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Status of Early 19th-Century Names Authored in Parallel by Wied and Schinz for South American Reptiles and Amphibians, with Designations of Three Nomina Protecta

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ABSTRACT

Prince Maximilian zu Wied's great exploration of coastal Brazil in 1815–1817 resulted in important collections of reptiles, amphibians, birds, and mammals, many of which were new species later described by Wied himself. The bulk of his collection was purchased for the American Museum of Natural History in 1869, although many “type specimens” had disappeared earlier. Wied carefully identified his localities but did not designate type specimens or type localities, which are taxonomic concepts that were not yet established.

Information and manuscript names on a fraction (17 species) of his Brazilian reptiles and amphibians were transmitted by Wied to Prof. Heinrich Rudolf Schinz at the University of Zurich. Schinz included these species (credited to their discoverer “Princ. Max.”) in the second volume of *Das Thierreich* . . . (1822). Most are junior objective synonyms of names published by Wied.

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However, six of the 17 names used by Schinz predate Wied's own publications. Three were manuscript names never published by Wied because he determined the species to be previously known. (1) *Lacerta vittata* Schinz, 1822 (a nomen oblitum) = *Lacerta striata* sensu Wied (a misidentification, non Linnaeus nec sensu Merrem) = *Kentropyx calcarata* Spix, 1825, herein qualified as a nomen protectum. (2) *Polychrus virescens* Schinz, 1822 = *Lacerta marmorata* Linnaeus, 1758 (now *Polychrus marmoratus*). (3) *Scincus cyanurus* Schinz, 1822 (a nomen oblitum) = *Gymnophthalmus quadrilineatus* sensu Wied (a misidentification, non Linnaeus nec sensu Merrem) = *Micrablepharus maximiliani* (Reinhardt and Lütken, "1861" [1862]), herein qualified as a nomen protectum. Qualifying *Scincus cyanurus* Schinz, 1822, as a nomen oblitum also removes the problem of homonymy with the later-named Pacific skink *Scincus cyanurus* Lesson (= *Emoia cyanura*).

The remaining three names used by Schinz are senior objective synonyms that take priority over Wied's names. (4) *Bufo cinctus* Schinz, 1822, is senior to *Bufo cinctus* Wied, 1823; both, however, are junior synonyms of *Bufo crucifer* Wied, 1821 = *Chaunus crucifer* (Wied). (5) *Agama picta* Schinz, 1822, is senior to *Agama picta* Wied, 1823, requiring a change of authorship for this poorly known species, to be known as *Enyalius pictus* (Schinz). (6) *Lacerta cyanomelas* Schinz, 1822, predates *Teius cyanomelas* Wied, 1824 (1822–1831)—both nomina oblita. Wied's illustration and description shows *cyanomelas* as apparently conspecific with the recently described but already well-known *Cnemidophorus natio* Rocha et al., 1997, which is the valid name because of its qualification herein as a nomen protectum.

The preceding specific name *cyanomelas* (as corrected in an errata section) is misspelled several ways in different copies of Schinz's original description ("*cyanomlas*," "*cyanom las*," and "*cyanom*"). Loosening, separation, and final loss of the last three letters of movable type in the printing chase probably accounts for the variant misspellings.

INTRODUCTION

In the years 1815–1817, Maximilian Alexander Philipp, Prinz zu Wied-Neuwied,⁴ traveled extensively along the Atlantic coast of eastern Brazil and assembled important zoological collections. The principal scientific results of his great Brazilian expedition were described in three classic works. The two-volume *Reise* (Wied, 1820–1821) is a report of his travel and includes some footnote descriptions of new species, but most new taxa date from the following two

⁴ Prince Maximilian's given names sometimes are arranged incorrectly as "Alexander Philipp Maximilian." More importantly, there are permutations of his family name and much confusion as to how it should be cited. Briefly, the family Wied-Neuwied inherited the estate of Wied-Runkel in 1824 and geographic modifiers of the Wied name were officially dropped that year. Long before that, the prince's normal signature in correspondence was "Max P z Wied." He did not publish under the compound name Wied-Neuwied after 1824 *except* (for editorial continuity) on the title pages of the *Abbildungen*, which had begun publication in 1822. All his species names can properly be referenced simply as "Wied," following the prince's own preference and the *Anglo-American Cataloging Rules* (1998, rule 22.2C1) that mandate use of the latest form of a changed name. (NB: In the notable case of Linnaeus vs. the late-in-life ennobled "von Linné," this rule is followed in modern library catalogs but long ignored in most taxonomic literature.) The noble preposition *von* sometimes replaces the *zu* in Wied's name in library catalogs, rarely on the printed page (see footnote 12).

works. The *Abbildungen* (Wied, 1822–1831) comprise 90 folio plates of Brazilian animals; these were published in 15 issues (Lieferungen/Livraisons), each with six unnumbered plates accompanied by short texts in German and French. All the species, illustrated or not, were extensively described in the four-volume *Beiträge*, of which the first volume is devoted to herpetology (Wied, 1825). After finishing his studies of the Brazilian material, Prince Maximilian undertook his famous North American expedition, sailing to Boston in 1832 and exploring along the Missouri River in 1833–1834; another comprehensive set of publications followed (see especially Wied, 1839–1841).

After the prince's death, the bulk of his collection was purchased in 1869 for the American Museum of Natural History (Myers, 2000: 7). Some, albeit not all, his "type specimens" were in the material sent to the American Museum. Prince Maximilian carefully associated localities with his specimens, but he did not designate type specimens or type localities—taxonomic concepts not yet established in his day. Vanzolini and Myers (unpublished) collaborated in a survey especially of the Brazilian materials, in an effort to determine retrospective type status of specimens illustrated and described by Prince Maximilian zu Wied, whom we hereafter refer to simply as Wied.

Wied carried on extensive correspondence during his career and kept colleagues informed of his work. He not only sent complimentary copies of the *Beiträge* volumes and issues of the *Abbildungen*, but also transmitted not yet published descriptions of new species; he even gave specimens to Blasius Merrem. This procedure and generosity led to the preemption of some of Wied's specific names by colleagues (Vanzolini, 1996: 211). Although the rule of strict nomenclatural priority had yet to be established, Wied's new species seem usually to have been credited to him, but not, unfortunately, in ways that would establish his first authorship of names under modern rules of zoological nomenclature.

SCHINZ'S *THIERREICH*

We are here concerned with Heinrich Rudolf Schinz (1777–1861 or 1862), with whom Wied conducted a long friendly correspondence from 1806 until 1860 (Bosch, 1991: 39). Schinz, a Swiss naturalist, was one of the first professors in the University of Zurich (Adler, 2007: 51), where his students included Louis Agassiz and J.J. von Tschudi. Among his publications was the four-volume *Das Thierreich eingetheilt nach dem Bau der Thiere als Grundlage ihrer Naturgeschichte und der vergleichenden Anatomie von dem Herrn Ritter von Cuvier . . . aus dem Französischen frey [frei] übersetzt und mit vielen Zusätzen versehen von H.R. Schinz*. Volume 2 is the one most important to herpetology (Schinz, 1822) and was cited in various places by Wied.

Schinz's *Thierreich* is rare and seldom mentioned nowadays, in part because few libraries own it. Authorship usually is attributed to Georges Cuvier; Wood (1931: 307), for example, does not list it with Schinz's works in the *Literature of Vertebrate Zoology*, but under Cuvier he notes that it is "A faithful German translation, with additions, of Baron Cuvier's *Règne animal*."

It contains too many novelties and other additions to be called a simple translation, and authorship is usually credited to Schinz for taxonomic purposes. Wied referred to the work as “*Schinz, das Thierreich*” and “*Schinz, Règne Animal*” on same-page German and French letterpress texts in the *Abbildungen*. Vanzolini (1977a: 29) pointed out that “Although this is one of the most frequently cited suites to Cuvier, its importance to Brazilian herpetology seems to have escaped general notice.”

Another German “translation” of Cuvier was published in 1832, by Friedrich Siegmund Voigt. By this time, most of Wied’s Brazilian publications had become available, but neither Schinz’s *Thierreich* nor Voigt’s *Thierreich* attempted to discuss all the species treated by Wied. Voigt (1832) referenced the prince some 40 times, although Wied’s 1825 *Beiträge* contained accounts for nearly 90 species, including 60 named by himself. Voigt apparently was following after Cuvier, who “was not much concerned with completeness [and] only included well known species, capable of documenting his generic concepts” (Vanzolini, 1977: 22). So far as we can see, no reference is made to Schinz’s (1822) *Thierreich* in Voigt’s (1832) volume 2; Voigt’s source for Wied’s unpublished *Polychrus virescens* appears to have been Wagler (1828), not Schinz (1822) as might be expected (discussion below).

Schinz (1822) credited 17 species listed below to his friend “Princ. Max,” who discovered them in Brazil (“In Brasilien, neu von Neuwied entdeckt”).

Names credited to Wied by Schinz (1822: 12–177)		Names used by Wied for the same species
p. 12	<i>Test[udo] depressa</i>	<i>Emys depressa</i> Wied, 1821
p. 45	<i>Lacerta vittata</i>	<i>Lacerta striata</i> , after Merrem, 1820
p. 46	<i>Lac[erta] cyanomelas</i>	<i>Teius cyanomelas</i> Wied, 1824
p. 53	<i>Agam[a] catenata</i>	<i>Agama catenata</i> Wied, 1821
p. 54	<i>Agama picta</i>	<i>Agama picta</i> Wied, 1823
p. 65	<i>Polyc[hrus] virescens</i>	<i>Polychrus marmoratus</i> , after Merrem, 1820
p. 69	<i>Anol[is] gracilis</i>	<i>Anolis gracilis</i> Wied, 1821
p. 69	<i>Anolis viridis</i>	<i>Anolis viridis</i> Wied, 1821
p. 87	<i>Scincus cyanurus</i>	<i>Gymnophthalmus quadrilineatus</i> , after Merrem, 1820
p. 125	<i>Col[uber] venustissimus</i>	<i>Coluber venustissimus</i> Wied, 1820
p. 126	<i>Coluber Merremii</i>	<i>Coluber Merremii</i> Wied, 1821
p. 143	<i>Trigonoc[ephalus] holosericeus</i>	<i>Cophias holosericeus</i> Wied, 1821
p. 143	<i>Trigonoceph[alus] bilineatus</i>	<i>Cophias bilineatus</i> Wied, 1821
p. 149	<i>Elaps corallinus</i>	<i>Elaps corallinus</i> Wied, 1820
p. 168	<i>Hyla Faber</i>	<i>Hyla Faber</i> Wied, 1821
p. 168	<i>Hyla aurata</i>	<i>Hyla aurata</i> Wied, 1821
p. 177	<i>Buf[o] cinctus</i>	<i>Bufo cinctus</i> Wied, 1823

We interpret most of Schinz's names as objective junior synonyms (rather than simple subsequent usages) of names first published by Wied; they are objective synonyms because they were based on information provided by Wied and therefore were based on the same specimens.⁵

However, the six names in boldface (above and below) predate names used by Wied for the same species.⁶ Wied supplied all 17 names to Schinz and considered them as his own. In the *Abbildungen* and *Beiträge*, for example, he referenced Schinz by page number but omitted his names first published by Schinz. Wied did, however, explain his abandoned manuscript names used by Schinz (*Lacerta vittata*, *Polychrus virescens*, and *Scincus cyanurus*; see below).

***Lacerta vittata*:** Wied transmitted this name to Schinz, but its identity has been generally overlooked. Peters and Donoso-Barros (1970: 152) wrote that "Stejneger, in a handwritten note in an interleaved copy of Boulenger, 1885, has noted that Boulenger did not include *Lacerta vittata* Schinz . . . as a species of *Kentropyx*. It is unclear to us what its relationship is, although Stejneger placed it opposite *calcaratus* Spix, suggesting a possible synonymy." Overlooked was Wied's own explanation in the *Beiträge* (Wied, 1825: 186) and in letterpress *Abbildungen* text for *Lacerta striata* Dau[adin] (Wied, 1829: Lief. 13). Wied originally had intended his manuscript name "*vittata*" for an undescribed species, but, after comparing it with Merrem's (1809) "Borckischen Eidechse" (fig. 1), Wied followed Merrem's later work (1820: 65) and mistakenly used the name *Lacerta striata* Daudin, 1802.⁷

As it turns out, however, Stejneger's handwritten note in Boulenger's *Catalogue* was prescient. The species that Wied had intended to name "*vittata*" had indeed been undescribed prior to Schinz's publication! Hoogmoed (1973: 301) compared descriptions and concluded that *Lacerta vittata* Schinz, 1822, is a senior synonym of *Kentropyx calcarata* Spix, 1825. The senior name remains unused, however, and we agree with Hoogmoed that Spix's well-known name should be conserved (see below under Protection of Three Junior Synonyms).

***Lacerta cyanomelas*:** *Lacerta cyanomelas* Schinz, 1822, is a senior objective synonym of *Teius cyanomelas* Wied, 1824 (1822–1831), but the situation is unusual because the correct

⁵ Although Wied gave some specimens to Blasius Merrem, there is no published evidence that he ever sent specimens to Schinz. In any case, the majority of specimens on which these particular descriptions were based seem to be no longer extant, although some may yet show up in European collections. Many of Wied's specimens evidently disappeared prior to the 1860 preparation of his handwritten "catalogue" at AMNH (a list not of specimens but of genera and species that were still represented in his collection).

⁶ It would seem only fair that such names should be attributed to "Wied in Schinz," as was done for example by Wagler (1828: text for "*Polychrus virescens* Prinz von Neuwied in Schinz."). But it is not explicitly demonstrated within Schinz's work itself that Wied supplied both the names and the descriptions as mandated in the authorship section of the *Code* (ICZN, 1999, art. 50.1).

⁷ On facing pages of German and Latin texts, Merrem (1820: 65) misidentified and misspelled his "*Eidechse borkische* [sic]" as *Lacerta striata*. Merrem's (1809: 2) "Die Borckische Eidechse" currently is known as the Guayanian *Kentropyx borckiana* (Peters), because W. Peters (1869: 62) was the first to provide a Latin binomen for the species (Hoogmoed, 1973: 292–293).

After citing Merrem's original description, Gallagher and Dixon (1992: 137) said that "The meaning of 'Borckische' has not been determined." As made clear in the first paragraph of Merrem's description, however, the name honors Grafen (Count) von Borcke, whose collection supplied the specimen that was illustrated and described in detail (Merrem, 1809: 2–9, pl. 1 [reproduced herein as fig. 1]).



FIG. 1. "Die Borckische Eidechse," a lizard described in 1809 by Blasius Merrem and much later given the Latin name *Centropyx borckiana* by Wilhelm Peters. Hoogmoed (1973: 292–293) cleared up confusion associated with the name of this species, which currently is known as the Guayanian *Kentropyx borckiana* (Peters, 1869). The dorsal surfaces probably were partially green in life, the blue color resulting from preservation in spirits. (Hand-painted plate reproduced $\times 0.90$ from Merrem, 1809, courtesy of Harvard University Botany Libraries.)

spelling “*cyanomelas*” does not appear on Schinz’s page 46, which contains the description (the corrected name is given in the errata). Known copies of Schinz’s *Thierreich* all have a spelling mistake on page 46. We are aware of the following three misspelled versions of the specific name: (1) “*cyanomlas*” is the most common version, appearing in copies of *Das Thierreich* in the Academy of Natural Sciences of Philadelphia and the Museum of Comparative Zoology, and in private copies owned by Kraig Adler and Rodrigues. (2) “*cyanom las*”—with a variably sized blank space—is seen in copies in the Museum National d’Histoire Naturelle (small space) and in the National Museum of Natural History, Smithsonian Institution (large space). The blank space varies in size from about one to three letter spaces. (3) “*cyanom*” is a version known only in a copy of Schinz in the Natural History Museum in London. It was cited as a name “not mentioned elsewhere” by Vanzolini (1977a: 29), who has a xerographic copy of the British Museum book. The total of this variation can be explained by the supposition that the last three letters of “*cyanomlas*” had become loosened in the printing chase, gradually separating from “*cyanom*” and finally being lost altogether during printing. In support of this hypothesis, it is noted that species names in Schinz terminate with a full stop (period), which is lacking in the truncated *Lacerta* “*cyanom*” version of the name.

The first misspelling is corrected on an unnumbered errata page (= p. 828) of the *Thierreich*: “Seite 46 Zeile 8 lies *cyanomelas* statt *cyanomlas*.” The same correction appears in the British Museum copy, which has the spelling “*cyanom*” on page 46. Schinz’s correction to *cyanomelas* clearly determines the correct name, but, to be safe, as first revisers to have cited several multiple spellings we naturally also select *cyanomelas* as correct (ICZN, 1999: art. 24.2.3).

The name *Lacerta cyanomelas* Schinz, 1822, clearly has priority over *Teius cyanomelas* Wied, 1824 (1822–1831). The identity of this lizard, however, is best determined from the illustration and information published by Wied (see below under Identity and Rediscovery of *Teius cyanomelas* Wied).

As an aside, it is not generally realized that Wied had unpublished manuscript names that he abandoned before publication (see under *Lacerta vittata* above, and *Polychrus virescens* and *Scincus cyanurus* below). Wied’s original name for *cyanomelas* was “*Lacerta 5-lineata*,” based on a specimen taken at Mucuri, April 20, 1816. Wied’s pen-and-watercolor field sketch, with name and data added by his hand, is reproduced in Bosch (1991: 237). It clearly is the sketch copied by Wied’s artist for publication in the *Abbildungen* as *Teius cyanomelas* (Wied, 1824 [1822–1831]: Lief. 5).

***Agama picta*:** *Agama picta* Schinz, 1822, is the senior objective synonym of *Agama picta* Wied, 1823: Lief. 3 (not “1825” auct.). Wied referenced Schinz by page number (without using the name) in his subsequent accounts of *A. picta* in *Abbildungen* letterpress and in the *Beiträge*. The taxon has been treated both as a species of *Enyalius* and as a subspecies of *E. catenatus* (Wied, 1821). Currently, *Enyalius pictus* is recognized as a full species living in the forests of coastal Brazil between the Jequitinhonha and Doce rivers (Rodrigues et al., 2006). The senior authorship of *picta* changes to Schinz, but the original concept of the taxon is that of Wied (1823, Lief. 3; 1825: 125, 604).

***Polychrus virescens*:** This is similar to the situation with *Lacerta vittata* above, except that Wied did not mention Schinz (1822) in the *Abbildungen* or *Beiträge* synonymies. Wied instead explained in his *Beiträge* species account of *Polychrus marmoratus* that Schinz had used *Polychrus virescens* based on a short note from him, but that *P. virescens* could no longer be kept (Wied, 1825: 124). Unaware of these comments, Wagler (1828: pl. 12, text) illustrated a specimen of *Polychrus marmoratus* under the name “*Polychrus virescens* Prinz von Neuwied in Schinz.” Voigt (1832: 67) referenced *P. virescens* to Wagler (ibid.) rather than Schinz (1822). Schinz later (1833–1835: 88–89, pl. 28) reproduced Wagler’s color plate in reverse image and noted that “Sie ist nach Wied kaum verschieden von *P. marmoratus* und warscheinlich das Männchen [According to Wied it scarcely differs from *P. marmoratus* and is probably the male].”

In letterpress accompanying the *Abbildungen* plate Wied noted that “Diese bekannte Eidechse ist nirgends in ihren leibliche Farben abgebildet [The living color of this well-known lizard has been nowhere described]” (Wied, 1829: Lief. 13). He said in the *Beiträge* (Wied, 1825: 123) that he had obtained only a single specimen alive, a female from Villa Viçosa. The prince’s pen-and-watercolor field sketch of this specimen and a copy of it (by the artist Beckers) for publication in the *Abbildungen* are reproduced in Bosch (1991: 243–244).

Polychrus virescens Schinz is correctly shown in Peters and Donoso-Barros (1970: 234) as a synonym of *Polychrus marmoratus* (Linnaeus), but it had been Wied’s manuscript name for a new species that he subsequently re-identified as “*Polychrus marmoratus*, [sensu] Merrem.”

***Scincus cyanurus*:** This was Wied’s manuscript name for a lizard that he later misidentified as “*S[cinus]. quadrilineatus*” (Wied, 1824: 664) and treated in detail as “*Gymnophthalmus quadrilineatus* Merr[em]” (Wied, 1825: 198; 1829: Lief. 13). *Lacerta quadrilineata* is a Linnaean name recognized as the nominal type species of Merrem’s (1820: 74) genus *Gymnophthalmus*. Wied, however, had a lizard not previously described. Wied’s description is clear and calls attention to the bright blue tail of the species (not shown in the *Abbildungen* plate because the sky-blue color disappears completely in preservative fide Wied, 1825: 203, 204). It is the only blue-tailed lizard living in an area traveled by Wied.

Reinhardt and Lütken (“1861” [1862]: 211) honored the prince by naming *Gymnophthalmus maximiliani* based on new material and the unavailable name “*Gymnophthalmus quadrilineatus* Wied.” Boulenger (1885: 426) referred both these names to the then recently erected genus *Micrablepharus* Boettger, 1885;⁸ Boulenger also placed the nominal type species of *Micrablepharus* (*M. glaucurus* Boettger) as a synonym of *M. maximiliani*.

Scincus cyanurus Schinz, 1822, is an overlooked senior synonym of *Micrablepharus maximiliani* (Reinhardt and Lütken “1861” [1862]), which is a well-known name worthy of saving (see under Protection of Three Junior Synonyms). It is fortunate that *Scincus cyanurus* Schinz, 1822, can be qualified below as a nomen oblitum, inasmuch as it also is a senior homonym of a well-known Pacific skink (*Scincus cyanurus* Lesson, 1826 = *Emoia cyanura*; see Ineich and Zug, 1991, for literature).

⁸ Authorship of Boettger’s *Micrablepharus* is mistakenly attributed to “Dunn, 1932” in recent gymnophthalmid classifications (Pellegrino et al., 2001: 330; Castoe et al., 2004: 465).

Buf[o] cinctus: *Bufo cinctus* Schinz, 1822, is the senior synonym of *Bufo cinctus* Wied, 1823. Wied gave the page reference to Schinz (1822: 177) in the *Abbildungen* letterpress text accompanying his *Bufo cinctus* plate (Wied, 1823: Lief. 3) and in his species account in the *Beiträge* (Wied, 1825: 564). The name *Bufo cinctus* has long been in the synonymy of *Bufo crucifer* Wied, 1821 (= *Chaunus crucifer* fide Frost et al., 2006: 364).

THE REDISCOVERY AND IDENTITY OF *TEIUS CYANOMELAS* WIED, 1824

HISTORY OF THE NAME: Among the many new animals discovered and described by Wied was *Teius cyanomelas*, which was illustrated in a color plate in the fifth issue of the *Abbildungen* (Wied, 1824 [1822–1831]: Lief. 5, fig. 2 of composite pl.). This lizard was accurately figured and had a precise type locality (open areas around the mouth of Rio Mucuri in state of Bahia, Brazil), and was given a detailed description in the *Beiträge* (Wied, 1825: 180–185). Nonetheless, it was never properly recognized. Bocourt (1874: 251, footnote 1), without justification, referenced it as *Ameiva cyanomelas*, but considered Wied's illustration and description both inadequate for a proper allocation of the species, suggesting that it was close to *Ameiva festiva*, *A. edracantha*, and *A. septemlineata*, or possibly a synonym of *Cnemidophorus lemniscatus*. Boulenger (1885: 363) placed *Teius cyanomelas* with a question mark in the synonymy of *Cnemidophorus lemniscatus*, an allocation followed by most subsequent authors. Burt (1931: 32), in a major revision of *Cnemidophorus*, thought that Bocourt's suggestion that *cyanomelas* might be a synonym of *C. lemniscatus* "rather far fetched, since the photograph [sic] shows only two distinct light lines on each side, and a single middorsal line," but Burt considered *Ameiva* to be probably the right genus. Peters and Donoso-Barros' (1970: 94) influential catalog followed Boulenger in keeping *T. cyanomelas* with a question mark in the synonymy of *Cnemidophorus lemniscatus*, although *cyanomelas* was erroneously dated from the 1825 *Beiträge*.

It is understandable that *cyanomelas* was attributed to *Cnemidophorus* by most authors from Boulenger on, but its continued association with *C. lemniscatus* was unwarranted because *lemniscatus* sensu lato occurs from Central America to Amazonia where Wied, a fine zoologist who precisely identified his localities, never collected.

Vanzolini (1996: 214), however, recognized the problem and considered *cyanomelas* to be an unrecognized species of *Cnemidophorus*. Except for Amazonian forms, *Cnemidophori* from tropical South America have been attributed to the *ocellifer* group—a multispecies complex (Rodrigues, 1987: 224), including new species recently described (Dias et al., 2002; Feltrim and Lema, 2000; Rocha et al., 1997, 2000; Dias et al., 2002; Colli et al., 2003a, 2003b). A thorough taxonomic revision of the group is needed.

REDISCOVERY AND TAXONOMIC CONCLUSION: Recently, during a field trip to obtain specimens of *Cnemidophorus* along the Atlantic coast of Brazil for an ongoing molecular and karyotypic study, Rodrigues' group collected several specimens of *Cnemidophorus nativo*. This is a parthenogenetic species of the *ocellifer* group recently described from Reserva Florestal da Companhia Vale do Rio Doce, municipality of Linhares, state of Espírito Santo (Rocha et al., 1997). The specific name (*nativo*) was given in reference to its habitat, the open shrubby areas



FIG. 2. *Cnemidophorus natio* Rocha et al., 1997, a Brazilian lizard discovered in 1818 by Prince Maximilian zu Wied. The earlier names *Lacerta cyanomelas* Schinz, 1822, and *Teius cyanomelas* Wied, 1824 (1822–1831) are qualified herein as forgotten names (*nomina oblita*), whereas *Cnemidophorus natio* is qualified as a protected name (*nomen protectum*). **Top:** The original *Abbildungen* illustration of *Teius cyanomelas* Wied, reproduced $\times 1.38$ from a composite plate (Wied, 1824 [1822–1831], Lief. 5). The plate was prepared from an artist's copy of Wied's pen-and-watercolor field sketch, in which the background was a horizontal line. The accompanying letterpress text includes "Rücken schwarz, mit einem breiten bläulichen Längsstreif in der Mitte, und zwei weißbläulichen schmäleren an der Seite [Back black, with a wide bluish median stripe, and two narrower bluish white lateral stripes]." **Bottom:** A specimen of *Cnemidophorus natio* from Restinga do Barra Seca, Linhares, state of Espírito Santo, Brazil. The extent of color variation is unknown, but Rocha et al. (1997: 378) wrote that the median "light salmon stripe . . . continues mostly as light grey and/or light blue [emphasis added] along the dorsal region of tail" and "vivid white" lateral stripes.

near the coast (“campo nativo”) where it occurs. The species is fairly abundant in open habitats near the eastern coast of Brazil from Regência in the state of Espírito Santo (our records), to Camamú in the state of Bahia (Vrcibradic et al., 2002). It is the only species of *Cnemidophorus* present in this long stretch of approximately 700 km (Rocha, 2000); it is considered “vulnerable” in the list of endangered Brazilian species (IBAMA, 2008; Rodrigues, 2005). The striking color pattern of living specimens and the apparent absence of other *Cnemidophorus* in the range of *C. nativo* caused us to revisit Wied’s figure and description of *Teius cyanomelas*. The type localities of *T. cyanomelas* and *C. nativo* are only about 100 km apart and our comparisons of fresh material of *nativo* with Wied’s figure and detailed description correspond so closely that we conclude that a single species is involved (see fig. 2).

As already noted, the name *Lacerta cyanomelas* Schinz, 1822, has priority over *Teius cyanomelas* Wied, 1824 (1822–1831). Even Schinz’s (1822: 46) second-hand 10-line description permits a fairly good identification of this species of *Cnemidophorus*. The smooth ventral scales, disposed in six longitudinal rows, granular dorsals, color pattern (especially the undulating borders of the middorsal stripe) and size referred to by Schinz are sufficient to identify the species. Although Wied’s only specimen had a broken tail (see fig. 2), both Schinz (1822: 46) and Wied (1825: 180) diagnosed the species as having a long tail, but that was an accurate extrapolation; Wied (ibid.: 181), with his usual attention to detail, explained that the broken tail was “scheinbar viel länger als der Körper [seemingly much longer than the body].”

Wied’s unique specimen of *Teius cyanomelas* was not in the collection purchased by the American Museum. Nevertheless, it seems evident that *Lacerta cyanomelas* Schinz, 1822, and *Teius cyanomelas* Wied, 1824 (1822–1831) are senior names for *Cnemidophorus nativo* Rocha et al., 1997. The last name has become well-enough known to receive protected status under ICZN criteria.

PROTECTION OF THREE JUNIOR SYNONYMS

The Principle of Priority is a cornerstone of zoological nomenclature. Some taxonomists may advocate rather strict adherence to this principle, believing that the oldest available name of a taxon should be nearly always the one used. Nonetheless, it seems a disservice to other biologists and the public when old, unused names are dredged up to replace names currently applied to well-known animals. Precedence of a younger name over an older one sometimes can be gained by the cumbersome route of petitioning the International Commission on Zoological Nomenclature. If the taxa are rarely mentioned, this strategy is likely to be unsuccessful and therefore not worth the effort; it almost certainly will fail if only the authorship of a rarely used name is changed, as in the case of *Enyalius pictus* (Wied, 1823)—now *Enyalius pictus* (Schinz, 1822).

Article 23.9 of the latest *Code* (ICZN, 1999), however, provides a procedure for saving well-known junior names without formal petition. We use that method to qualify the names of the following three species as protected names (*nomina protecta*).

Kentropyx calcarata Spix, 1825

As explained above, the description of *Lacerta vittata* Schinz, 1822, was based on a manuscript name transmitted by Wied to Schinz, who validated the name. Hoogmoed (1973: 301) pointed out that *Lacerta vittata* Schinz, 1822, was a senior synonym of *Kentropyx calcarata* and indicated intent to propose suppression by the ICZN. Although the proposal was not submitted, other authors (especially Gallagher and Dixon, 1992: 141–142, and Ávila-Pires, 1995: 524) accepted the synonymy but followed Hoogmoed's lead in continuing use of the junior name.

To our knowledge, the name *Lacerta vittata* Schinz has not been used as a valid name since its publication and specifically “has not been used as a valid name after 1899” (ICZN, 1999: art. 23.9.1.1). The junior name *Kentropyx calcarata* Spix, 1825, has been used as a “presumed valid name, in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years” (ICZN, 1999: art. 23.9.1.2).

The following 25 references (among many available) meet the criteria quoted above: Ávila and Silva, 2009; Ávila-Pires, 1995, 2005; Ávila-Pires et al., 2009; Castoe et al., 2004; Cole et al., 1995; Cosson et al., 1999; Gallagher and Dixon, 1980, 1992; Gallagher et al., 1986; Gasnier et al., 1994; Hoogmoed, 1973, 1979; Hoogmoed and Lescure, 1975; Lima et al., 2001; MacCulloch and Lathrop, 2007; Pellegrino et al., 2001; Perry, 1999; Peters and Donoso-Barros, 1970; Reeder et al., 2002; Ribeiro-Júnior et al., 2006; Smith and Ballinger, 2001; Telford and Telford, 2003; Werneck et al., 2009; Vitt, 1991a.

Kentropyx calcarata Spix, 1825, the younger but valid name for the species, is here designated as a *nomen protectum*. It has precedence over the senior name *Lacerta vittata* Schinz, 1822, which is here qualified as a *nomen oblitum*, and over the unavailable name *Lacerta striata* sensu Wied, 1825 (non Daudin nec sensu Merrem), which was a misidentification in the sense of the *Code* (ICZN 1999: art. 49).

Micrablepharus maximiliani (Reinhardt and Lütken, “1861” [1862])

As explained above, *Scincus cyanurus* Schinz, 1822, is the senior name (Wied's “*Gymnophthalmus quadrilineatus*” was a misidentification). To our knowledge, *Scincus cyanurus* Schinz “has not been used as a valid name after 1899” (ICZN, 1999: art. 23.9.1.1). The junior name *Gymnophthalmus maximiliani* Reinhardt and Lütken, “1861” [1862]—known since 1885 as *Micrablepharus maximiliani* (Reinhardt and Lütken, “1861” [1862])—has been used as a “presumed valid name, in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years” (ICZN, 1999: art. 23.9.1.2).

The following 25 references meet the criteria quoted above: Ávila-Pires, 1995; Castoe et al., 2004; Cunha, 1961; Freire, 1996; Mesquita et al., 2006; Moreira et al., 2009; Nogueira et al., 2009; Pellegrino et al., 2001; Peters and Donoso-Barros, 1970; Presch, 1980; Rodrigues, 1996, 2003; Rodrigues et al., 2005, 2007; Shepard, 2007; Teixeira et al., 1999; Vanzolini, 1977b, 1981, 2003; Vanzolini and Carvalho, 1991; Vanzolini et al., 1980; Vitt, 1991b; Werneck and Colli, 2006; Williams and Vanzolini, 1980; Yonenaga-Yassuda and Rodrigues, 1999.

Micrablepharus maximiliani (Reinhardt and Lütken, “1861” [1862]), the younger but valid name for the species, is here designated as a nomen protectum. It has precedence over the senior name *Scincus cyanurus* Schinz, 1822, which is here qualified as a nomen oblitum, and over the unavailable name *Gymnophthalmus quadrilineatus* sensu Wied, 1825 (non Linnaeus nec sensu Merrem), which was a misidentification in the sense of the *Code* (ICZN 1999: art. 49).

Qualifying *Scincus cyanurus* Schinz, 1822, as a nomen oblitum also solves the problem of homonymy with the later-named *Scincus cyanurus* Lesson, 1826—a wide-spread Pacific skink currently known as *Emoia cyanura* (Lesson) (see p. 8).

Cnemidophorus nativo Rocha et al., 1997

As noted above, *Lacerta cyanomelas* Schinz, 1822, and *Teius cyanomelas* Wied, 1824 (1822–1831) are senior names. To our knowledge, neither has “been used as a valid name after 1899” (ICZN, 1999: art. 23.9.1.1). The junior name *Cnemidophorus nativo* Rocha et al., 1997, has been used as a “presumed valid name, in at least 25 works, published by at least 10 authors in the immediately preceding 50 years and encompassing a span of not less than 10 years” (ICZN, 1999: art. 23.9.1.2).

The following 25 references meet the criteria quoted above: Adeoye and Ogunbanwo, 2007; Cabrera, 2004; Colli et al., 2003a, 2003b, 2009; Dias and Rocha, 2004; Dias et al., 2002; Feltrim and Lema, 2000; Giugliano et al., 2006; Menezes et al., 2000, 2004a, 2004b; Mesquita and Colli, 2003; Peccinini-Seale et al., 2004; Peloso et al., 2008; Reeder et al., 2002; Ribeiro et al., 2007; Rocha et al. 1997, 1999, 2000, 2005, 2008, 2009; Rodrigues, 2005; Vrcibradic et al., 2002.

Cnemidophorus nativo Rocha et al., 1997, the younger but valid name for the species is here designated as a nomen protectum. It has precedence over the senior names *Lacerta cyanomelas* Schinz, 1822, and *Teius cyanomelas* Wied, 1824 (1822–1831), which are here qualified as nomina oblita.

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REFERENCES

- Adeoye, G.O., and O.O. Ogunbanwo. 2007. Helminth parasites of the African lizard *Agama agama* (Squamata: Agamidae), in Lagos, Nigéria. *Revista de Biología Tropical* 55 (2): 417–425.
- Adler, Kraig (editor). 1981. Johann Baptist von Spix & Johann George Wagler. *Herpetology of Brazil*, with an introduction by P.E. Vanzolini. [Lawrence, KS]: Society for the Study of Amphibians and Reptiles, Facsimile Reprints in Herpetology.
- Adler, Kraig. 2007. Herpetologists of the past, part 2. In K. Adler (editor), *Contributions to the history of herpetology*, vol. 2, pp. 7–273. Saint Louis, MO: Society for the Study of Amphibians and Reptiles.
- Anglo-American Cataloguing Rules. 1998. Anglo-American cataloguing rules. 2nd ed., 1998 revision. Prepared under the direction of the Joint Steering Committee for Revision of AACR, a committee of the American Library Association, the Australian Committee on Cataloguing, the British Library, the Canadian Committee on Cataloguing, the Library Association, the Library of Congress. Chicago: American Library Association, xli, 676 pp.
- Ávila, R.W., and R.J. da Silva. 2009. Helminths of the teiid lizard *Kentropyx calcarata* (Squamata) from an Amazonian site in western Brazil. *Journal of Helminthology* 83 (3): 267–269.
- Ávila-Pires, Teresa Cristina Sauer de. 1995. Lizards of Brazilian Amazonia (Reptilia: Squamata). *Zoologische Verhandelingen (Leiden)* 299: [viii], 1–706.
- Ávila-Pires, Teresa Cristina Sauer de. 2005. Reptiles. In T. Hollowell and R.R. Reynolds (editors), *Checklist of the terrestrial vertebrates of the Guiana Shield*. *Bulletin of the Biological Society of Washington* 13: 24–40.
- Ávila-Pires, Teresa Cristina Sauer de, Laurie Joseph Vitt, Shawn Scott Sartorius III, and Peter Andrew Zani. 2009. Squamata (Reptilia) from four sites in southern Amazonia, with a biogeographic analysis of Amazonian lizards. *Boletim do Museu Paraense Emílio Goeldi Ciências Naturais* 4 (2): 99–118.
- Bocourt, Marie-Firmin. 1874. (Livraison 4) In A.H.A. Duméril, M.-F. Bocourt, and F. Mocquard (1870–1909), *Études sur les reptiles*, xiv, 1012 pp. + map + 99 pls. in 17 livraisons. In *Mission Scientifique au Mexique et dans l'Amérique Centrale, Recherches Zoologiques*: pt. 3, sect. 1. Paris: Imprimerie Nationale.⁹
- Boettger, Oskar. 1885. Liste von Reptilien und Batrachiern aus Paraguay. *Zeitschrift für Naturwissenschaften* 58: 213–248.
- Bosch, Robert, GmbH [corporate author]. 1986–1991. *Brasilien-Bibliothek der Robert Bosch GmbH*. Katalog. Stuttgart: Deutsch Verlags-Anstalt, 2 volumes in 3, including many color pls. **Vol. 1: 1986**,

⁹ See Vanzolini (1977: 115–116) for commentary and attribution of authorship and dates for the 17 livraisons of this monumental but bibliographically difficult work. It was reprinted in 1978 by Arno Press (New York), from the copy in the American Museum of Natural History.

- Abgeschlossen zum Jahresende 1983 (chronological bibliography, edited by S. Koppel), xxi, 516 pp. **Vol. 2:** Nachlaß des Prinzen Maximilian zu Wied-Neuwied, in 2 parts. **Part 1: 1988,** Illustration zur Reise 1815 bis 1817 in Brasilien (edited by R. Löschner and B. Kirschstein-Kamber), 217 pp. **Part 2: 1991,** Briefwechsel und Zeichnungen zu den naturhistorischen Werken (edited by B. Kirschstein-Kamber, S. Koppel, and R. Löschner), 366 pp.
- Boulenger, George Albert. 1885. Catalogue of the lizards in the British Museum (Natural History). 2nd ed. London: Trustees of the British Museum. Vol. 2, xiii, 497 pp. + 24 pls.
- Burt, Charles E. 1931. A study of the teiid lizards of the genus *Cnemidophorus* with special reference to their phylogenetic relationships. Bulletin United States National Museum 154: viii, 286 pp.
- Cabrera, Maria R. 2004. A new species of *Cnemidophorus* (Squamata: Teiidae) from western Argentina. *Amphibia-Reptilia* 25 (2): 265–275.
- Castoe, Todd A., Tiffany M. Doan, and Christopher L. Parkinson. 2004. Data partitions and complex models in Bayesian analysis: the phylogeny of Gymnophthalmid lizards. *Systematic Biology* 53 (3): 448–469.
- Cole, Charles J., Herbert C. Dessauer, Carol R. Townsend, and Margaret G. Arnold. 1995. *Kentropyx borckiana* (Squamata: Teiidae): a unisexual lizard of hybrid origin in the Guiana Region, South America. *American Museum Novitates* 3145: 1–23.
- Colli, Guarino R., et al. (+14 coauthors). 2003a. A new species of *Cnemidophorus* (Squamata, Teiidae) from the cerrado biome in central Brazil. *Occasional Papers Sam Noble Oklahoma Museum of Natural History* 14: 1–14.
- Colli, Guarino R., et al. (+8 coauthors). 2003b. A critically endangered new species of *Cnemidophorus* (Squamata, Teiidae) from a cerrado enclave in southwestern Amazonia, Brazil. *Herpetologica* 59 (1): 76–88.
- Colli, Guarino R., Lilian G. Giugliano, Daniel O. Mesquita, and Frederico G.R. França. 2009. A new species of *Cnemidophorus* from the Jalapão region, in the central Brazilian cerrado. *Herpetologica* 65 (3): 311–327.
- Cosson, J.F., et al. 1999. Ecological changes in recent land-bridge islands in French Guiana, with emphasis on vertebrate communities. *Biological Conservation* 91 (1999): 213–222.
- Cunha, Osvaldo Rodrigues da 1961. Lacertílios da Amazônia. II. Os lagartos da Amazônia Brasileira, com especial referência aos representados na coleção do Museu Goeldi. *Boletim do Museu Paraense Emílio Goeldi, Nova Serie Zoologia* 39: 1–189.
- Daudin, François-Marie. 1802 (“An X”). *Histoire naturelle, générale et particulière des reptiles*. Paris: F. Dufart, vol. 3, 452 pp. + pls. 29–45.
- Dias, Eduardo J.R., and Carlos F.D. Rocha. 2004. Thermal ecology, activity patterns and microhabitat use by two sympatric whiptail lizards (*Cnemidophorus abaetensis* and *Cnemidophorus ocellifer*) from northeastern Brazil. *Journal of Herpetology* 38 (4): 586–588.
- Dias, Eduardo José dos Reis, Carlos Frederico D. Rocha, and Davor Vrcibradic. 2002. New *Cnemidophorus* (Squamata; Teiidae) from Bahia State, northeastern Brazil. *Copeia* 2002 (4): 1070–1077.
- Feltrim, Aline Costa, and Thales de Lema. 2000. Uma nova espécie de *Cnemidophorus* Wagler, 1830 do estado do Rio Grande do Sul Brasil (Sauria, Teiidae). *Biociências (Porto Alegre)* 8 (1): 103–114.
- Freire, Eliza Maria Xavier. 1996. Estudo ecológico e zoogeográfico sobre a fauna de lagartos (Sauria) das dunas de Natal, Rio Grande do Norte e da Restinga de Ponta de Campina, Cabedelo, Paraíba, Brasil. *Revista Brasileira de Zoologia* 13 (4): 903–921.
- Frost, Darrel R., et al. (+18 coauthors). 2006. The amphibian tree of life. *Bulletin of the American Museum of Natural History* 297: 1–370 pp. + detached foldout cladogram.

- Gallagher, Daniel Stephen, Jr., and James Ray Dixon. 1980. A new lizard (Sauria: Teiidae: *Kentropyx*) from Brasil. *Copeia* 1980 (4): 616–620.
- Gallagher, Daniel Stephen, Jr., and James Ray Dixon. 1992. Taxonomic revision of the South American lizard genus *Kentropyx* Spix (Sauria: Teiidae). Museo Regionale di Scienze Naturali (Turin), *Bollettino* 10 (1): 125–171.
- Gallagher, Daniel Stephen, Jr., James Ray Dixon, and David J. Schmidly. 1986. Geographic variation in the *Kentropyx calcarata* species group (Sauria: Teiidae): a possible example of morphological character displacement. *Journal of Herpetology* 20 (2): 179–189.
- Gasnier, Thierry R., William E. Magnusson, and Albertina P. Lima. 1994. Foraging activity and diet of four sympatric lizard species in a tropical rainforest. *Journal of Herpetology* 28 (2): 187–192.
- Giugliano, Lilian G., Eucleia P.B. Contel, and Guarino R. Colli. 2006. Genetic variability and phylogenetic relationships of *Cnemidophorus parecis* (Squamata, Teiidae) from cerrado isolates in southwestern Amazonia. *Biochemical Systematics and Ecology* 34 (5): 383–391.
- Hoogmoed, Marinus S. 1973. Notes on the herpetofauna of Surinam IV. The lizards and amphisbaenians of Surinam. [*Biogeographica* 4]: ix, 419 pp. The Hague: W. Junk.
- Hoogmoed, Marinus S. 1979. The herpetofauna of the Guianan Region. In W.E. Duellman (editor), *The South American herpetofauna, its origin, evolution, and dispersal*. Monograph of the Museum of Natural History, University of Kansas 7: 241–279. Lawrence, KS: University of Kansas.
- Hoogmoed, Marinus S., and Jean Lescure. 1975. An annotated checklist of the lizards of French Guiana, mainly based on two recent collections. *Zoologische Mededelingen* 49 (13): 141–171 + 1 pl.
- IBAMA. 2008. Livro vermelho da fauna Brasileira ameaçada de extinção. Angelo Barbosa Monteiro Machado, Gláucia Moreira Drummond, and Arlindo Pereira Paglia (editors). Brasília, DF: MMA; Belo Horizonte, MG: Fundação Biodiversitas, vol. 2, 907 pp.
- ICZN. 1999. International code of zoological nomenclature, 4th ed. London: International Trust for Zoological Nomenclature, xxxix, 306 pp.
- Ineich, Ivan, and George R. Zug. 1991. Nomenclatural status of *Emoia cyanura* (Lacertilia, Scincidae) populations in the Central Pacific. *Copeia* 1991 (4): 1132–1136.
- Lima, Albertina P., Fernando I.O. Suárez, and Niro Higuchi. 2001. The effects of selective logging on the lizards *Kentropyx calcarata*, *Ameiva ameiva* and *Mabuya nigropunctata*. *Amphibia-Reptilia* 22 (2): 209–216.
- Linnaeus, Carl. 1758. *Systema naturæ per regna tria naturæ, secundum classes, ordines, genera, species, cum characteribus, differentiis, synonymis, locis*. 10th ed. Holmiae [Stockholm]: Laurentius Salvius, vol. 1: [iv], 824 pp.
- Linnaeus, Carl. 1766. *Systema naturæ* . . . 12th ed. Holmiae [Stockholm]: Laurentius Salvius, vol. 1 [part 1]: 532 pp.
- MacCulloch, Ross D., and Amy Lathrop. 2007. Herpetofauna of Mount Roraima, Guiana Shield Region, northeastern South America. *Herpetological Review* 38 (1): 24–30.
- Menezes, Vanderlaine A., Carlos F.D. Rocha, and Guilherme F. Dutra. 2000. Termorregulação no lagarto partenogenético *Cnemidophorus natio* (Teiidae) em uma área de Restinga do nordeste do Brasil. *Revista de Etologia* 2 (2): 103–109.
- Menezes, Vanderlaine A., Carlos F.D. Rocha, and Guilherme F. Dutra. 2004a. Reproductive ecology of the parthenogenetic whiptail lizard *Cnemidophorus natio* in a Brazilian Restinga habitat. *Journal of Herpetology* 38 (2): 280–282.

- Menezes, Vanderlaine A., Davor Vrcibradic, Joaquim Júlio Vicente, Guilherme F. Dutra, and Carlos F.D. Rocha. 2004b. Helminths infecting the parthenogenetic whiptail lizard *Cnemidophorus natio* in a Restinga habitat of Bahia state, Brazil. *Journal of Helminthology* 78 (4): 323–328.
- Merrem, Blasius. 1809. *Amphibiologische Beiträge, Erstes Stück. Annalen der Wetterauischen Gesellschaft für die gesammte Naturkunde* [“zu Hanau” added later to serial title] 1 (1): 1–20 + 3 pls.
- Merrem, Blasius. 1820. *Versuch eines Systems der Amphibien (Tentamen Systematis Amphibiorum)*. Marburg, Germany: J.C. Krieger, xv, 191 pp. + 1 pl. [identically numbered facing pages, German and Latin texts]
- Mesquita, Daniel Oliveira, and Guarino Rinaldi Colli. 2003. Geographical variation in the ecology of populations of some Brazilian species of *Cnemidophorus* (Squamata, Teiidae). *Copeia* 2003 (2): 285–298.
- Mesquita, Daniel O., Guarino R. Colli, Frederico G.R. França, and Laurie J. Vitt. 2006. Ecology of a cerrado lizard assemblage in the Jalapão region of Brazil. *Copeia* 2006 (3): 460–451.
- Moreira, Lorena A., Danté B. Fenolio, Hélder Lúcio Rodrigues Silva, and Nelson Jorge da Silva Jr. 2009. A preliminary list of the herpetofauna from termite mounds of the cerrado in the upper Tocantins river valley. *Papéis Avulsos de Zoologia (São Paulo)* 49 (15): 183–189.
- Myers, Charles W. 2000. A history of herpetology at the American Museum of Natural History. *Bulletin of the American Museum of Natural History* 252: 1–232.
- Nogueira, Cristiano, Guarino R. Colli, and Marcio Martins. 2009. Local richness and distribution of the lizard fauna in natural habitat mosaics of the Brazilian cerrado. *Austral Ecology* 34: 83–96.
- Peccinini-Seale, Denise, Carlos Frederico D. Rocha, Terezinha M.B. Almeida, Alexandre Fernando Araujo, and Marco Aurélio de Sena. 2004. Cytogenetics of the Brazilian whiptail lizard *Cnemidophorus littoralis* (Teiidae) from a Restinga area (Barra de Maricá) in southeastern Brazil. *Brazilian Journal of Biology* 64 (3B): 661–667.
- Pellegrino, Katia C.M., Miguel T. Rodrigues, Y. Yonenaga-Yassuda, and Jack W. Sites, Jr. 2001. A molecular perspective on the evolution of microteiid lizards (Squamata, Gymnophthalmidae), and a new classification for the family. *Biological Journal of the Linnean Society* 74 (3): 315–338.
- Peloso, Pedro Luiz Vieira, Carlos Frederico Duarte Rocha, Silvia Eliza Pavan, and Sérgio Lucena Mendes Peloso. 2008. Activity and microhabitat use by the endemic whiptail lizard, *Cnemidophorus natio* (Teiidae), in a Restinga habitat (Setiba) in the state of Espírito Santo, Brazil. *South American Journal of Herpetology* 3 (2): 89–95.
- Perry, Gad. 1999. The evolution of search modes: ecological versus phylogenetic perspectives. *American Naturalist* 153 (1): 98–109.
- Peters, James A., and Roberto Donoso-Barros. 1970. Catalogue of the Neotropical Squamata. Part II. Lizards and amphisbaenians. *Bulletin United States National Museum* 297: viii, 1–293.
- Peters, Wilhelm. 1869 (January). Mittheilung über neue Gattungen und Arten von Eidechsen. *Monatsberichte der Königlich Akademie der Wissenschaften zu Berlin* 1870: 77–66 + 1 pl. [Available as 1995 SSAR facsimile reprint, *The herpetological contributions of Wilhelm C.H. Peters (1815–1883)*: see 21–22 and 30 (for dating), 237–239 (for reprint).]
- Presch, William. 1980. Evolutionary history of the South American microteiid lizards (Teiidae: Gymnophthalminae). *Copeia* 1980 (1): 36–56.
- Reeder, Tod W., Charles J. Cole, and Herbert C. Dessauer. 2002. Phylogenetic relationships of whiptail lizards of the genus *Cnemidophorus* (Squamata, Teiidae): a test of monophyly, reevaluation of karyotypic evolution, and review of hybrid origins. *American Museum Novitates* 3365: 1–61.

- Reinhardt, J., and Ch. Lütken. "1861" [1862].¹⁰ Bidrag til Kundskab om Brasiliens Padder og Krybdyr. Videnskabelige Meddelelser fra den naturhistoriske Forening i Kjöbenhavn [Ser. 2, Vol. 3], year 1861 (Nr. 10–15): 143–242 + pls. 3–6. (*Gymnophthalmus maximiliani* is described on pp. 211–214, pl. 5.)
- Ribeiro, Leonardo B., Samuel C. Gomides, Aline O. Santos, and Bernadete M. Sousa. 2007. Thermo-regulatory behavior of the saxicolous lizard, *Tropidurus torquatus* (Squamata, Tropiduridae), in a rocky outcrop in Minas Gerais, Brazil. *Herpetological Conservation and Biology* 3 (1): 63–70.
- Ribeiro-Júnior, Marco Antônio, Toby A. Gardner, and Teresa C.S. Ávila-Pires. 2006. The effectiveness of glue traps to sample lizards in a tropical rainforest. *South American Journal of Herpetology* 1 (2): 131–137.
- Rocha, Carlos Frederico D. 2000. Biogeografia de répteis de Restingas: distribuição, ocorrência e endemismos. In F.A. Esteves and L.D. Lacerda (editors), *Ecologia de restingas e lagoas costeiras*: 99–116. NUPEN-UFRJ, Macaé, Rio de Janeiro, Brazil.
- Rocha, Carlos Frederico D., Helena Godoy Bergallo, and Denise Peccinini-Seale. 1997. Evidence of an unisexual population of the Brazilian whiptail lizard genus *Cnemidophorus* (Teiidae), with description of a new species. *Herpetologica* 53 (3): 374–382.
- Rocha, Carlos Frederico D., Vanderlaine Amaral de Menezes, and Helena Godoy Bergallo. 1999. *Cnemidophorus natio* (Brazilian whiptail lizard). *Herpetological Review* 30 (2): 109.
- Rocha, Carlos Frederico D., Alexandre F. Bamberg Araújo, Davor Vrcibradic, and Elizabeth Maria Mamede da Costa. 2000. New *Cnemidophorus* (Squamata: Teiidae) from coastal Rio de Janeiro State, southeastern Brazil. *Copeia* 2000 (2): 501–509.
- Rocha, Carlos Frederico D., Monique Van Sluys, Helena Godoy Bergallo, and Maria Alice S. Alves. 2005. Endemic and threatened tetrapods in the Restingas of the biodiversity corridors of Serra do Mar and the Central da Mata Atlântica in eastern Brazil. *Brazilian Journal of Biology* 65 (1): 159–168.
- Rocha, Carlos Frederico D., et al. 2008. Patterns of infestation by the trombiculid mite *Eutrombicula alfreddugesi* in four sympatric lizard species (genus *Tropidurus*) in northeastern Brazil. *Parasite (Paris)* 15 (2): 131–136.
- Rocha, Carlos Frederico D., et al. 2009. Comportamento de termorregulação em lagartos Brasileiros. *Oecologia Brasiliensis* 13 (1): 115–131.
- Rodrigues, Miguel Trefaut. 1987. Sistemática ecologia e zoogeografia dos *Tropidurus* do grupo *torquatus* ao sul do Rio Amazonas (Sauria, Iguanidae). *Arquivos de Zoologia (São Paulo)* 31 (3): 105–230.
- Rodrigues, Miguel Trefaut. 1996. A new species of lizard, genus *Micrablepharus* (Squamata: Gymnophthalmidae), from Brazil. *Herpetologica* 52 (4): 535–541.
- Rodrigues, Miguel Trefaut. 2003. Herpetofauna da caatinga. In I.R. Leal, M. Tabarelli, and J.M.C. Silva (editors), *Ecologia e conservação da caatinga*, vol. 4: 181–236. Recife: Universidade Federal de Pernambuco.
- Rodrigues, Miguel Trefaut. 2005. Conservação dos répteis brasileiros: os desafios para um país megadiverso. *Megadiversidade* 1 (1): 87–94.
- Rodrigues, Miguel Trefaut, Eliza Maria Xavier Freire, Katia Cristina Machado Pellegrino, and Jack W. Sites, Jr. 2005. Phylogenetic relationships of a new genus and species of microteiid lizard from the

¹⁰ This paper is variously cited as published either in "1861" (as dated on the individual parts of "Aaret 1861" [= vol. 3]) or "1862" (as dated at the bottom of the volume title page). The 1862 date seems correct. Reinhardt and Lütken's paper was presented ("*Meddeelt i Mødet* [imparted with courage]") on December 4, 1861; the next article in vol. 3 was presented in 1862 (June 20, 1862, as confirmed in vol. 4 for year 1862, p. 337).

- Atlantic forest of north-eastern Brazil (Squamata, Gymnophthalmidae). *Zoological Journal of the Linnean Society* 144 (4): 543–557.
- Rodrigues, Miguel Trefaut, Marco Antonio de Freitas, Thais Figueiredo Santos Silva, and Carolina Elena Viña Bertolotto. 2006. A new species of lizard genus *Enyalius* (Squamata, Leiosauridae) from the highlands of Chapada Diamantina, state of Bahia, Brazil, with a key to species. *Phyllomedusa* 5 (1): 11–24.
- Rodrigues, Miguel Trefaut, et al. (+6 coauthors). 2007. A new genus of microteiid lizard from the Atlantic forests of State of Bahia, Brazil, with a new generic name for *Colobosaura mentalis*, and a discussion of relationships among the Heterodactylini (Squamata, Gymnophthalmidae). *American Museum Novitates* 3565: 1–27.
- Schinz, H[einrich] R[udolf]. 1822. Das Thierreich eingetheilt nach dem Bau der Thiere als Grundlage ihrer Naturgeschichte und der vergleichenden Anatomie von dem Herrn Ritte von Cuvier . . . aus dem Französischen frey [frei] übersetzt und mit vielen Zusätzen versehen von H.R. Schinz. Vol. 2, Reptilien, Fische, Weichthiere, Ringelwürmer. Stuttgart: J.G. Cotta'schen Buchhandlung, [i]–xvi, [1]–835 pp. [reptiles and amphibians on pp. 1–189]
- Schinz, H[einrich] R[udolf]. 1833–1835. Naturgeschichte und Abbildungen der Reptilien. Nach den neuesten Systemen zum gemeinnützigen Gebrauche entworfen und mit Berücksichtigung für den Unterricht der Jugend bearbeitet von H.R. Schinz nach der Natur und den vorzüglichsten Originalien gezeichnet von K.J. Brodtmann. Schaffhausen: Brodtmann, 240 + i–iv pp., + 102 color pls. [“Originally issued in 17 parts.”]¹¹
- Shepard, Donald B. 2007. Habitat but not body shape affects predator attack frequency on lizard models in the Brazilian cerrado. *Herpetologica* 63 (2): 193–202.
- Smith, Geoffrey R., and Royce E. Ballinger. 2001. The ecological consequences of habitat and micro-habitat use in lizards: a review. *Contemporary Herpetology* 2001 (3): 1–13.
- Spix, Johann Baptist von. 1825 [original ed.]. *Animalia nova sive species novae lacertum quas in itinere per Brasiliam annis MDCCCXVII–MDCCCXX jussu et auspiciis Maximiliani Joseph I. Bavariae Regis suscepto collegit et descripsit Dr. J.B. de Spix*. Leipzig: Hübschmann, 26 pp. + 30 colored pls. [Reprinted in facsimile but with uncolored plates in Adler, 1981]
- Teixeira, Ruscaia D., Guarino R. Colli, and Sônia N. Bão. 1999. The ultrastructure of the spermatozoa of the lizard *Micrablepharus maximiliani* (Squamata, Gymnophthalmidae), with considerations on the use of sperm ultrastructure characters in phylogenetic reconstruction. *Acta Zoologica (Stockholm)* 80 (1): 47–59.
- Telford, Sam R., Jr., and Sam R. Telford, III. 2003. Rediscovery and redescription of *Plasmodium pifanoi* and description of two additional *Plasmodium* parasites of Venezuelan lizards. *Journal of Parasitology* 89 (2): 362–368.
- Vanzolini, Paulo E. 1977a. An annotated bibliography of the land and fresh-water reptiles of South America (1758–1975). Vol. 1 (1758–1900). São Paulo: Museu de Zoologia, 186 pp.

¹¹ Original part covers not seen. This citation is prepared from an AMNH copy printed in Leipzig and compared with a Museum of Comparative Zoology copy printed in Schaffhausen. The texts seem to come off the same or identical printing plates, but the MCZ copy has two title pages that were printed in type faces that differ from one another and differ also from type face on the AMNH title page. The subtitle material differs slightly in content among all three title pages.

- Vanzolini, Paulo E. 1977b. A new species of *Colobodactylus*, with notes on the distribution of a group of stranded microteiid lizards (Sauria, Teiidae). *Papéis Avulsos de Zoologia* (São Paulo) 31 (3): 19–47.
- Vanzolini, Paulo E. 1981. A quasi-historical approach to the natural history of the differentiation of reptiles in tropical geographic isolates. *Papéis Avulsos de Zoologia* (São Paulo) 34 (19): 189–204.
- Vanzolini, Paulo E. 1996. A contribuição zoológica dos primeiros naturalistas viajantes no Brasil. *Revista USP* (Dossiê Brasil dos Viajantes) (São Paulo) 30: 190–238.
- Vanzolini, Paulo E. 2003. A contribution to the ecogeography of the Brazilian cerrados. *Biologia Geral e Experimental* (São Cristóvão) 4 (1): 3–10.
- Vanzolini, Paulo E., and Celso Morato de Carvalho. 1991. Two sibling and sympatric species of *Gymnophthalmus* in Roraima, Brasil (Sauria, Teiidae). *Papéis Avulsos de Zoologia* (São Paulo) 37 (12): 173–226.
- Vanzolini, Paulo E., Ana Maria M. Ramos-Costa, and Laurie J. Vitt. 1980. Répteis das caatingas. Rio de Janeiro: Academia Brasileira de Ciências, [vi], 61 pp.
- Vitt, Laurie J. 1991a. Ecology and life history of the wide-foraging lizard *Kentropyx calcarata* (Teiidae) in Amazonian Brazil. *Canadian Journal of Zoology* 69 (11): 2791–2799.
- Vitt, Laurie J. 1991b. An introduction to the ecology of cerrado lizards. *Journal of Herpetology* 25 (1): 79–90.
- Voigt, F[riedrich] S[iegmond]. 1832. Das Thierreich, geordnet nach seiner Organisation. Als Grundlage der Naturgeschichte der Thiere und Einleitung in die vergleichenden Anatomie. Vom Baron von Cuvier . . . Nach der zweiten, vermehrten Ausgabe übersetzt und durch Zusätze erwehrt von F. S. Voigt. Zweiter Band, die Reptilien und Fische enthaltend. Leipzig: Brockhaus, xvi + 539 pp. [reptiles and amphibians on pp. 1–179].
- Vrcibradic, Davor, Carlos Frederico D. Rocha, and Rogério L. Teixeira. 2002. *Cnemidophorus natio* (NCN). *Herpetological Review* 33 (3): 223.
- Wagler, Johann Georg. 1828. *Descriptiones et icones amphibiorum*. Munich: J.G. Cotta, fascicle 1, [i–ii], pls. 1–12 + printed text for each pl.
- Werneck, Fernanda de P., and Guarino R. Colli. 2006. The lizard assemblage from seasonally dry tropical forest enclaves in the cerrado biome, Brazil, and its association with the Pleistocenic Arc. *Journal of Biogeography* 33 (11): 1983–1992.
- Werneck, Fernanda de P., Lilian G. Giugliano, Rosane G. Collevatti, and Guarino R. Colli. 2009. Phylogeny, biogeography and evolution of clutch size in South American lizards of the genus *Kentropyx* (Squamata: Teiidae). *Molecular Ecology* 18 (2): 262–278.
- Wied, Maximilian Prinz zu. 1820–1821. *Reise nach Brasilien in den Jahren 1815 bis 1817 von Maximilian Prinz zu Wied-Neuwied*. Frankfurt am Main: Heinrich Ludwig Brönnner, 2 vols.
- Wied, Maximilian Prinz zu. 1822–1831. *Abbildungen zur Naturgeschichte Brasiliens*, herausgegeben von Maximilian, Prinzen von Wied-Neuwied.¹² Weimar: Im Verlag des Landes-Industrie-Comptoirs. Recueil des Planches coloriées d'Animaux du Brésil, publié par S.A.S. le Prince Maximilien de Wied-Neuwied. Weimar: au Bureau d'Industrie. 90 unnum. folio pls. (most colored) ff. in 15 Lieferungen/Livraisons of 6 pls. each. Text in German and French. [Dates: Lief. 1, 1822; Lief. 2–4, 1823;

¹² Excluding Wied's 1824 title provided by Oken (next page), this is Wied's only publication in which the noble preposition *von* replaces *zu*, which was his family's choice for centuries. Also, as already noted (footnote 4), this is Wied's only work in which the compound family name Wied-Neuwied was used after 1824. These may have been editorial choices, not Wied's.

- Lief. 5–8, 1824; Lief. 9, 1825; Lief. 10–11, 1827; Lief. 12, 1828; Lief. 13, 1829; Lief. 14, 1830; Lief. 15, 1831]
- [Wied, Maximilian Prinz zu]. 1824. Verzeichniss der Amphibien, welche im zweyten Bande der Naturgeschichte Brasiliens vom Prinz Max von Neuwied werden beschrieben werden. (Nach Merrems Versuch eines System der Amphibien). Isis von Oken 14 (6): columns 661–673. [Title thought to have been written by Oken; this is a synopsis not of the “zweyten Bande” but of the first vol. of the 1825 *Beiträge* (next item)]
- Wied, Maximilian Prinz zu. 1825. Beiträge zur Naturgeschichte von Brasilien, von Maximilian, Prinzen zu Wied. Vol. 1 (Amphibien). Weimar, Germany: im Verlage Gr. H.S. priv. Landes-Industrie-Comptoirs, xxii, 614 pp. + 3 pls.
- Wied, Maximilian Prinz zu. 1839–1841. Reise in das innere Nord-America in den Jahren 1832 bis 1834 von Maximilian Prinz zu Wied. Coblenz, Germany: J. Hoelscher, 2 vols. + pls., folding map.
- Williams, Ernest E., and Paulo E. Vanzolini. 1980. Notes and biogeographic comments on anoles from Brasil. *Papéis Avulsos de Zoologia* (São Paulo) 34 (6): 99–108.
- Wood, Casey A. 1931. An introduction to the literature of vertebrate zoology. London: Oxford University Press, frontisp., xix, 643 pp.
- Yonenaga-Yassuda, Yatiyo, and Miguel Trefaut Rodrigues. 1999. Supernumerary chromosome variation, heteromorphic sex chromosomes and banding patterns in microteiid lizards of the genus *Micrablepharus* (Squamata, Gymnophthalmidae). *Chromosome Research* 7 (1): 21–29.

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