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ICNMHN 16700, 17242 (AA), 17540; *H. bergeri*: KU 162258 (A); *H. chitripoti*: UVC 8249; *H. colymbi-phyllum*: 10585–88, 15992, 15998; *H. eurygnatha*: KU 93225 (A); *H. fleischmanni*: KU 65189–200, 68640

(A), 116442–55, 137347–55; *H. "orientalis"* (Colombia, Depto. Meta): ICNMHN 21238–40; *H. pulveratum*: UVC 9673; *H. uranoscopum*: ICNMHN 23794–95, KU 93231 (A); *H. valerioi*: KU 104328 (A).

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A NEW SPECIES OF LIZARD, GENUS *MICRABLEPHARUS* (SQUAMATA: GYMNOPHTHALMIDAE), FROM BRAZIL

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ABSTRACT: A new species of *Micrablepharus* with the fourth supralabial below the eye, five to eight femoral pores, and four longitudinal white stripes is described from the central Brazilian Cerrados. *Micrablepharus atticolus*, sp. nov., is broadly sympatric with *Micrablepharus maximiliani*. *Micrablepharus glaucurus* and *M. dunni* are considered synonyms of *M. maximiliani*.

Key words: *Micrablepharus atticolus*; New species; Sauria; Gymnophthalmidae; Brazil

THE systematics of gymnophthalmid lizards that lack eyelids have undergone major changes. Boulenger (1885) recognized only two microteiid genera that lack eyelids: *Gymnophthalmus* and *Micrablepharus*. Both were placed with other skink-like microteiids with eyelids in his group IV.

Until recently, *Gymnophthalmus* and *Micrablepharus* were the only known gymnophthalmids that lack eyelids. In the last 10 yr, several new taxa have been described, thereby showing that the radiation of these eyelid-less microteiids is much more diverse than previously known. Among the new taxa are *Nothobachia*, monotypic for the new species *N. ablephara* (Rodrigues, 1984); *Calyptommatus*, for the new species *C. sinebrachiatus*, *C. leirolepis*, and *C. nicterus* (Rodrigues, 1991a); *Psilophthalmus*, monotypic for *P. pae-minosus* (Rodrigues, 1991b); and *Procellosaurinus*, for the new species *P. erythrocercus* and *P. tetradactylus* (Rodrigues, 1991c). Two new species of *Gymnophthalmus* also were described—*G. leucomystax* (Vanzolini and Carvalho, 1991) and *G.*

cryptus (Hoogmoed et al., 1992). *Gymnophthalmus* also was redefined and restricted to the species occurring north of the Amazon, and the new genus *Vanzosaura* described to replace the former *Gymnophthalmus rubricauda* and its junior synonym, *Gymnophthalmus multiscutatus* (Rodrigues, 1991c), from the open habitats south of the Amazon Basin.

Currently, *Micrablepharus* includes the type species *maximiliani* (Reinhardt and Lutken, 1861) and *Micrablepharus dunni* Laurent, 1949 (Peters and Donoso-Barros, 1970). *Micrablepharus glaucurus* Boettger, 1885, the only other name associated with *Micrablepharus*, is considered to be a junior synonym of *M. maximiliani*.

In the process of an on-going study of the phylogenetic relationships of gymnophthalmid lizards that lack eyelids, I borrowed specimens of *Micrablepharus* from most of the Brazilian institutions that included it in their collections. Considering the rarity of these lizards in the literature, I was surprised that I was able to assemble a collection of >200 specimens from 38 localities. It soon became evident

that two different species were included under the name *M. maximiliani*, with one of them being undescribed.

MATERIALS AND METHODS

All data were taken from preserved specimens from the following institutions: MZUSP, Museu de Zoologia, Universidade de São Paulo; MPEG, Museu Paraense Emílio Goeldi; MNRJ, Museu Nacional, Rio de Janeiro; ZUEC, Museu de História Natural, Universidade de Campinas; UFC, Universidade Federal do Ceará; UNB, Universidade de Brasília; SMF, Senckenberg Museum, Frankfurt. Scale nomenclature and scale counts were taken according to Rodrigues (1991c). Snout-vent length (SVL) was measured to the nearest millimeter with a ruler.

Micrablepharus atticolus, sp. nov.

Holotype.—MZUSP 69.671 (Fig. 1), an adult female from Alto Araguaia (Fazenda Bálsamo): Mato Grosso: Brazil, collected by Laurie Vitt on 23 April 1989.

Paratypes.—MZUSP 69.672–69.675, all with the same data as holotype.

Diagnosis.—*Micrablepharus atticolus* is distinguished from *M. maximiliani* (condition in parentheses) by the following characters: (1) fourth supralabial under the eye (fifth); (2) femoral pores present in both sexes, eight in males, 5–7 in females (10–15, males only); and (3) a pair of lateral and dorsolateral, longitudinal, white stripes on the body (lateral pair absent).

Description.—Rostral distinctly visible from above, wider than high; in broad contact with internasal, nasal, and first supralabial. Internasal polygonal; as wide as long; contacting loreal, superciliar, supraocular, and frontal. Prefrontals absent. Frontal longer than wide, widest anteriorly. Frontoparietals two, small; with a short median suture; longer than wide. Interparietal hexagonal, longer than wide; occasionally with rounded posterior border. Supraoculars two; most anterior at least twice as large as posterior and reaching posteriorly to midlevel of diameter of eye. Most posterior supraocular much smaller and wider than frontoparietal. Superciliaries two; first twice as long as second; highest anteriorly.

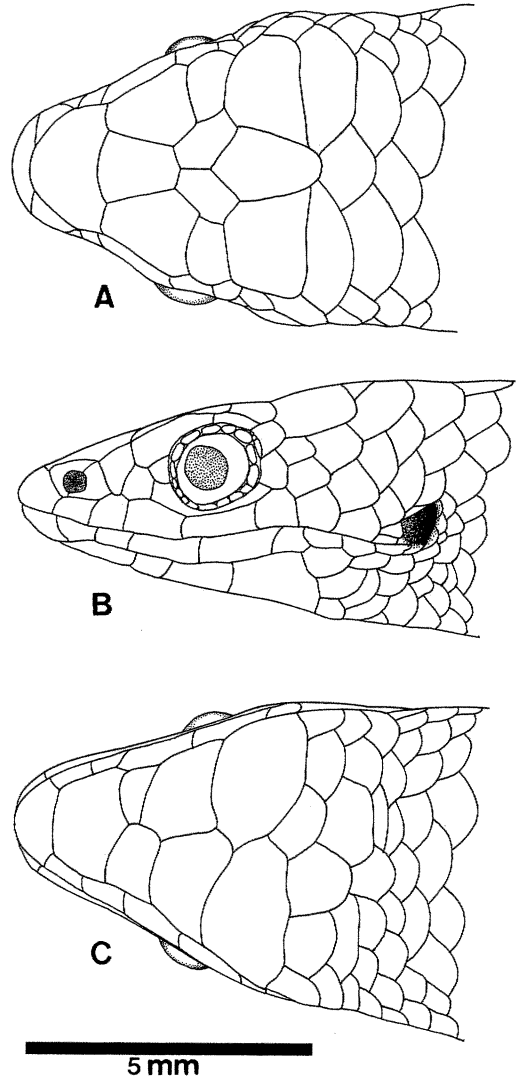


FIG. 1.—*Micrablepharus atticolus*, MZUSP 69.671 (holotype). (A) Dorsal, (B) lateral, and (C) ventral views of the head.

Parietals two, symmetrical; longer than wide; smaller than interparietal.

Nasal pentagonal or subrectangular; entire or semidivided; longer than high; nostril in center of scale. Loreal small, square; infradiagonally followed by smaller frenocular. Supralabials seven; fourth under eye; the fifth highest. Subocular long, narrow; between frenocular and small postocular located above the fifth labial. Temporal scales smooth, cycloid; with sensorial

pits. Eye large; pupil round. Series of small circumorbital granules present around eye. Eyelid transparent immovable; eyelid suture complete; hidden by superciliaries.

Symphysial broad, longer than high; convex anteriorly, concave posteriorly. Postsymphysial almost as long as wide. Three pairs of genials in contact at midline with asymmetrical zig-zag suture; anterior pair smallest, posterior largest. Infralabials seven. Gulars enlarged, smooth, imbricate; in seven longitudinal and 9–12 transverse rows. Interbrachials seven, central one largest. Collar absent. Lateral scales on neck smooth, cycloid, imbricate, as temporals. Dorsals smooth, cycloid, imbricate, identical to ventrals; 16 rows at midbody. Transverse dorsal scale rows 31–34 from interparietal to posterior level of hind limb. Ventrals in 20–26 rows from interbrachial row to anal border. Preanal scales four; median pair of scales largest. Tail complete about 1.6 times SVL. Scales on unregenerated part of tail smooth, imbricate, cycloid; scales on regenerated part of the tail narrower, longer, distinctly lanceolate.

Forelimb with smooth, cycloid scales; scales granular to tuberculate on palm. Inner finger absent; relative sizes of remaining digits: $2 = 5 < 3 \cong 4$. Hind limb with smooth, rhomboidal, imbricate scales, except for posterior face of thighs with smaller, almost granular scales. Sole scales granular to tuberculate. Subdigital lamellae under fourth toe 13–17, single. Toes in order of increasing size: 1-2-5-3-4. Total number of femoral pores eight in males, restricted to proximal third of thighs; femoral pores in females 5–7. SVL of largest male 38 mm; largest female 43 mm.

Dorsal ground color olive-brown to purplish-olive. Conspicuous white dorsolateral stripe, bordered above by narrower black stripe extending from most anterior superciliary to anterior third of tail. Lateral white stripe extending from first supralabial through the ear to tail, bordered below by another black stripe, passing over ear opening. Between these two white stripes, another black stripe extending from lateral face of head to tail. Tail bright blue. Forelimb with two distinct longitudinal stripes, one beginning from the lateral stripe that

covers the ear; between these two light stripes, a larger black stripe with scattered light spots. Hind limb brown with scattered, irregular light spots and light stripe on posterior part of thigh; Venter of thigh immaculate white.

Etymology.—The epithet specific is an adjective that alludes to the nests of the leaf-cutter ants (*Atta laevigata*) where these lizards seek refuge and frequently are found.

Variation.—Although one of the more distinctive features of *Micrablepharus* is the absence of prefrontals, UNB 1083 has a definite left prefrontal and UNB 1399 has a distinct prefrontal on the right. These aberrancies suggest that the prefrontals might have fused to form the large internasal characteristic of *Micrablepharus*.

Remarks.—The first reference to *Micrablepharus maximiliani* in the literature was a misidentification by Wied-Neuwied (1825), who reported a specimen from Mucuri, Bahia, Brasil identified as *Gymnophthalmus quadrilineatus*. This name, which is a synonym of *Gymnophthalmus pleei* from Martinica, was used frequently and inappropriately in the old literature (Vanzolini and Carvalho, 1991). In 1829, Wied illustrated *Gymnophthalmus quadrilineatus* confirming the identity with *Gymnophthalmus maximiliani* of Reinhardt and Luetken (1861) from Maruim in the coast of Sergipe. Boettger (1885) described the genus *Micrablepharus* (type species, *Micrablepharus glaucurus* from “Paraguay”) based on the absence of eyelid and prefrontals. In his catalogue, Boulenger (1885) maintained *Micrablepharus* as valid but he considered *M. glaucurus* to be a synonym of *M. maximiliani*. Other references to *Micrablepharus maximiliani* in the literature report on new distributional or ecological data (Amaral, 1935, 1937; Bertoni, 1913; Bocourt, 1881; Boettger, 1893; Boulenger, 1888, 1890; Burt and Burt, 1933; Goeldi, 1902; Helmich, 1960; Mertens, 1922, 1967; Peracca, 1904; Peters and Donoso-Barros, 1970; Vanzolini et al., 1980; Williams and Vanzolini, 1980). Specimens referred to as *M. maximiliani* by Vitt (1991) and Vitt and Caldwell (1993) actually are *Micrablepharus atticolus*.

I have examined the type of *Micrablepharus glaucurus* (SMF 11774). This specimen is a young female that lacks femoral pores, and has 16 scales around the midbody, 31 dorsals, 11 gulars, and 24 ventrals; the fifth labial is below center of the eye, and the color pattern is well preserved. All features of this specimen indicate that it is *Micrablepharus maximiliani*.

Although the type of *Micrablepharus dunni*, the only specimen of this species so far reported, was unavailable for study, examination of the description and figure by Laurent (1949) suggests that it is synonymous with *M. maximiliani*. Laurent (1949) described *M. dunni* based on the presence of a vestigial, clawless inner finger and the lack of contact between first superciliary and internasal. Both conditions are present in specimens of *M. maximiliani* that I have examined, sometimes asymmetrically in the same individual. The first finger varies from vestigial to absent, as does the relationship between the first superciliary and internasal. Laurent's specimen was labeled "Santa Marta", and he speculated that either Colombia or Brazil was the country of origin. Given that the genus is not known to occur in Colombia, the likely locality is Santa Marta (20°30' S, 41°43' W) in the State of Espírito Santo, Brazil. To my knowledge, the species has not been collected in that state; however, it is possible that it occurs there.

Comparisons.—*Micrablepharus maximiliani* and *M. atticolus* have distinctive color patterns (Fig. 2). The white dorsolateral stripe of *atticolus* extends from the most anterior superciliary to the anterior third of the tail and is bordered above by a characteristic black stripe. The black stripe varies geographically in *M. maximiliani*; it is absent in specimens from northeastern Brazil, but distinct only anterior to the forelimbs in specimens from Mato Grosso, Mato Grosso do Sul, and Goiás. In specimens from the latter areas in central Brazil, the white stripe also is posterior to the forelimbs. In *M. maximiliani*, a broad black or brown lateral stripe extends below the white dorsolateral stripe from the nostril over the ear to the

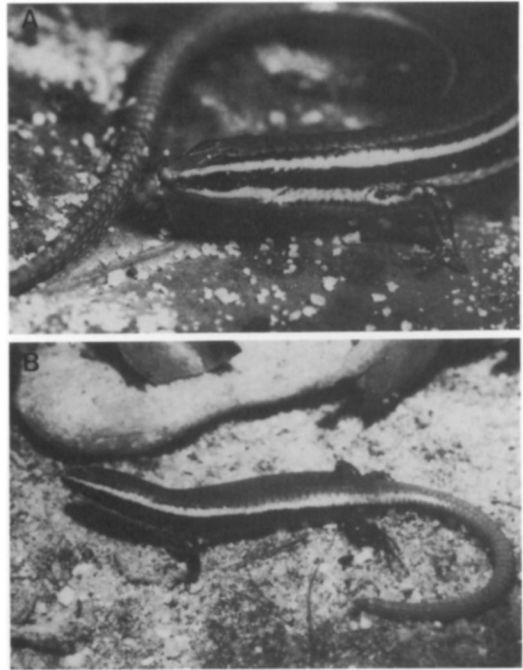


FIG. 2.—(A) *Micrablepharus atticolus* from Santa Rita do Araguaia, Goiás. (B) *Micrablepharus maximiliani* from Barra do Garças, Mato Grosso.

tail; at midbody the stripe merges gradually with the ventral color. In *M. atticolus*, this lateral stripe is narrower and bordered ventrally by a distinct white stripe (absent in *M. maximiliani*) that passes over the ear and extends posteriorly to the first third of the tail, and extends on to the arm and thigh. This black stripe also is bordered by black in *M. atticolus*. Additionally, the supralabials are almost entirely white in *M. atticolus* and mostly brown in *M. maximiliani*. In *M. maximiliani*, the fifth supralabial is below the eye, whereas in *M. atticolus* it is the fourth. In *maximiliani*, femoral pores are restricted to males and vary in number from 10–15 (mode, 12). Both sexes have femoral pores in *M. atticolus*, there are eight in males and 5–8 in females. The two species are similar in body size, and in both, females are slightly larger than males.

Distribution and natural history.—Both species of *Micrablepharus* are terrestrial, diurnal, heliophilic, and active at the hot-

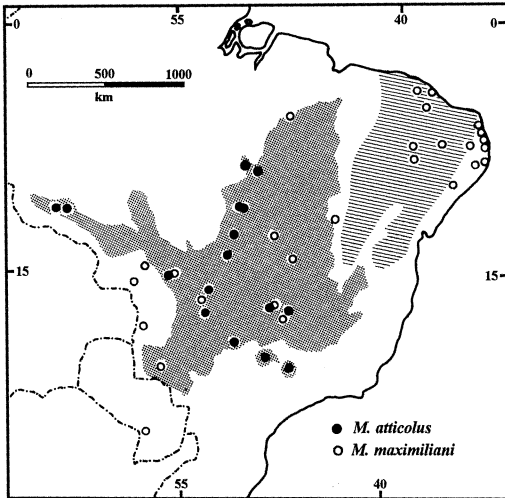


FIG. 3.—Approximate distribution of *Micrablepharus atticolus* and *Micrablepharus maximiliani* in the context of the major open habitats in Brazil; cerrados are stippled and caatingas are crosshatched.

test part of the day, as are most species of gymnophthalmids that lack eyelids. *Micrablepharus maximiliani* is widespread in open habitats from the Caatingas of northeastern Brazil, throughout the Cerrados, to the Pantanal and Paraguay. This wide distribution suggests that the species is ecologically tolerant. I collected some individuals on the ground at João Pessoa in the Atlantic forest of the State of Paraíba at the border of the forest. One lizard was found amidst cactus debris at Junco do Seridó in the caatingas of Paraíba, and another was found active in scattered grasses at Barra do Garças, Mato Grosso, in a cerrado with red sand soils and rock outcrops. A large series of specimens was obtained by Alexandre Araujo at the latter locality in pit-fall traps.

Micrablepharus atticolus apparently is restricted to cerrados, where it occurs in broad sympatry with *M. maximiliani* (Fig. 3). Vitt (1991) reported that *M. atticolus* was found in nests of *Atta*, which it uses as a refuge at Alto Araguaia, Mato Grosso. My observations at Santa Rita do Araguaia confirm his data. Thirty-six specimens were obtained by digging through piles of dirt or fine sand in the part of nests of *Atta*

above ground; 1–3 lizards were found per nest. Curiously, no individual was found active at this locality despite its being a sunny day. As reported by Vitt (1991), *M. atticolus* does not eat the ants with which it lives. Vitt and Caldwell (1993) also reported on two lizards active on the ground at Cerrado in Rondônia. At Alto Rio Vermelho, Pará, I collected one individual and observed another four active at noon in a cerrado with white sand soils; lizards were active on the surface and eventually climbed on termite mounds.

DISCUSSION

Rodrigues (1991c) presented a key to the genera of gymnophthalmid lizards that lack eyelids and a cladogram depicting their relationships. *Micrablepharus* was diagnosed by the presence of a rudimentary, or lack of, first finger, the absence of eyelids, the presence of a pair of frontoparietal scales, and the absence of prefrontal scales. *Tretioscincus* was suggested to be a plesiomorphic close relative that has a distinct eyelid. Although the eyelid is not visible and the eye appears to be covered by a totally transparent membrane in *M. maximiliani*, an eyelid is present. It is concealed under the superciliaries on top of the orbit and is surrounded by a series of very small granules. In *Micrablepharus atticolus*, the suture between upper and lower eyelid is complete, although some palpebral granules are still present concealed under the superciliaries on top of the orbit. This condition suggests that prior to complete fusion, the palpebral suture migrates dorsally and becomes smaller, and probably is functionless. The position of the palpebral suture in *Micrablepharus* is unique and clearly derived relative to the well developed eyelid of *Tretioscincus* and supports that *Tretioscincus* is a plesiomorphic close relative of *Micrablepharus*. In all other gymnophthalmids that lack eyelids, the palpebral suture is absent. Eyelid reduction might be related to increased fossoriality in *Micrablepharus*. Although I have no data on the places where *M. maximiliani* seeks refuge, *M. atticolus* typically burrows, in sand at the base of the nests of ants of the genus

Atta. This suggests that the more advanced eyelid condition in *M. atticolus* could be related to this habit.

RESUMO

Portuguese text.

Uma nova espécie de *Micrablepharus*, caracterizada por apresentar a quarta supralabial sob o olho, cinco a oito poros femorais e quatro faixas brancas longitudinais é descrita para os Cerrados centro-brasileiros. *Micrablepharus atticolus*, sp. nov., é amplamente simpátrica com *Micrablepharus maximiliani*. *Micrablepharus glaucurus* e *M. dunni* são considerados sinônimos de *M. maximiliani*.

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LITERATURE CITED

- AMARAL, A. 1935. Collecta herpetológica no centro do Brasil. Mem. Inst. Butantan 9:235-246.
- . 1937. Herpetological collection from central Brasil. C. R. XII Congr. Int. Zool. (Lisbonne 1935) 3:1720-1732.
- BERTONI, A. W. 1913. Fauna Paraguaya. Catálogos sistemáticos de los vertebrados del Paraguay. Pp. 1-86. In M. S. Bertoni (Ed.), Description Física y Económica del Paraguay. Asunción.
- BOCOURT, M. F. 1881. Livraison 7. Pp. 441-488. In A. Dumeril, M. F. Bocourt, and F. Mocquart (Eds.), Mission Scientifique au Mexique et dans l'Amerique centrale. Études sur les Reptiles. Imprimerie Nationale, Paris, France.
- BOETTGER, O. 1885. Liste von Reptilien und Batrachiern aus Paraguay. Zeitschr. Naturw. 58:213-248.
- . 1893. Katalog der Reptilien-Sammlung in Museum Seckenbergischen Naturforschenden Gesellschaft in Frankfurt am Main. I. Teil (Rhynchocephalien, Schildkröten, Krokodile, Eidechsen, Chamäleons). Geb. Knauer, Frankfurt a. M., Germany.
- BOULENGER, G. A. 1885. Catalogue of the lizards in the British Museum (Natural History), 2nd ed., Vol. 2. Trustees of the British Museum, London, U.K.
- . 1888. On some reptiles and batrachians from Iguarasse, Pernambuco. Ann. Mag. Nat. Hist. (6)2:40-43.
- . 1890. First report on additions to the lizard collection in the British Museum (Natural History). Proc. Zool. Soc. London 1890:77-86.
- BURT, C. E., AND M. D. BURT. 1933. A preliminary check list of the lizards of South America. Trans. Acad. Sci. St. Louis 28:1-104.
- GOELDI, E. A. 1902. Lagartos do Brazil. Bol. Mus. Paraense 3:499-560.
- HELLMICH, W. 1960. Die sauria der Gran Chaco und seiner Randgebiete. Abh. Bayer. Akad. Wiss. 101:1-131.
- HOOGLMOED, M. S., C. J. COLE, AND J. AYARZAGUENA. 1992. A new cryptic species of lizard (Sauria: Teiidae: *Gymnophthalmus*) from Venezuela. Zool. Med. Leiden 66:1-18.
- LAURENT, R. 1949. Note sur quelques reptiles appartenant à la collection de l'Institut Royal des Sciences Naturelles de Belgique. III. Formes américaines. Bull. Inst. R. Sci. Belg. 25:1-20.
- MERTENS, R. 1922. Verzeichnis der Typen in der herpetologischen Sammlung des Senckenbergischen Museums. Senckenbergiana 4:162-183.
- . 1967. Die herpetologische Sektion des Natur-Museums und Forschungs-Institutes Senckenberg in Frankfurt a. M. nebst einem Verzeichnis ihrer Typen. Senck. Biol. 48(A):1-106.
- PERACCA, M. G. 1904. Viaggio del Dr. A. Borelli nel Matto Grosso brasiliano e nel Paraguay, 1899. IX. Rettili ed anfibia. Boll. Mus. Torino 19(460):1-15.
- PETERS, J. A., AND R. DONOSO-BARROS. 1970. Catalogue of the neotropical Squamata. Part II. Lizards and Amphisbaenians. Bull. U.S. Natl. Mus. 297:1-293.
- REINHARDT, J., AND C. F. LUETKEN. 1861. Bidrag til Kundskaab om Brasiliens Padder og Krybdyr, Første Afdeling: Padderne og Öglerne. Vidensk. Medd. Nat. For. Copenhagen 1861:143-242.
- RODRIGUES, M. T. 1984. *Nothobachia ablephara*: novo gênero e espécie do nordeste do Brasil (Sauria, Teiidae). Pap. Avulsos Zool. Sao Paulo 35:361-366.
- . 1991a. Herpetofauna das dunas interiores do rio São Francisco, Bahia, Brasil. I. Introdução à área e descrição de um novo gênero de microteiideos (*Calyptommatius*) com notas sobre sua ecologia, distribuição e especiação (Sauria, Teiidae). Pap. Avulsos Zool. Sao Paulo 37:285-320.
- . 1991b. Herpetofauna das dunas interiores do rio São Francisco, Bahia, Brasil. II. *Psilophthalmus*: um novo gênero de microteiideo sem pálpebra (Sauria, Teiidae). Pap. Avulsos Zool. Sao Paulo 37:321-327.
- . 1991c. Herpetofauna das dunas interiores do rio São Francisco, Bahia, Brasil. III. *Procellosaurinus*: um novo gênero de microteiideos sem pálpebra, com a redefinição do gênero *Gymnophthalmus* (Sauria, Teiidae). Pap. Avulsos Zool. Sao Paulo 37:329-342.
- VANZOLINI, P. E., AND C. M. CARVALHO. 1991. Two sibling and sympatric species of *Gymnophthalmus* in Roraima, Brasil (Sauria, Teiidae). Pap. Avulsos Zool. Sao Paulo 37:173-226.
- VANZOLINI, P. E., A. M. M. RAMOS-COSTA, AND L.

- J. VITT. 1980. Répteis das Caatingas. Academia Brasileira de Ciências, Rio de Janeiro, Brazil.
- VITT, L. J. 1991. An introduction to the ecology of cerrado lizards. *J. Herpetol.* 25:79–90.
- VITT, L. J., AND J. P. CALDWELL. 1993. Ecological observations on cerrado lizards in Rondônia, Brazil. *J. Herpetol.* 27:46–52.
- WIED-NEUWIED, M. P. 1825. Beiträge zur Naturgeschichte von Brasilien, Vol. 1. Gr. H. S. priv. Landes-Industrie-Comptoirs, Weimar.
- . 1829. Abbildungen zur Naturgeschichte Brasiliens, Lieferung 13. Landes-Industrie Comptoirs, Weimar, Germany.
- WILLIAMS, E. E., AND P. E. VANZOLINI. 1980. Notes and biogeographic comments on anoles from Brasil. *Pap. Avulsos Zool. Sao Paulo* 34:99–108.
- Araguaia: MZUSP 69671–69675, 69700, 69701, 69790, 69791, 78870–78872; Porto Velho, Rio Tapirapés MZUSP 9446–9456; Barra do Tapirapés: MNRJ 1714, 4535–4609; Chapada dos Guimarães: UNB 1069, 1083–1087, 1262–1263, 1386–1389, 1399. *Goias*: Santa Rita do Araguaia: MZUSP 78.877–78894, MPEG 16886; Aruanã MZUSP 2623–2625; Pirenópolis: UNB 1818, 1860, 1825, 1847; Brasília: UNB 3616, MPEG 4554, 12891. *Pará*: Alto Rio Vermelho: MZUSP 78398; Conceição do Araguaia: MPEG 149. *Rondônia*: Rodovia Br 364, km 53–55: MZUSP 64613; Rodovia Ro 399, km 21–23: MZUSP 64614.

Micrablepharus maximiliani

PARAGUAY: Assunción: MNRJ 2547; "Paraguay": ZMF 11774 (type of *glaucus*). BRAZIL: *Maranhão*: Santo Amaro MZUSP 77621; Imperatriz: MZUSP 79346. *Ceará*: Fortaleza: UFC 1887–1889; Mulungú, Serra de Baturité: UFC 1942–1946; Caucaia: UFC 1883, 1884. *Paraíba*: Gurinhém: MZUSP 65659. *Pernambuco*: Exú MZUSP 50172–50174; Água Preta: MZUSP 78387; Pesqueira: MNRJ 1735; Cabo: MNRJ 1715. *Alagoas*: Palmeira dos Índios: MNRJ 2065. *Bahia*: Barreiras: MNRJ 2548, 2549, 2552; Barreirinha: MNRJ 2550, 2551. *Mato Grosso do Sul*: Morro do Camisão: MZUSP 74226; Passo do Lontra: MZUSP 78218. *Mato Grosso*: Barra do Garças: UNB MR 011, MR016, MR065, MR 135, MR136, A260, CS002, BG010, JS081, C228, P2, AM194, 3590–3592; Barra do Bugres: MNRJ 4522, 4523; Cáceres: ZUEC 1522. *Goias*: Cana Brava: MZUSP 4893, 4894; Cristalina: MZUSP 57743, 57744; Pirenópolis: UNB 1859; Serra da Mesa: UNB 3026; Minaçu: UNB 154; Chapada dos Veadeiros: UNB 2509.

APPENDIX I

Specimens Examined

Micrablepharus atticolus

BRAZIL: *São Paulo*: São José do Rio Preto: MZUSP 75189, 75219–75221; Cajurú: MZUSP 10299. *Mato Grosso do Sul*: Três Lagoas (Fazenda Canaã): MZUSP 14369. *Mato Grosso*: Serra do Roncador (Aldeia de caça): MZUSP 4741; São Domingos, Rio das Mortes: MZUSP 2642; Ilha do Bananal: MZUSP 4743; Alto