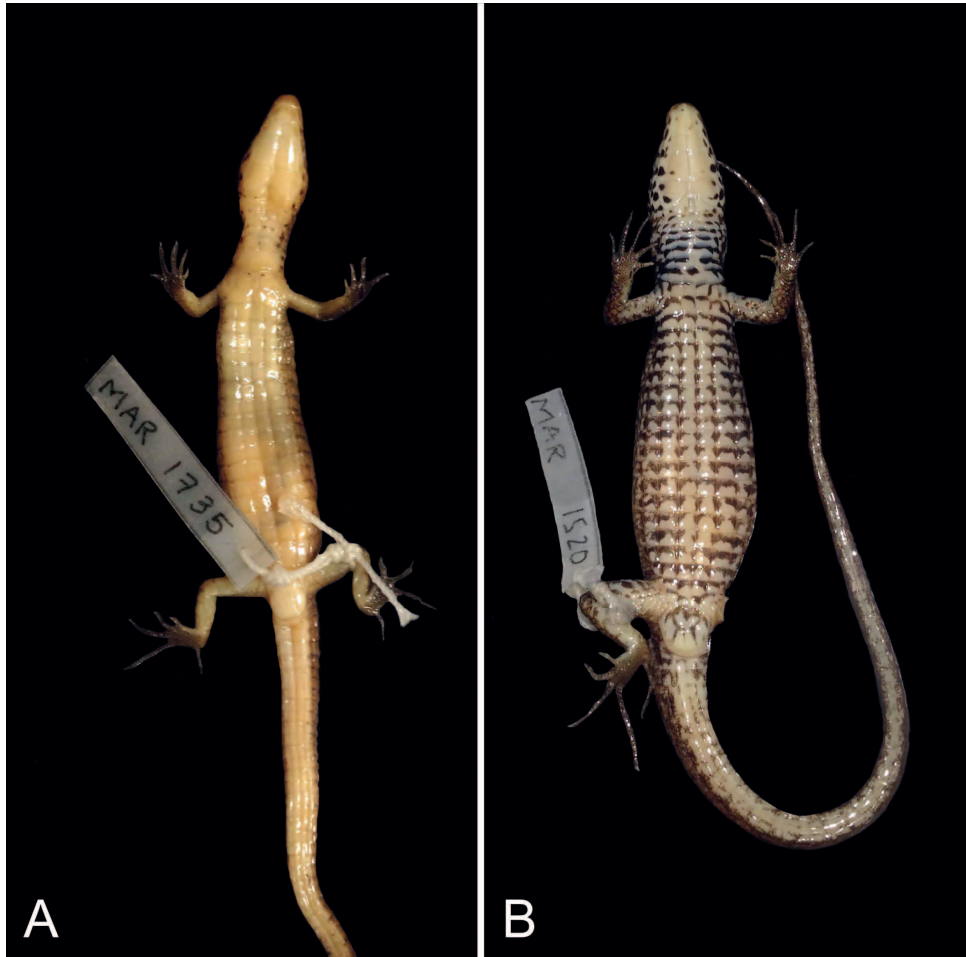


Figure 5. Ventral view of A) adult female *Ptychoglossus myersi* (MUJ 1094, 44 mm SVL) collected in microsympatry with B) adult female *P. plicatus* (MUJ 1090, 55.6 mm SVL). Note the differences in the colour pattern.

ro Malí, the localities closest to our sample) exhibit spotting along the lateral edges of their ventral scales, making the belly appear striped, a condition also present in MUJ 1090–91 (venter light cream in MUJ 1094, Fig. 5).

Interestingly, females of both species are cream-coloured ventrally, but females of *P. plicatus* in the contact zone between them (Cerro Tacarcuna area, Panama–Colombia border) exhibit spotting along the lateral edges of their ventral scales, making the belly appear striped (HARRIS 1994, and Fig. 5 of this work). It is likely that, in the presence of another *Ptychoglossus* species, such variation in ventral coloration is consistent with the character-displacement hypothesis, which predicts that the morphological difference between them is greater when two closely related species occur in syntopy than when these species are allopatric (KAWANO 2002, RICE & PFENNIG, 2006, and citations therein).

The relationships within the genus remain unclear because only *Ptychoglossus brevifrontalis* was included in the phylogenetic analyses by PELLEGRINO et al. (2001) and CASTOE et al. (2004). However, the presence of mucro-

nate and sharply keeled dorsal scales, pointed infracaudal scales, and blunt ridges on some head scales, the absence of a fold or narrow zone of small scales separating dorsal and ventral scales, and the same general asymmetry on the tip of the hemipenis suggest that *P. myersi* and *P. plicatus* might be closely related (HARRIS 1994).

Note added in proof

While this Correspondence was in press, GOICOECHEA et al. (2016) recognized three families within the superfamily Gymnophthalamoidea: Alopoglossidae, Gymnophthalmidae, and Teiidae. According to their new taxonomy, *Ptychoglossus* is part of the Alopoglossidae, and *Leposoma* is part of the Gymnophthalmidae.

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