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A new species of *Cnemidophorus* of the *lacertoides* species group from the eastern sierras de Córdoba, Central Argentina (Lacertilia, Teiidae).

ABSTRACT

A new taxonomic status may be supported by significant morphological characters for the populations of the *Cnemidophorus lacertoides* species group scattered on the eastern embossments of the Sierras de Córdoba, from Tolumba to the Punilla department. The northernmost Argentine populations of *Cnemidophorus lacertoides* Duméril & Bibron 1839 may be indicated for the Achiras hills west of Rio Cuarto northwards. Beyond the Sierra of Tolumba a dry, Chacoan area, widely colonized by *Cnemidophorus ocellifer*, appears as an extensive ecological barrier separating our *Cnemidophorus* sp. nov. from the northernmost populations of *Cnemidophorus lacertoides* reported by Peracca as *C. leachei* (1897).

INTRODUCTION

Several years ago (1978), the senior author observed a scarce and peculiar population of lizards of the genus *Cnemidophorus* apparently restricted to the Sierra of Tolumba, the northernmost extension of the Sierras de Córdoba (Central Argentina). This population was tentatively considered as a somewhat isolated population of *Cnemidophorus lacertoides*, a taxon formerly reported from Uruguay (cfr. Cole, McCoy, Achaval, 1979) and Sierra de la Ventana, Buenos Aires province (Ceí, 1986). On the other hand, quite similar samples of this form were also obtained furtherly by the junior author and other collectors on the southeastern slopes of the Sierras de Córdoba, such as Icho Cruz, Tanti, Biale Masse and Cosquin. A careful comparison of all these populations from Central Córdoba embossments with *C. lacertoides* from Sierra de la

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Ventana, several Uruguayan localities and some just discovered populations from the southernmost districts of Córdoba (Achiras stone hills: Martori et al., unpublished data), provided morphological kinds of evidence supporting their own identity as a new taxonomic unit. The recognition and description of the new taxon is the purpose of our present short paper, dealing primarily with morphological characters. A brief discussion about the biogeographical interest of our new species of *Cnemidophorus* follows.

Description of *Cnemidophorus serranus* sp. nov.
(Color Plate I, 1-6)

Diagnosis - A slender, brilliant colored *Cnemidophorus*, easily separated from *ocellifer* and *longicaudus* by the absence of granular supraorbital semicircles, and by a very different coloration; from any known population of *lacertoides* (sensu lato) by a lower number of ventral scale rows (8 versus 10), a different coloration and minor different features in lepidosis.

Holotype - FML.IH.02053-1. An adult male: Icho Cruz, 800 m, Dep. Punilla, Córdoba prov., Argentina, 14-XI-1987, Col. P. Blendinger, *Paratypes* - FML.IH.02053-2,3. Two females: the same locality, the same data; MRSN-R.080. A female specimen: Sierra de Tolumba, 600 m, Córdoba prov., 7-IV-1978, Col. J. M. Cei, A. Lattuada; MRSN-R.081. A young male: Sierra de Tolumba, 600 m, Córdoba prov., 6-III-1970, Col. J.M. Cei, S.S. Cei; MRSN-R.082. A female: Rio Los Chorillos Dep. Punilla, Córdoba prov., 10-XI-1989, Col. R. Martori, L. Avila, J. Acosta; MRSN-R. 083. A female: Tanti, Dep. Punilla, Córdoba prov., 28-X-1988, Col. R. Martori; MRSN-R.084(1-2). Two males: Tanti, Dep. Punilla, Córdoba prov. 14-X-1990, Col. R. Martori, L. Aun; UNRC-DCN-ZV-737. A female; 738, 744. Two males: Rio los Chorillos, near Villa Carlos Paz (E^a Vieja), Dep. Punilla, Córdoba prov., 10-XI-1989, Col. R. Martori, J.C. Acosta, L. Avila and D. Perez.

(Acronyms: FML.IH.-Fundación M. Lillo, Inst. Herpetologia, Tucumán; MRSN- Museo Regionale Scienze Naturali, Torino, Italy; UNRC-DCN-ZV- Universidad Nacional Rio Cuarto, Córdoba prov., Argentina-Dep. Ciencias Naturales - Zoologia Vertebrados).

Etymology - From the Spanish term "serrano", meaning inhabitant of the "sierras".

Description of the holotype - A medium-sized lizard; tail more than one time and half the length of the body. The extended hind limb reaches the axilla. Head sharp-pointed, less than 1/4 of snout-vent length (up

1/5 in males; up 1/6 in females). Granular supraorbital semicircles absent. Longitudinal fold on the lateral neck not evident. A gular fold very evident, with several enlarged mesopterygial scales on its upper borders; other moderate transversal fold recognizable anteriorly. Ear opening round and regular, with granular borders and prominent tympanum. Cephalic lepidosis showing smooth, large and regular plates. Rostral higher than wide, narrower than mental (almost equal in *lacertoides*) and separated from fronto-nasal by nasals; nostrils opening in the posterior border of the nasals; prefrontals, frontal, postfrontals and parietals large and regular; frontal equal to its distance from rostral (generally shorter in *lacertoides*); postfrontals smaller than parietals (generally equal in *lacertoides*). Three supraoculars (the first generally reduced in this species), with diminute black granuli in the posterior corner of the third; seven irregular supra ciliaries; eyelids well developed, the lower with several smooth scales; 2-3 suborbitals; 9-7 supralabials, the first four enlarged. Mental wider than high; six infralabials; two diverging rows of four large postmentals each, being the first two coalescent. Temporal region granular, with few enlarged scales on its upper and lower borders; 2-3 small scale rows in the nuchal region. Dorsal scales granular, very small: 8 ventral scale rows. Four large cloacal plates, encircled by small polygonal scales. Few large, imbricate, smooth scales on arm and forearm, on femur and tibia, surrounded by granular scales. Ten femoral pores on each side. Caudal scales strongly carinate, imbricate, dorsally and ventrally. Scales on fingers and toes smooth, imbricate; also smooth subdigital lamellae; small and short nails.

Measurements of the holotype (mm) - Snout/vent 45; head length 10; head width 6.5; distance axilla-groin 23.2; hind leg 24; fore leg 15; 4^o finger lamellae 13-14; 4^o toe lamellae 27-27; supralabials 9-7; infralabials 6-7. *Paratype variation* (mm): the same order, males 39-58.7; 8-12.6; 6-8.2; 17-31.0; 20-33.0; 10-16.8; 12-15; 24-25; 7-9; 6-7; females 44-62; 8.3-12; 6-8.5; 24-34; 23-30.3; 14-15.5; 13-15; 25-26; 8-10; 5-7. Indexes snout-vent/head length 4.50-5.09 in males, and 5.04-5.90 in females; indexes distance axilla-groin/hind leg 0.81-0.97 in males, 1.01-1.23 in females. It means a shorter head and a relatively shorter hind leg. in females, as secondary sex character.

Coloration - Two symmetrical dorso-lateral and lateral white or yellowish bands on a pale brownish ground; a distinct ochre-brown head coloration. The dorsolateral bands dorsally bordered by many irregular squarish black spots (fused in some specimens as a continuous dark brown stripe, confusely bordered internally by a light line); between the dorsolateral and lateral bands many vertical dark marks (often also fused in a wide, uniform dark band); irregular darker spots between the lateral white band and the external plates of the vertebral scale rows. Ventrally whitish with bluish-brown posterior borders of the more external ventral scale rows. A white stripe from the

commissural region of the mouth, below the tympanum, until the forelimb. Tail dorsally brownish, with a darker stripe continuing the dark stripe between the dorsolateral and lateral white bands; ventrally whitish. White longitudinal lines on femur and tibia, irregular and broken white line on arms and forearms. Very little individual variation: a quite homeomorphic species, for all its Córdoba populations.

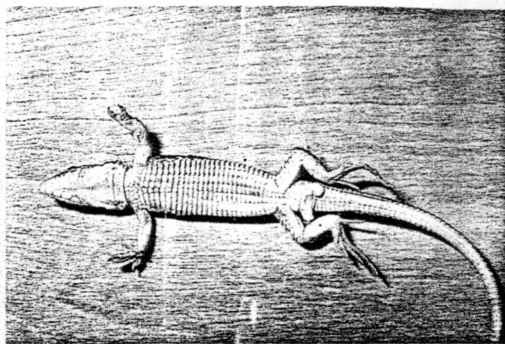
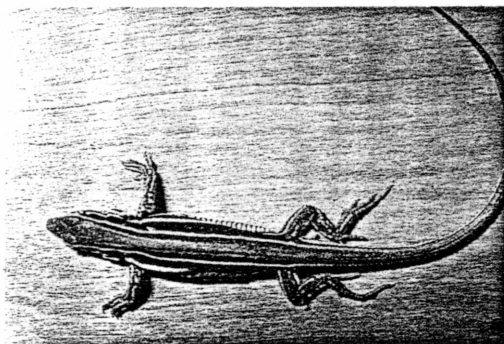
Ecological remarks - A rather secretive species of *Cnemidophorus*, found under stones in the lower wet slopes of the "sierras", sheltered by moderate, cylindrical hollows.

COMMENTARIES AND DISCUSSION

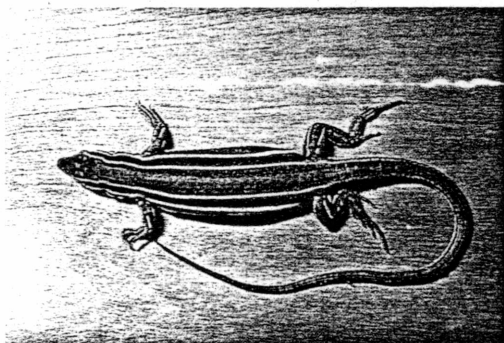
For this slender Central Córdoba form, a clear cut geographical isolation may be pointed out from any other known population of *Cnemidophorus lacertoides*, to which it was formerly tentatively referred. The scarce available samples from Achiras (33° 13' South lat.) are indistinguishable from the Sierra de la Ventana samples: they represent up to date the northernmost Argentine population of *Cnemidophorus lacertoides*. No cline is evident between the southern Argentine populations of *lacertoides* from the ancient wasted embossments of the so-called Ventania and the far northeastern populations of Salta and Jujuy, formerly described by Peracca (1893) as *Cnemidophorus leachei* and lately synonymized with *lacertoides* (Peters and Donoso Barros, 1959). However, the specific status of *leachei* was again recognized (Gallardo: unpubl. data), although without a conclusive argumentation (cf. Williams and Tedesco, 1985).

From the Tolumba population of *Cnemidophorus serranus* and the northwestern populations of the *lacertoides* species group referred to *leachei* a wide gap of some 800 km in latitude extends. Only populations of *C. ocellifer* are there found and ecological barriers may be stressed (salt flats of Salinas Grandes). It is suggestive of some ancient paleogeographic disruptive factor (marine ingression, e.g.), and a further invasive dispersion of eastern more adaptive elements such as *ocellifer* could be postulated.

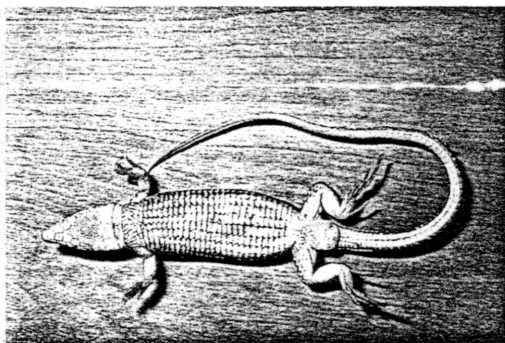
Local speciation processes along the longitudinal relief of the Sierras of Córdoba could be taken into account, having in mind the present composition of its herpetofauna. As well as in the case of *Cnemidophorus serranus*, a new peculiar partenogenetic or unisexual species of *Teius* from the Punilla can be now considered (Avila and Martori: in press). The ecological roots of such a evolutionary trends in teiid populations from this area need of course a further and more detailed research.



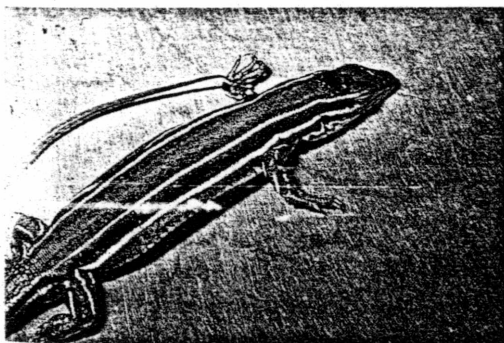
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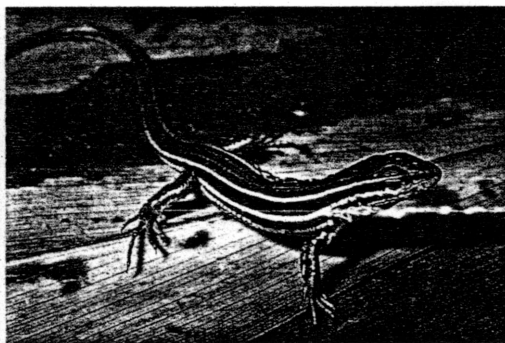
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- 1 - *Cnemidophorus serranus* Cei and Martori, 1990. Male specimen from Ichu Cruz, Dep. Punilla, Córdoba prov., Argentina. Col. Blendinger, 24-XI-1987: Holotype (FML.IH-002053-1).
- 2 - The same specimen: ventral view.
- 3 - *Cnemidophorus serranus*, female specimen from the same locality, same data: Paratype (FML.IH-002053-2).
- 4 - The same specimen: ventral view.
- 5 - The same female specimen, augmented to show the color pattern.
- 6 - *Cnemidophorus serranus*: A male living specimen (paratype) from Sierra de Tolumba, 500-600 m, Córdoba prov.: 6-III-1990.

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RIASSUNTO

Significativi caratteri morfologici permettono di stabilire un nuovo e proprio *status* tassonomico per le popolazioni di *Cnemidophorus* del gruppo *lacertoides* disperse sui rilievi orientali delle "sierras" di Córdoba, da Tolumba al Departamento de Punilla. Le popolazioni argentine più settentrionali di *Cnemidophorus lacertoides* Duméril e Bibrón 1839 si trovano sulle colline di Achiras, ad ovest di Río Cuarto e verso il nord. Al di là della Sierra de Tolumba una vasta area arida, a fisionomia "chaqueña" e largamente colonizzata da *Cnemidophorus ocellifer*, rappresenta una barriera ecologica che separa questo *Cnemidophorus* sp. nov. dalle popolazioni settentrionali estreme considerate da Peracca come *C. leachei* (1897).

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