



A New *Lepidoblepharis* (Squamata: Gekkonidae) from the Paraguaná Peninsula, Venezuela, with Comments on Its Conservation Status

Allan L. Markezich; Donald C. Taphorn

Herpetologica, Vol. 50, No. 1. (Mar., 1994), pp. 7-14.

Stable URL:

<http://links.jstor.org/sici?sici=0018-0831%28199403%2950%3A1%3C7%3AANL%28GF%3E2.0.CO%3B2-6>

Herpetologica is currently published by Herpetologists' League.

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/about/terms.html>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/journals/herpetologists.html>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

The JSTOR Archive is a trusted digital repository providing for long-term preservation and access to leading academic journals and scholarly literature from around the world. The Archive is supported by libraries, scholarly societies, publishers, and foundations. It is an initiative of JSTOR, a not-for-profit organization with a mission to help the scholarly community take advantage of advances in technology. For more information regarding JSTOR, please contact support@jstor.org.

- A. Graham (Ed.), *Vegetation and Vegetational History of Northern Latin America*. Elsevier Scientific Publishing Co., Amsterdam.
- CAMPBELL, J. A. 1982. A new species of *Abronia* (Sauria: Anguillidae) from the Sierra Juárez, Oaxaca, Mexico. *Herpetologica* 38:355-361.
- . 1984. A new species of *Abronia* (Sauria: Anguillidae), with comments on the herpetogeography of the highlands of southern Mexico. *Herpetologica* 40:373-381.
- CAMPBELL, J. A., AND D. R. FROST. 1993. Anguillid lizards of the genus *Abronia*: Revisionary notes on the species of Nuclear Central America and adjacent Mexico, descriptions of four additional species, with a phylogenetic hypothesis for the genus and an identification key. *Bull. Am. Mus. Nat. Hist.* 216: 1-121.
- GOOD, D. A. 1988. Phylogenetic relationships among Gerrhonotine lizards. *Univ. California Publ. Zool.* 121:1-139.
- SMITH, H. M., AND R. B. SMITH. 1981. Another epiphytic alligator lizard (*Abronia*) from Mexico. *Bull. Maryland Herpetol. Soc.* 17:51-60.
- TIHEN, J. A. 1949. The genera of gerrhonotine lizards. *Am. Midl. Nat.* 41:580-601.
- . 1954. Gerrhonotine lizards recently added to the American Museum collection, with further revisions of the genus *Abronia*. *Am. Mus. Novit.* 1687:1-26.

Accepted: 25 February 1993
Associate Editor: Linda Trueb

Herpetologica, 50(1), 1994, 7-14
© 1994 by The Herpetologists' League, Inc.

A NEW *LEPIDOBLEPHARIS* (SQUAMATA: GEKKONIDAE) FROM THE PARAGUANÁ PENINSULA, VENEZUELA, WITH COMMENTS ON ITS CONSERVATION STATUS

ALLAN L. MARKEZICH¹ AND DONALD C. TAPHORN²

¹Department of Natural Sciences and Engineering,
Black Hawk College, Moline, IL 61265, USA

²Donald C. Taphorn, Museo de Ciencias Naturales,
UNELLEZ, Guanare, Estado Portuguesa 3310, Venezuela

ABSTRACT: *Lepidoblepharis montecanoensis* is a small, short-toed species from relictual areas of tropical dry forest on the semiarid Paraguaná Peninsula, Estado Falcón, Venezuela. It represents the first species of *Lepidoblepharis* reported from Venezuela and the first endemic reptile recorded from the Paraguaná Peninsula. It is distinct from other short-toed *Lepidoblepharis* by character combinations involving snout and chin scutellation, dorsal scale morphology, and its relatively featureless color pattern.

Key words: Reptilia; Squamata; Gekkonidae; Sphaerodactylinae; *Lepidoblepharis montecanoensis*; Venezuela; Paraguaná

Sphaerodactylinae geckos of the genus *Lepidoblepharis* Peracca are small, secretive neotropical lizards that live on the ground in a variety of habitats and environments ranging from lowland rain forest to semiarid coastal areas and are characterized by the presence of six scales in the claw sheath. Scutellation on the snout and chin region, number of subdigital lamellae beneath the fourth toe, dorsal body scale morphology, and various features of color pattern are characters that have proved useful in the systematics of this genus. Recent increased herpetological work in South

America has broadened our understanding of the genus as four species have been described over the past 10 yr, increasing the number of known species to 15 (Ayala and Castro, 1983; Ayala and Serna, 1986; Kluge, 1991; Lamar, 1985; Miyata, 1985). Two species, *L. microlepis* (Noble) and *L. oxycephalus* (Werner), are problematic; clarification of their status likely will require additional material (Lamar, 1985; Vanzolini, 1978). *Lepidoblepharis* appears to have radiated in northwestern South America (Vanzolini, 1968) as at least 11 species occur in Colombia, and two, *L.*

sanctaemartae (Ruthven) and *L. miyatai* Lamar, occur in the dry semiarid coastal regions of that country (Lamar, 1985). No species has been recorded from Venezuela.

During a herpetofaunal survey of a small relictual biological reserve on the semiarid Paraguaná Peninsula of northwestern Venezuela, an area containing several endemic vertebrates and plants, another *Lepidoblepharis* has been discovered. This represents the first member of the genus reported from Venezuela and the first endemic reptile from Paraguaná.

MATERIALS AND METHODS

Specimens representing 13 species of *Lepidoblepharis* were examined for comparative purposes (Appendix I). The following abbreviations are used: FMNH (Field Museum of Natural History), MCNG (Museo de Ciencias Naturales Guanare, Estado Portuguesa, Venezuela), MCZ (Museum of Comparative Zoology), USNM (United States National Museum), UTA (University of Texas at Arlington, Vertebrate Collection), SVL (snout-vent length), TL (tail length).

In honor of its biologically diverse, threatened locality, the Reserva Biológica de Monte Cano, we propose the following name for this gecko:

Lepidoblepharis montecanoensis sp. nov.
Fig. 1

Holotype.—An adult male, 19 mm SVL, 17.5 mm TL, MCNG 1234, collected by A. L. Markezich on 10 December 1990 in the Reserva Biológica de Monte Cano (11°56'–11°58' N, 69°56'–70°01' W), 3–8 km W Pueblo Nuevo, Península de Paraguaná, Estado Falcón, Venezuela at approximately 150 m elevation in tropical dry forest.

Paratypes.—Two adult and one juvenile males and one adult female from the same locality: MCZ 175913 collected by A. L. and M. J. Markezich on 2 July 1989; MCNG 1188 collected by A. L. Markezich and D. C. Taphorn on 30 November 1990; USNM 318458 (juvenile) collected by A. L. and M. J. Markezich on 7 July 1991; MCNG 1212 (gravid female) collected by A. L. Markezich on 3 December 1990. Two



FIG. 1.—Holotype of *Lepidoblepharis montecanoensis* (MCNG 1234).

additional paratypes collected by A. L. Markezich on the Península de Paraguaná: MCNG 1445, a juvenile female from the vicinity of Cueva Piedra Honda (11°55' N, 69°59' W) on 1 August 1992; UTA 32500, a gravid female collected 1.5 km S Miraca on 2 August 1992.

Diagnosis.—A diminutive *Lepidoblepharis* with the following characters: 8–10 lamellae beneath the fourth toe; dorsal and lateral body scales conoid at midpoint of axilla-groin; escutcheon present in males; snout short; one large spade-shaped or round internasal filling prominent indentation on posterior rostral border (Figs. 2A, 3A); mental large with straight posterior edge and without cleft, followed by three (rarely two) large anterior postmentals (Fig. 3C); 22 or less scales across snout at 1st/2nd supralabial suture; lacks arcuate band on head and bold color pattern.

Lepidoblepharis montecanoensis is distinct from its closest congener, *L. miyatai*, in having one internasal rather than two, a prominent indentation, absent in *miyatai*, on posterior rostral border (Fig. 3A,B), two or three rather than four anterior postmentals (Fig. 3C,D), an escutcheon in males, and in lacking both an arcuate cream band (i.e., a light band in the shape of a “U” or “W” on posterodorsal aspect of head) and bold dorsal color pattern consisting of dark markings on a light background characteristic of *L. miyatai*.

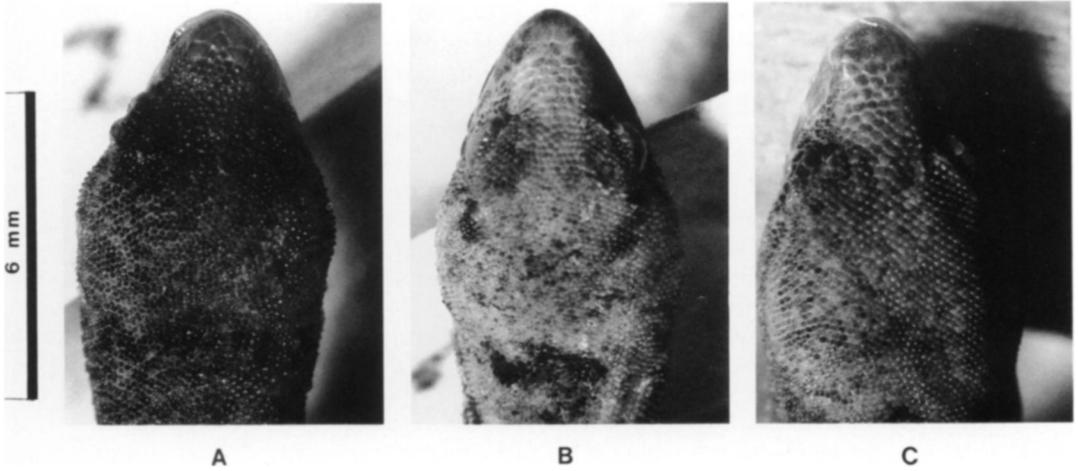


FIG. 2.—Dorsal view of head of (A) holotype of *Lepidoblepharis montecanoensis* (MCNG 1234), (B) paratype of *Lepidoblepharis miyatai* (UTA 11005; Ancón Guairaca, Dept. Magdalena, Colombia), and (C) a specimen of *Lepidoblepharis sanctaemartae* (FMNH 165951; Finca “el Arañar”, Dept. Magdalena, Colombia).

Distinct from other short-toed (i.e., 10 or less subdigital lamellae beneath fourth toe) *Lepidoblepharis* by additional features: from *L. peraccae* in lacking both distinctly broadened subdigital lamellae under fourth toe and a strongly concave mental border; from *L. sanctaemartae* in having conoid rather than flat, imbricate dorsal and lateral scales; and from *L. williamsi* in having a straight posterior mental border and lacking a horseshoe-shaped rostral prominence.

Also distinct from various long-toed species (i.e., 11 or more subdigital lamellae beneath the fourth toe), *L. colombianus*, *duolepis*, *festae*, *grandis*, *heyerorum*, *intermedius*, *ruthveni*, and *xanthostigma* by having 10 or less subdigital lamellae. Distinct from *L. buchwaldi* (9–11 subdigital lamellae counted in series examined) by

lacking a mental cleft and posterior concave mental border.

Description of holotype.—Rostral large (Figs. 2A, 3A) with a dorsal medial cleft extending anteriorly from large medial posterior concave indentation; top of rostral in area of cleft flattened without horseshoe-shaped prominence; rostral bordered posteriorly by one large supranasal on each side and one large spade-shaped internasal filling much of posterior rostral concavity; one-half of internasal extending anteriorly past anterior supranasal borders; postero-lateral edges of internasal in narrow contact with supranasals; two large flat granules contacting posterior internasal margin; granules on top of snout 3–5 times larger than those in interocular area and on lateral aspect of snout; 22 granules across snout at level of 1st/2nd supralabial suture; ros-

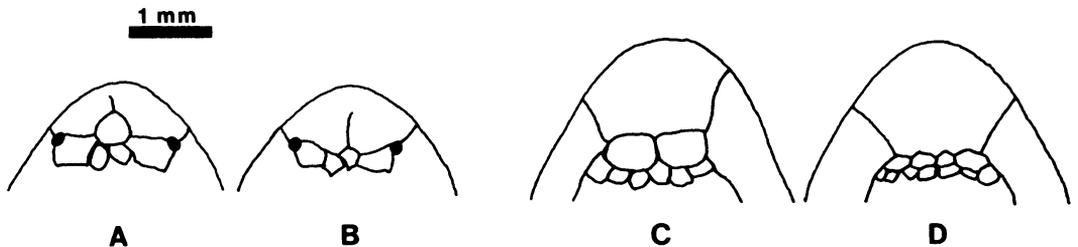


FIG. 3.—(A) Rostral area and (C) chin of holotype of *Lepidoblepharis montecanoensis* (MCNG 1234) and same (B = rostral area; D = chin) of holotype of *Lepidoblepharis miyatai* (UTA 11004).

tral slightly indented by nostril; one left (L) two right (R) small postnasals; four (L) three (R) supralabials with third beneath center of eye; superciliary flaps with four enlarged scales, third being largest. Mental large, lacking cleft, with straight transverse posterior margin bordered by two anterior postmentals (Fig. 3C); granules posterior to postmentals and those bordering infralabials only slightly larger than granules in medial and posterior gular area; four infralabials; suture between mental and first infralabial in line with first supralabial/rostral suture.

Dorsal body scales conoid with apex of each scale almost vertical in neck (with respect to body surface), somewhat more acute in mid-axilla-groin region, and pointed posteriorly at 45° or less in pre-sacral area; scales slightly larger on posterior trunk than on anterior trunk and grading sharply into flat imbricate scales at base of tail; imbricate scales on dorsal caudal surface equal in size from tail base to tip and on proximal ventral caudal surface slightly larger than those distally; ventrals on trunk flat, smooth, imbricate, and arranged in 19 diagonal rows at mid-axilla-groin and 46 transverse rows from gular region to vent. Escutcheon seven scales long and 11 wide (transversely) consisting of paler and thickened ventrals present in preanal area. Forelimb with small conoid scales on posteroventral brachial and ventrolateral antebrachial surface; remaining forelimb and carpal surfaces covered with flat imbricate to subimbricate scales; subdigital lamellae (L) 3-6-7-7-5. Hind limb with conoid granules on posteroventral femoral and tibial surfaces with remaining surfaces covered with flat imbricate to subimbricate scales; subdigital lamellae 3-6-8-9-8 (L) and 3-7-7-9-7 (R).

Color of holotype in preservative.—Top of head pale brown with sparse, dark brown flecks on postorbital and parietal areas, lacking a light arcuate band. Poorly defined lateral dark brown stripe extending from eye anteriorly to posterior margin of supranasal; faint, thin, pale postorbital stripe. Supralabials pale brown with sparse dark brown flecks. Throat and venter cream; lateral gular region with 3–4 nar-

row faint dark brown bands 2–3 scales wide extending posteriorly and ventrally from posteriormost infralabial and corner of mouth and disappearing in gular region.

Dorsum pale brown, with dark and faint grayish cream flecks and small cream spots (maximum diameter three granules) forming no recognizable pattern with largest occurring posteriorly in sacral region; poorly defined dorsolateral grayish cream stripe of 3–4 granules wide extending from postorbital bar to 2 mm beyond vent on tail, becoming more pronounced in posterior trunk and sacral areas; narrower, less pronounced grayish cream lateral stripe extending from gular region and more discernible posteriorly where it is immediately dorsal to femoral insertion, also extending a short distance onto tail; rest of tail except tip uniform pale-brown above and cream below; tip cream with a thin (two scales wide) brown band directly anterior to it. Dorsal sacral region with two short, narrow dark brown bars. Exposed forelimb surfaces same ground color as dorsum with dark brown flecking and grayish cream spotting and hidden surfaces cream; hind limb similar, except for a bold transverse brown bar on cream background on posterior femoral surface.

Color of holotype in life.—Field notes and color photographs of the holotype indicate a cephalic and dorsal body color pattern which differs slightly from that in alcohol. A darker, medium-brown ground color is apparent with slightly more contrast between the pale color pattern elements and brown ground color (Fig. 1). The tail appears a reddish brown in contrast to the pale-brown in preservative, and the tip is a light orange-brown.

Variation in type series.—Variation of size and meristic characters of *Lepidoblepharis montecanoensis* is presented in Table 1. Other aspects of variation are: subdigital lamellae of fourth toe on left/right sides (number of specimens) 10/10 (3), 9/10 (2), 9/9 (1), 9/8 (1); supralabials 4/4 (6), 3/4 (1); postnasals 2/2 (1), 2/1 (1), 1/2 (4), 1/1 (1). The six paratypes have three subequal anterior postmentals as opposed to two observed in the holotype. One specimen (MCZ 175913) has a smaller inter-

TABLE 1.—Variation of size and meristic characters in the type series of *Lepidoblepharis montecanoensis*.

Character	n	Range	\bar{x}
Snout-vent length (mm)			
Adults	5	18.0–21.0	19.5
Juveniles	2	11.0–14.5	12.75
Tail length (mm)			
Adults	4*	12.5–17.5	15.1
Juveniles	2	9.0–11.0	10.0
Tail length/snout-vent length in adults			
Males	3	0.81–0.92	0.85
Females	2	0.60–0.74	0.67
Scales across snout at 2nd supralabial			
	7	20–22	20.6
Ventrals in			
Diagonal rows	7	17–20	18.3
Transverse rows	7	43–46	44.4

*MCNG 1188 excluded because of regenerated tail.

nasal than the other six. Another (UTA 32500) exhibits two rostral clefts approximately symmetrical with respect to rostral midline. All other meristic features as in holotype.

Color pattern variation of the five adults (in alcohol) is relatively minor and mainly related to differences in degree of light and dark markings on the pale brown ground color. Dorsolateral and lateral grayish cream stripes are most evident in the holotype, very faint in MCNG 1212, and only discernible in presacral and sacral areas in the other three specimens. The degree of postfemoral markings is related to the amount of dark pigment in the specimen; MCZ 175913 has the weakest postfemoral markings and least amount of dark pigment on the body, appearing almost uniform pale brown. The cream tail tip and thin dark band directly anterior to it are most evident in the holotype and two paratypes (MCNG 1212, UTA 32500) and barely discernible in the others. MCNG 1188 displays a few small dark irregular spots on the lateral tail surface near the base.

Sexual dichromatism in life or preservative is absent in *Lepidoblepharis montecanoensis* but ontogenetic variation in color pattern exists in that juveniles are significantly darker in ground color than

adults. The smallest specimen (USNM 318458) has more and larger grayish cream spots on dorsal body and appendicular surfaces and bolder gular stripes than adults. The other (MCNG 1455) appears a dark uniform brown.

One adult specimen, MCZ 175913, collected in an atypical open sunlight situation (see below), was patternless and uniformly black. After several months in preservative, it faded to the typical pale brown ground color. Such dramatic color change was not observed in others, but several exhibited minor changes in the degree of shading of the ground color in life; UTA 32500, for example, was a rusty brown ground color when collected and several hours later lost the rust tint and appeared pale brown.

COMPARISONS AND COMMENTS

No modern comprehensive revisionary study exists on the genus *Lepidoblepharis*. Vanzolini (1968, 1978) presented biogeographical information and comparisons of Brazilian species, and Ayala and Castro (1983) provided a character summary of eight species from Colombia.

With respect to the two short-toed species of *Lepidoblepharis* known from northern Colombia, *L. montecanoensis* appears most similar to *L. miyatai* Lamar of the Departamento de Magdalena, Colombia. With *L. miyatai*, it shares a diminutive size, low supralabial number, posterior mental margin shape, absence of mental cleft, a similar range of longitudinal ventral rows, and an orange (or pale) tail tip. The two species are very distinct, as in addition to several diagnostic features (see above and Figs. 2A,B, 3), smaller dorsal body scales and lack of sexual dichromatism also distinguish *L. montecanoensis* from *L. miyatai*. The dorsal color pattern of the latter is bold, consisting of a light ground color with dark bands and/or spots, contrasting sharply with the almost uniform appearance of *L. montecanoensis* (Fig. 1). They are allopatric, and the type localities are 475 km apart; *Lepidoblepharis* has not been found in a geographically intermediate area, the Sierra de Perijá of Venezuela, despite past col-

lecting efforts (Alemán, 1953). *Lepidoblepharis montecanoensis* shares fewer external characters with the other short-toed Colombian species, *Lepidoblepharis sanctaemartae* (Ruthven) (Fig. 2C) which attains a larger size, has flat imbricate dorsal body scales, a different mental border, mental cleft, and a distinct light arcuate dorsal cephalic band. A progression in modal number of subdigital lamellae beneath the fourth toe is evident in *L. sanctaemartae* (8), *L. miyatai* (9), and *L. montecanoensis* (10). The posterior rostral area (Figs. 2A, 3A) also distinguishes *L. montecanoensis* from the other two species (Figs. 2B,C, 3B).

Literature descriptions of the two problematic species in the genus, *Lepidoblepharis microlepis* (Noble) and *L. oxycephalus* (Werner), and consideration of their type localities indicate no close affinities with *L. montecanoensis*. The former is from the Quesada River, a trans-Andean locality in northwestern Colombia, and Parker (1926) stated that the type has >10 subdigital lamellae beneath the fourth toe and a concave posterior mental border. Two characters, a dorsal rostral prominence and two postmentals separated by granules, mentioned in the original description of *L. oxycephalus*, are absent in *L. montecanoensis*. The type locality of the former is "Ecuador" (Werner, 1894), and Vanzolini (1978) suggested that *L. oxycephalus* be considered a species inquirenda, as the type may be lost.

Comparison of specimens of *Lepidoblepharis* with literature descriptions indicate the need for a standardized method of dorsal scale morphology description. Lamar (1985) described dorsal and lateral trunk scales of *L. miyatai* as both "flat and overlapping" (p. 128) and "slightly swollen and subimbricate" (p. 130). Comparison of dorsal body scales of the holotype (UTA 11004) and paratype (UTA 11005) of *L. miyatai* with the series of *L. montecanoensis* reveals a distinct flatter scale morphology in *L. miyatai*. However, the scales of *L. miyatai* appear conoid with apices approximately perpendicular to the body surface in the dorsal neck and scapular region and progressively become flatter to-

ward the sacrum. A progressive difference in scale morphology is also apparent in the holotype of *L. montecanoensis* with regional differences in the orientation of the scale apex; apices become progressively pointed more posteriorly and scales in the presacral and sacral region appear somewhat flattened (see holotype description). Two other specimens in the type series of *L. montecanoensis* (MCZ 175913, USNM 318458) do not exhibit this morphological gradient along the body, with all scales appearing conoid, while the other types exhibit this to varying degrees. Similar variation is also evident in the series of *L. buchwaldi* examined (Appendix I). Such variation suggests the utilization of "subimbricate" or "conoid" dorsal scale morphological characters for species differences should be treated with caution. It is proposed that (1) future works describe scales on the dorsum of the neck/scapular, the midpoint of the axilla-groin, and presacral areas and (2) short descriptions (i.e., keys) report dorsal scale morphology in the midpoint of the axilla-groin.

DISTRIBUTION, ECOLOGY, AND CONSERVATION STATUS

Lepidoblepharis montecanoensis is known only from small relictual forested areas on the semiarid Paraguana Peninsula. Most specimens were collected in the Fila de Monte Cano area (100–240 m in elevation), a large portion of which is an 1800 ha biological reserve (600 ha core area) presently under the stewardship of BIOMA, a private Venezuelan conservation organization. One specimen was collected near Miraca, approximately 15 km ESE of Monte Cano, at a creekbed narrowly bordered by a 15-ha forest.

Vegetational structure in the Monte Cano area is heterogeneous and related to local topographic and microclimatic factors (Bevilacqua et al., 1988a,b) contrasting sharply with the flatland desert scrub dominating most of the peninsula. Tropical dry forest, very dry tropical forest, thorn scrub woodland (Rivero-Blanco and Dixon, 1978), and ecotones between these communities occur in Monte Cano. Despite collecting efforts in these as well as

the flat desert scrub surrounding Monte Cano, *L. montecanoensis* was only found in shaded areas of tropical dry forest communities containing a mixture of evergreen to deciduous species in closed to open canopy. Tree species such as *Beureria cumanensis*, *Astronium graveolus*, and *Melicoccus bijugatus* are common. The typical ground cover is *Bromelia humilis* which often occurs in large dense patches on the forest floor (Bevilacqua et al., 1988b). All specimens were found under small objects of cover such as rocks and bits of tree limbs on flat ground in daylight, and all but one were within or near various narrow stony creekbeds (2–5 m) running through the forest community; the exception (MCZ 175913) was found in July under a board in open thorn scrub woodland near a forest edge. The substrate temperature under the rock harboring UTA 32500 was 28.2 C. When uncovered, most specimens fled in a swift, jerky manner, with exaggerated lateral body movements and tail held vertically, giving a visual impression of a larger animal.

Specimens were more common late in the short Paraguayan wet season which extends from mid-October to mid-December (Walter and Medina, 1971) than in July during the dry season. Only one specimen was seen on each of two 18-day collecting trips (48 human-hours of collecting in forest habitat) in July 1989 and 1991, while three others in the type series plus two more observed and uncollected were found during a trip in late November–early December 1990 (60 human-hours collecting).

A female (MCNG 1212) collected late in the wet season contained one large egg (6 × 3.5 mm); another (UTA 32500) collected in August contained a smaller egg (3.2 mm, round).

The conservation status of *L. montecanoensis* is marginal at best. Its greatest immediate threat is habitat fragmentation resulting from goat and cattle intrusion into the reserve. Such fragmentation leads to a high probability of extinction in species that are relatively sedentary and specialized in habitat requirements (Wiens, 1985). Our field observations indicate that

Lepidoblepharis montecanoensis is not abundant, and it is likely that its annual reproductive rate is low as it displays the characteristic low fecundity of sphaerodactylines (i.e., one egg per clutch). The duration of its breeding season may be limited by the short wet season of the Paraguayan Peninsula, as duration of breeding seasons of several other reptiles inhabiting dry areas of the tropics is related to periods of maximum rainfall (Fitch, 1970). Population resilience of species with low reproductive potential is similarly low, also increasing chances of extinction (Pimm, 1991). While only scant herpetological collections of nearby mainland Falcón exist (e.g., Shreve, 1947), it is likely that *L. montecanoensis* is a Paraguayan endemic, as are several other endemic vertebrates (Romero, 1989) and plants (Bevilacqua et al., 1988a). These considerations indicate that *Lepidoblepharis montecanoensis* should be given the highest conservation priority.

RESUMEN

Lepidoblepharis montecanoensis es una especie muy pequeña con dedos del pie cortos que se encuentra en una área amenazada de bosque seco tropical de la península semiárida de Paraguayaná, Estado Falcón, Venezuela. Se representa la primera especie de *Lepidoblepharis* reportada de Venezuela y el primer reptil endémico registrado de la Península de Paraguayaná. Se diferencia de otras *Lepidoblepharis* con dedos del pie cortos por las combinaciones de caracteres de morfología de escama dorsal, otros caracteres de escamación, y su relativamente modela de color lisa.

Acknowledgments.—We thank the PROFAUNA division of the Venezuelan Ministerio del Ambiente y de los Recursos Naturales Renovables (MARNR), Caracas, for assistance and issuance of collecting permits to ALM. A. Romero and D. Bracho of BIOMA furnished information about the Monte Cano Reserve and access to collecting sites; E. Cuauero and T. Lugo of BIOMA and M. J. Markezich provided valuable assistance in the field. We are grateful to the following curators of collections for loans of comparative material: J. A. Campbell (UTA, University of Texas at Arlington, Vertebrate Collection), H. K. Voris (FMNH, Field Museum of Natural History), E. E. Williams (MCZ, Museum of Comparative Zoology), and G. R.

Zug (USNM, United States National Museum). We especially appreciate the additional help furnished by E. E. Williams. Finally, we thank L. L. Grismer and W. W. Lamar for critically reviewing the manuscript.

LITERATURE CITED

- ALEMÁN, G. C. 1953. Contribución al estudio de los reptiles y batracios de la Sierra de Perijá. Mem. Soc. Cienc. Nat. La Salle (Caracas) 13:205-225.
- AYALA, S. C., AND F. CASTRO. 1983. Dos nuevos gecos (Sauria: Gekkonidae, Sphaerodactylinae) para Colombia: *Lepidoblepharis xanthostigma* (Noble) y descripción de una nueva especie. *Caldasia* XIII: 743-753.
- AYALA, S. C., AND M. A. SERNA. 1986. Una nueva especie de *Lepidoblepharis* (Sauria, Gekkonidae) de la Cordillera Central de Colombia. *Caldasia* XV: 649-654.
- BEVILACQUA, M. R., R. GÓMEZ, AND D. BRACHO. 1988a. Caracterización fisionómica y florística de la Reserva Biológica de Monte Cano, Península de Paraguaná, Estado Falcón. IX Congreso Venezolano de Botánica, Caracas, Venezuela.
- BEVILACQUA, M. R., R. RAMÍREZ, AND A. PAOLILLO O. 1988b. Caracterización Biótica de la Reserva Biológica de Monte Cano, Península de Paraguaná, Estado Falcón. Primer Análisis. Report of BIOMA, Caracas.
- FITCH, H. S. 1970. Reproductive cycles of lizards and snakes. Univ. Kansas Mus. Nat. Hist., Misc. Publ. 52:1-247.
- KLUGE, A. G. 1991. Checklist of gekkonid lizards. Smithsonian Herpetol. Infor. Serv. 85:2-35.
- LAMAR, W. W. 1985. A new *Lepidoblepharis* (Sauria: Gekkonidae) from the north coast of Colombia. *Herpetologica* 41:128-132.
- MIYATA, K. 1985. A new *Lepidoblepharis* from the Pacific slope of the Ecuadorian Andes (Sauria: Gekkonidae). *Herpetologica* 41:121-126.
- PARKER, H. W. 1926. The neotropical lizards of the genera *Lepidoblepharis*, *Lathrogecko*, and *Sphaerodactylus*, with the description of a new genus. *Ann. Mag. Nat. Hist. ser. 9*, 17:291-301.
- PIMM, S. L. 1991. The Balance of Nature? Ecological Issues in the Conservation of Species and Communities. University of Chicago Press, Chicago.
- RIVERO-BLANCO, C., AND J. R. DIXON. 1978. Origin and distribution of the herpetofauna of the dry lowland regions of northern South America. Pp. 281-298. In W. E. Duellman (Ed.), *The South American Herpetofauna: Its Origin, Evolution, and Dispersal*. Mus. Nat. Hist., Univ. Kansas, Monograph 7.
- ROMERO, A. 1989. Una isla ecológica llamada Paraguaná. *Natura* 85:27-29.
- SHREVE, B. 1947. On Venezuelan reptiles and amphibians collected by Dr. H. G. Kugler. *Bull. Mus. Comp. Zool.* 99:517-537.
- VANZOLINI, P. E. 1968. Geography of the South American Gekkonidae (Sauria). *Arq. Zool. S. Paulo* 17:85-112.
- . 1978. *Lepidoblepharis* in Amazonia (Sauria, Gekkonidae). *Papéis Avulsos Zool.*, S. Paulo 31: 203-211.
- WALTER, H., AND E. MEDINA. 1971. Caracterización climática de Venezuela sobre la base de climodiagramas de estaciones particulares. *Bol. Soc. Venezolano Cien. Nat.* 119/120:211-240.
- WERNER, F. 1894. *Herpetologische Nova*. *Zool. Anz.* 17 (461):410-415.
- WIENS, J. A. 1985. Vertebrate responses to environmental patchiness in arid and semiarid ecosystems. Pp. 169-193. In S. T. A. Pickett and P. S. White (Eds.), *The Ecology of Natural Disturbance and Patch Dynamics*. Academic Press, New York.

Accepted: 27 March 1993

Associate Editor: David Cannatella

APPENDIX I

Specimens Examined

- Lepidoblepharis buchwaldi*.—Ecuador: MCZ 151696, Pichincha, 46 km N. Quevedo; MCZ 151697-99, Pichincha, Centro Científico Río Palenque; USNM 285438, Pichincha, 47 km S of Santo Domingo de los Colorados, Centro Científico Río Palenque.
- Lepidoblepharis colombianus*.—Colombia: MCZ 166521, Antioquia, Urrao (La Magdalena).
- Lepidoblepharis duolepis*.—Colombia: MCZ 159597 (holotype), Valle, Río Pance, 3 km above Parque Recreacional Departamental.
- Lepidoblepharis festae*.—Ecuador: USNM 166140, Santiago, Sevilla de Oro and Mendez between Copal.
- Lepidoblepharis grandis*.—Ecuador: FMNH 177434-35 (paratypes), Pichincha, Santo Domingo de los Colorados.
- Lepidoblepharis heyerorum*.—Brazil: USNM 289068, Pará, Reserva Biológica Río Trombetas.
- Lepidoblepharis intermedius*.—Colombia: MCZ 159595, 160150, Cauca, Isla Gorgona; MCZ 160199, Valle, Río Sabaletas, "Piedras".
- Lepidoblepharis miyatai*.—Colombia: UTA 11004 (holotype), UTA 11005 (paratype), Magdalena, Ancón Guairaca.
- Lepidoblepharis montecanoensis*.—Holotype and paratypes.
- Lepidoblepharis peraccae*.—Colombia: USNM 151617, Valle, near Buenaventura.
- Lepidoblepharis ruthveni*.—Ecuador: USNM 286109, Cotopaxi, 9.1 km E of Moraspungo.
- Lepidoblepharis sanctaemartae*.—Colombia: FMNH 165949-62, Magdalena, Finca "el Arañar". Panama: FMNH 170042-45, San Blas Territory, border of Darién; FMNH 170057, Darién, Mangrove Site.
- Lepidoblepharis williamsi*.—Colombia: MCZ 170640 (paratype), Antioquia, San Vicente, La Honda.
- Lepidoblepharis xanthostigma*.—Costa Rica: FMNH 236197, Limón, near Tortuguero.
- Lepidoblepharis* sp.—Colombia: MCZ 154040-41, Amazonas, Puerto Nariño.
- Pseudogonatodes lunulatus*.—Venezuela: MCZ 48891-93, Falcón, Acosta district.