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A new species of the *Scinax catharinae* Group (Anura: Hylidae) from Northeastern Brazil

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Abstract

We describe a new species of the *Scinax catharinae* Group from Municipality of Porto Seguro, State of Bahia northeastern Brazil. The new species is mainly characterized by its small size, nuptial pad dark colored, and compound pectoral fold. Additionally, we describe the structure of its nuptial pad and compare it with that of *S. agilis*. We also briefly discuss its phylogenetic relationships within *Scinax*.

Key words: Dendropsophini, nuptial pad, morphology, systematics

Resumo

Aqui nós descrevemos uma nova espécies do grupo de *Scinax catharinae* do município de Porto Seguro, Estado da Bahia, região nordeste do Brasil. A nova espécie é caracterizada principalmente pelo pequeno tamanho, almofada nupcial de coloração escura e prega peitoral composta. Além disso, nós descrevemos a estrutura de sua almofada nupcial e a comparamos com aquela de *S. agilis.* Apresentamos também uma discussão sobre o relacionamento filogenético em *Scinax*.

Palavras chave: Dendropsophini, almofada nupcial, morfologia, sistemática

Introduction

The genus *Scinax* Wagler, 1830 currently includes 112 species, occurring from Mexico to Argentina and Uruguay, Trinidad and Tobago, and St. Lucia (Frost 2014). The most accepted relationship hypothesis within the genus indicates that species of *Scinax* are divided in two clades, the *S. catharinae* and the *S. ruber* clades (Faivovich 2002). The former clade contains the *S. catharinae* and *S. perpusillus* Groups. The *Scinax catharinae* Group as currently defined was proposed by Faivovich (2002) on the basis of three morphological synapomorphies: posterior portion of the cricoid ring extensively elongated and curved; partial mineralization of intercalary elements between ultimate and penultimate phalanges; laterodistal origin of the *m. extensor brevis distalis digiti* III. Currently, the *Scinax catharinae* Group includes 32 species, listed in Lourenço *et al.* (2013). Although species recognition and identification is not simple, new species are frequently described (see Frost 2014). Most species of the *S. catharinae* Group occur in Brazil with the exception of *S. aromothyella* Faivovich, 2005 and *S. berthae* (Barrio, 1962), which also occur in open areas of Argentina, Uruguay and Paraguay (Brusquetti & Lavilla 2006; Laufer *et al.* 2009; Busin *et al.* 2010; Pereyra *et al.* 2012). In Brazil species of the group are distributed in Atlantic Forest patches and in the Cerrado Biomes, especially in gallery forests (Caramaschi & Kisteumacher 1989; Pombal & Bastos 1996; Pombal *et al.* 2010).

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A recent taxonomic review of the *Scinax catharinae* Group and fieldwork in the State of Bahia, northeastern Brazil, realized that these populations that are currently nominated as *Scinax agilis* (Cruz & Peixoto, 1983) are instead a new species, being also the the smallest species of the group. *Scinax agilis* was historically allocated to different groups of *Scinax* (Duellman & Wiens 1992). However, *S. agilis* was recognized as belonging to *S. catharinae* Group in phylogenetic studies (Faivovich 2002; Faivovich *et al.* 2005). For its resemblance with *S. agilis* and because the new species presents the synapomorphies listed above for this species group, we assign the new species to the *S. catharinae* Group and provide elements for a discussion on the phylogenetic relationships in *Scinax*.

Material and methods

The type specimens were collected at the Municipality of Porto Seguro, State of Bahia, northeastern Brazil and housed at the Museu Nacional collection, Rio de Janeiro, Brazil (MNRJ) and at the Célio F.B Haddad collection, Universidade Estadual Paulista Júlio de Mesquita Filho, Rio Claro, São Paulo State (CFBH). Adult specimens were fixed in 10% formalin and stored in 70% ethanol. Sex was determined by the presence of vocal slits and nuptial pads in males, the observation of gonads in females by dissection or direct visualization through the skin. One female was dissected and its oocytes were counted (CFBH 36868).

Abbreviations for adults measurements are as follows: SVL (snout–vent length), HW (head width), HL (head length), IND (internarial distance), ED (eye diameter), END (eye–nostril distance), IOD (interorbital distance), TD (tympanum diameter), THL (thigh length), TL (tibia length), and FL (foot length). Measurements were taken with a caliper to the nearest 0.1 mm, except IND, ED, END, IOD, and TD, which were taken with an ocular micrometer in a Zeiss Stereomicroscope. All measurements are in millimeters and follow the standards of Duellman (1970). Webbing formula notation followed Savage & Heyer (1967) as modified by Myers & Duellman (1982). Digits are numbered II–V because the first digit is lost in anurans (Fabrezi & Alberch 1996). Snout shape follows the standards of Heyer *et al.* (1990), with changes. In dorsal view, two new snout shapes were added among those previously defined by these authors: rounded with a mucronate tip and sub-elliptical with acute tip. These new shapes are defined by adding the general design of snout with the shape of its tip. That is, the former has rounded overall design, which is wider than mucronate shape at the proximal portion, but has mucronate tip. The other shape has sub-elliptical overall design, wider than the pointed shape of Heyer *et al.* (1990), but has acute tip (see figure 1A–F for examples of snout shapes in *Scinax catharinae* Group).

We performed the comparisons of adult specimens based on observations of museum material and on literature information for color in life (see item Diagnosis and comparison with other species).

Specimens used in descriptions or for comparisons (listed in Appendix) are housed at the Adolpho Lutz Collection, Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro (AL–MN); Célio F.B. Haddad collection, Universidade Estadual Paulista Júlio de Mesquita Filho, Rio Claro (CFBH); Departamento de Zoologia, Universidade Federal do Rio de Janeiro, Rio de Janeiro (ZUFRJ); Laboratório de Biossistemática de Anfíbios, Universidade Federal do Estado do Rio de Janeiro, Rio de Janeiro (UNIRIO); Museu Argentino de Ciencias Naturales "Bernadino Rivadavia", Buenos Aires (MACN); Museu de Ciências Naturais da Universidade Federal do Paraná, Curitiba (MCNUFPR); Museu Nacional, Universidade Federal do Rio de Janeiro, Rio de Janeiro (MNRJ); Museu de Zoologia "Prof. Adão José Cardoso", Universidade Estadual de Campinas, Campinas (ZUEC); Museu de Zoologia, Universidade de São Paulo, São Paulo (MZUSP); Pontifícia Universidade Católica de Minas Gerais, Belo Horizonte (MCNAM); Universidade Federal de Minas Gerais, Belo Horizonte (UFMG).

In order to examine the morphological character states indicated as synapomorphies for the *S. catharinae* Group, we examined the hand muscles, bone structures of the hands and feet, and the larynx of two specimens (MNRJ 67838 and MNRJ 80141). To facilitate the observation of muscles, small amounts of iodum/potassium iodine solution (Lugol's iodine at 5%) topically were applied on the region observed (Bock & Shear, 1972). The staining and clearing protocol was adapted from Taylor & Van Dike (1985). We examined the structure of the conspicuous nuptial pad of the new species and compared with two other species of the *S. catharinae* Group. Therefore, the nuptial pads of one adult male of *Scinax agilis* (CFBH 22808), one adult male of *Scinax berthae* (MACN 38495) and one adult male of the new species (CFBH 36902) were removed, dehydrated through an ascending series of ethanol through 100% ethanol, dried using an EMS 850 critical point dryer (Electron

Microscopy Sciences, Fort Washington, New York, EEUU), and coated with gold:palladium (40:60) using a SC 7620 Mini Sputter Coater Termo VG Scientific (Quorum Technologies, East Grinstead, West Sussex, UK), and observed using a Philips XL30 TMP New Look scanning electron microscope (Eindhoven, The Netherlands). Nuptial pad description follows Luna *et al.* (2012).

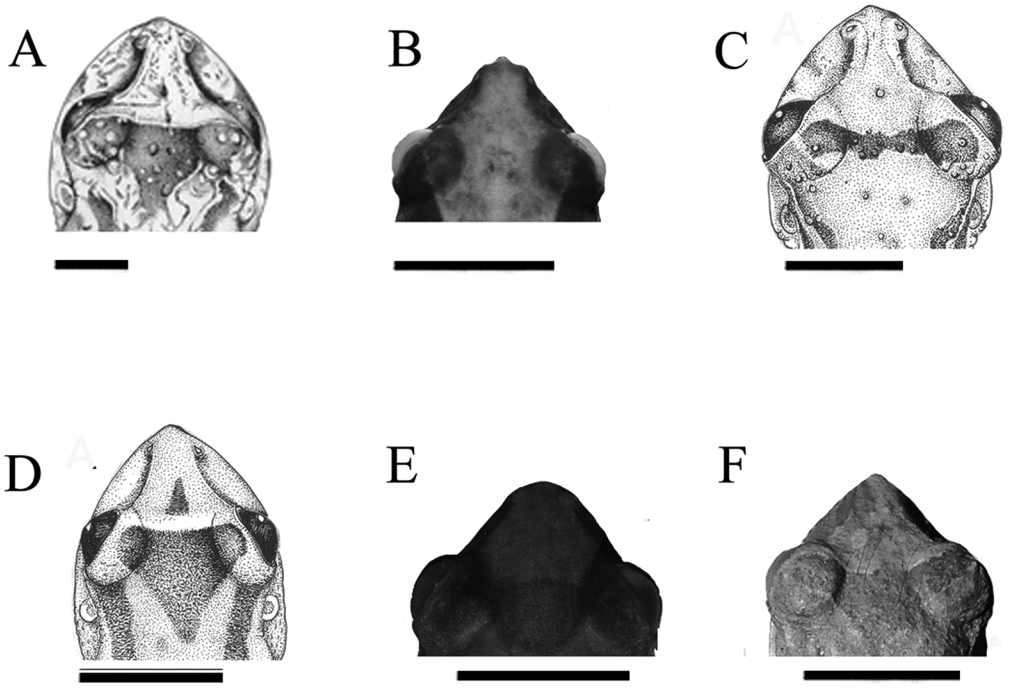

FIGURE 1. Some snout shapes observed in the *Scinax catharninae* group: (A) rounded (*Scinax brieni*; CFBH 24839); (B) mucronate (*S. argyreornatus*; MNRJ 65945); (C) rounded with mucronate tip (*S. angrensis*; MNRJ 2512); (D) subovoid (*S. canastrensis*; MNRJ 4147); (E) sub-elliptical (*S. aromothyella*; MACN 35278); (F) sub-elliptical with acute tip (*S. luizotavioi*; MNRJ 82623). Scale bar= 5 mm.

Results

***Scinax melanodactylus* sp. nov.**
(Fig. 2–4)

Scinax agilis—Faivovich, 2005. Herpetologica, 61: 77.
Scinax agilis—Pimenta *et al.* 2007. Zootaxa, 1441: 49 (part.)
Scinax agilis—Rocha *et al.* 2008. Brazilian Journal of Biology, 68: 104.
Scinax agilis—Lourenço *et al.* 2009. Herpetologica, 65: 478 (part.)
Scinax agilis—Pombal *et al.* 2010. Zoologia, 27: 802 (part.)
Scinax agilis—Cruz *et al.* 2011. Zootaxa, 3096: 25 (part.)
Scinax agilis—Lima *et al.* 2011. Boletim do Museu Nacional, 529:6 (part.)
Scinax agilis—Passos *et al.* 2012. Check List. Journal of Species Lists and Distribution, 8: 792 (part.)

Holotype. MNRJ 80145, an adult male collected in the road to Canavieiras (BA 001), district of Trancoso (16° 34' 5.80" S, 39° 11' 4.20" W; elevation 68 m), Municipality of Porto Seguro, State of Bahia, Brazil, in May, 2012 by T.S. Soares and P.V. Scherrer.

Paratypes. MNRJ 80141−80144, four adult males collected with the holotype; MNRJ 67838 an adult male collected on 6 to 15 June, 2010 by T.S. Soares and colleagues; CFBH 36877, an adult male collected on 17 April, 2014 by A.C.C. Lourenço, D. Baêta, A.F. Sabbag, and D. Morais; CFBH 36893, 36901−36903, four adult males, CFBH 36892, 36896−36899, five adult females, and CFBH 36894, 36895, 36900, three juveniles. All collected in Coroa Vermelha, Beira Mar Avenue (16º 22' 37.33" S, 39º 01' 12.24"W; elevation 5 m), Municipality of Porto Seguro, State of Bahia, Brazil, on 18 April, 2014 by A.C.C. Lourenço, A.F. Sabbag, D. Baêta, and D. Morais.

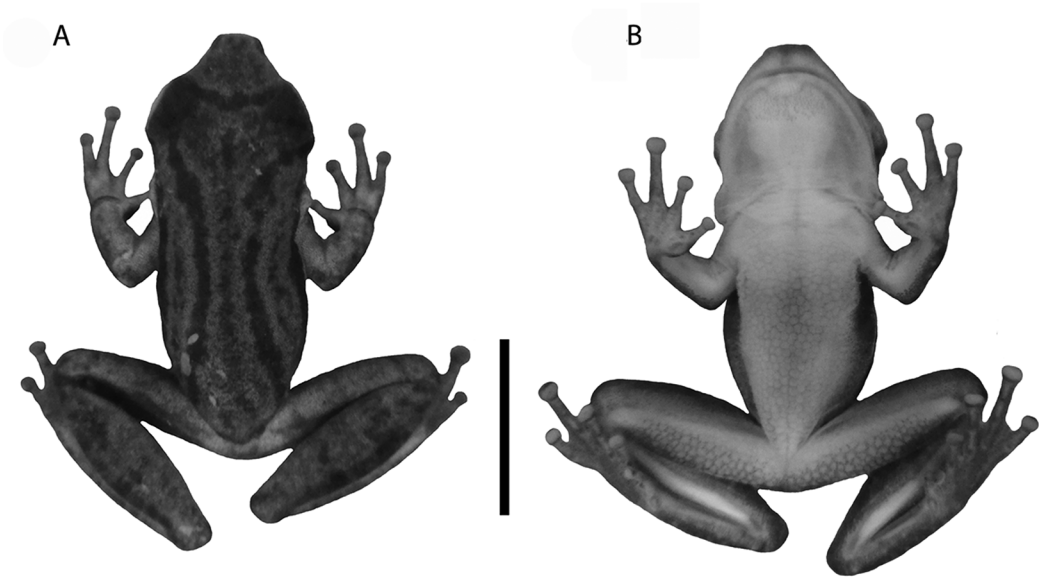

FIGURE 2. Dorsal and ventral views of *Scinax melanodactylus* **sp. nov.**, holotype (MNRJ 80145). Scale bar= 5 mm.

Referred specimens. All from Brazil. CFBH 1939 an adult male, CFBH 1940–1941 and 1943 three adult females collected at Municipality of Conceição da Barra, State of Espírito Santo; CFBH 7358–7361, four adult females collected at Municipality of Passo do Camaragibe, State of Alagoas; MZUSP 141339−141342, four adult males collected at Municipality of Passo do Camaragibe, State of Alagoas; MNRJ 46853 an adult female and MNRJ 46854 an adult male collected at Municipality of Belmonte, State of Bahia; MZUSP 88972−88974, three adult males collected at Municipality of Aracajú, State of Sergipe; UFBA 3739, an adult males collected at Municipality of Porto Seguro, State of Bahia; UFBA 3974, 4734−4736, 4931−4932, 4937, 4945, 4952, 6044−6045 adult males collected at Municipality of Mata de São João, State of Bahia; UFBA 3973, 3975−3981, 3983, 3985−3990, 3919, 3973, 4330−4333, 4394, 4934−4935, 4939, 4941−4942, 4944, 4948−4951, adult females collected at Municipality of Mata de São João, State of Bahia; UFBA 4396, adult male collected at Municipality of Camaçari, State of Bahia; UFBA 53130, adult male collected at Municipality of Santo Amaro das Brotas, State of Sergipe; MNRJ 75122−75126 and UFBA 10420, adult females collected at Municipality of Ilhéus, State of Bahia; UFBA 5915, 5947−5949, adult females collected at Municipality of Entre Rios, State of Bahia; UFBA 9605−9607, adult females collected at Municipality de Prado, State of Bahia.

Diagnosis and comparison with other species. The new species is included in the *S. catharinae* Group for having all phenotypic synapomorphies pointed out by Faivovich (2002) for this group (posterior part of the cricoid ring extensively elongated and curved; partial mineralization of intercalary elements between ultimate and penultimate phalanges; laterodistal origin of the *m. extensor brevis distalis digiti* III).

This new species is characterized by its small size (SVL males 12.0–16.0, n=11; SVL females 13.2–17.3, n=5); snout subovoid in dorsal view; *canthus rostralis* undifferentiated; loreal region concave and oblique; vocal slits present in males; males with vocal sac not expanded; males with hypertrophied forearms; absence of macroscopic glandular acini on the pectoral region; pectoral fold present; absence of macroscopic glandular acini on the medial region of the forearm; absence of macroscopic glandular acini on the dorsal region of the fingers II and III; dark colored and nonhypertrophied nuptial pad (Fig. 4); interocular region with a thick, black longitudinal line or without markings; dorsolateral white band, dorsally bordered by dark brown stripe; skin on dorsum smooth; belly and throat beige; absence of bright coloration on inguinal region and hidden portions of the thigh and shank; absence of externally differentiated glands on the inguinal region of male; the interdigital membrane reaches the base of the disc on the medial margin of the toe V.

Scinax melanodactylus is distinguishable from all species of *Scinax* in possessing dark colored nuptial pads on digit II and it differs from all species of *Scinax catharinae* Group except *S. agilis* in possessing compound pectoral fold. Furthermore, *Scinax melanodactylus* presents a distinctive marking pattern and color on the body, which is

characterized by the presence of a white dorsolateral band, dorsally bordered by dark brown strip, and by the presence of a black longitudinal line on the interocular region (variable in some specimens that do not have a line in this region). This feature helps differentiate the new species from all other of the *S. catharinae* Group except *S. agilis*.

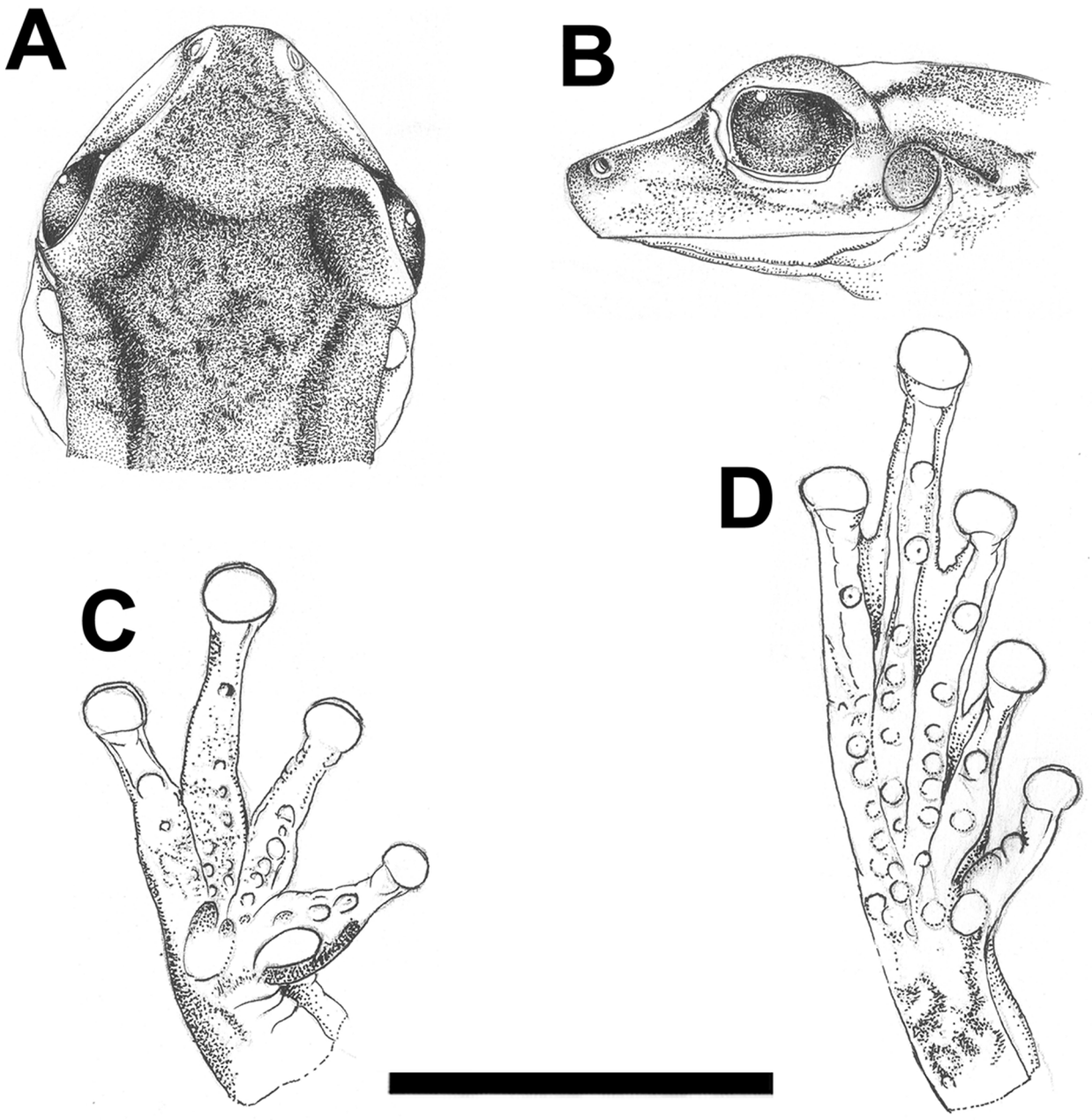

FIGURE 3. *Scinax melanodactylus* **sp. nov.**, holotype (MNRJ 80145). (A) dorsal and (B) lateral views of the head; (C) palmar view of the hand and (D) plantar view of the foot. Scale bar= 5 mm.

In addition, *Scinax melanodactylus* differs from *S. albicans* (Bokermann, 1967), *S. angrensis* (Lutz, 1973), *S. ariadne* (Bokermann, 1967), *S. aromothyella*, *S. berthae*, *S. brieni* (De Witte, 1930), *S. canastrensis* (Cardoso & Haddad, 1982), *S. carnevallii* (Caramaschi & Kisteumacher, 1982), *S. catharinae* (Boulenger, 1888), *S. flavoguttatus* (Lutz & Lutz, 1939), *S. hiemalis* (Haddad & Pombal, 1987), *S. humilis* (Lutz, 1954), *S. jureia* (Pombal & Gordo, 1991), *S. kautskyi* (Carvalho-e-Silva & Peixoto, 1991), *S. littoralis* (Pombal & Gordo, 1991), *S. longilineus* (Lutz, 1968), *S. luizotavioi* (Caramaschi & Kisteumacher, 1989), *S. muriciensis* Cruz, Nunes & Lima, 2011, *S. obtriangulatus* (Lutz, 1973), *S. pombali* Lourenço, Carvalho, Baêta, Pezzuti & Leite, 2013, *S. ranki*

(Andrade & Cardoso, 1987), *S. rizibilis* (Bokermann, 1964), *S. skaios* Pombal, Carvalho, Canelas & Bastos, 2010, *S. strigilatus* (Spix, 1824), *S. trapicheiroi* (Lutz, 1954), and *S. tripui* Lourenço, Nascimento & Pires, 2009 by its smaller size (SVL of males in *S. melanodactylus* 12.0–16.0; combined SVL of males in these species 16.7–42.8; SVL of female in *S. melanodactylus* 13.2–17.3; combined SVL of females in these species 19.5–47.0); from *S. heyeri* (Weygoldt, 1986) by the smaller size of males only (combined SVL of males in *S. heyeri* 21.1–24.4); from *S. argyreornatus* (Miranda-Ribeiro, 1926) and *S. machadoi* (Bokermann & Sazima, 1973) by the smaller size of females only (combined SVL of females in these species 18–25.1).

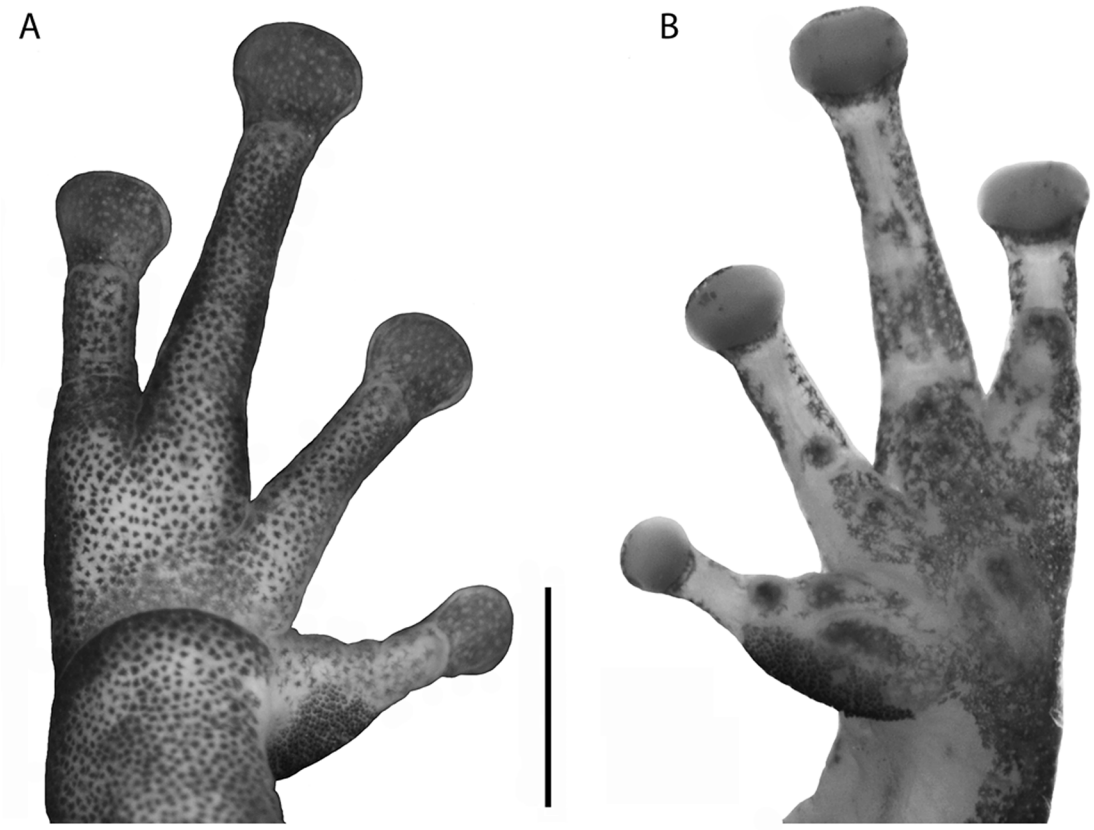

FIGURE 4. Left hand of *Scinax melanodactylus* **sp. nov.**, holotype (MNRJ 80145) in dorsal and ventral view. See the black nuptial pad on finger II. Scale bar=1 mm.

The new species is most similar to *Scinax agilis* but differs from it by the presence of dark colored nuptial pad in males. Also, it differs from *S. rizibilis* in having nonhypertrophied nuptial pad.

Scinax melanodactylus differs from *S. agilis*, *S. albicans*, *S. angrensis*, *S. argyreornatus*, *S. berthae*, *S. canastrensis*, *S. carnevallii*, *S. centralis* (Pombal & Bastos, 1996), *S. flavoguttatus*, *S. heyeri*, *S. hiemalis*, *S. humilis*, *S. kautskyi*, *S. littoralis*, *S. machadoi*, *S. muriciensis*, *S. pombali*, *S. ranki*, *S. skuki* Lima, Cruz & Azevedo, 2011, *S. strigilatus*, *S. trapicheiroi*, and *S. tripui* in having hypertrophied forearms in males.

The new species differ from the most species of the *S. catharinae* Group except *S. canastrensis*, *S. centralis*, *S. longilineus*, *S. machadoi*, *S. pombali*, *S. rizibilis*, and *S. skaios* by its subovoid snout in dorsal view (sub-elliptical in *S. aromothyella* and *S. berthae*; rounded in *S. ariadne*, *S. catharinae*, *S. brieni*, *S. obtriangulatus*, and *S. ranki*; rounded with a mucronate tip in *S. albicans*, *S. angrensis*, *S. flavoguttatus*, *S. hiemalis*, *S. heyeri*, *S. humilis*, *S. littoralis*, *S. muriciensis*, *S. strigilatus*, *S. trapicheiroi*, and *S. tripui*; mucronate in *S. carnevallii* and *S. kautskyi*; sub-elliptical with acute tip in *S. jureia* and *S. luizotavioi*; mucronate or sub-elliptical in *S. argyreornatus* and *S. skuki*).

Scinax melanodactylus differs from *S. angrensis*, *S. ariadne*, *S. brieni*, *S. canastrensis*, *S. carnevallii*, *S. catharinae*, *S. centralis*, *S. flavoguttatus*, *S. kautskyi*, *S. heyeri*, *S. hiemalis*, *S. humilis*, *S. jureia*, *S. littoralis*, *S. longilineus*, *S. luizotavioi*, *S. muriciensis*, *S. obtriangulatus*, *S. pombali*, *S. skaios*, *S. strigilatus*, *S. trapicheiroi*, and *S. tripui* in having poorly marked *canthus rostralis*.

The presence of vocal slits differentiates the new species from *S. ariadne* and *S. skaios* (vocal slits absent). The new species is distinguished from *S. aromothyella*, *S. berthae*, and *S. rizibilis* by its vocal sac in males not externally expanded (notably expanded in these species)

The new species differs from *S. canastrensis*, *S. carnevallii*, *S. flavoguttatus*, *S. kautskyi*, *S. longilineus*, *S. machadoi*, *S. muriciensis*, *S. skaios*, *S. strigilatus*, and *S. tripui* by the absence of glandular acini on the medial region of forearm (glandular acini present).

The lack of glandular acini on the dorsal region of the fingers II and III distinguish the new species from *S. albicans*, *S. angrensis*, *S. brieni*, *S. canastrensis*, *S. catharinae*, *S. carnevallii*, *S. flavoguttatus*, *S. humilis*, *S. kautskyi*, *S. littoralis*, *S. longilineus*, *S. luizotavioi*, *S. machadoi*, *S. obtriangulatus*, *S. trapicheiroi*, and *S. tripui* (glandular acini present).

Scinax melanodactylus differs from almost all species of the *S. catharinae* Group except *S. aromothyella* and *S. berthae* in having smooth skin on dorsum (rough in *S. ariadne*, *S. canastrensis*, *S. longilineus*, *S. pombali* and *S. skaios*; covered by scattered tubercles in the remaining species).

The lack of an externally differentiated inguinal gland distinguishes *S. melanodactylus* from *S. ariadne*, *S. brieni*, *S. canastrensis*, *S. catharinae*, *S. centralis*, *S. flavoguttatus*, *S. jureia*, *S. hiemalis*, *S. longilineus*, *S. luizotavioi*, *S. obtriangulatus*, *S. ranki*, *S. rizibilis*, *S. skaios*, and *S. tripui* (particularly hypertrophied in *S. centralis* and externally well differentiated in the other species, often enclosed by a fold).

Scinax melanodactylus presents a white dorsolateral band, dorsally bordered by dark brown stripe, and a black longitudinal line on the interocular region (or without markings in this region). This pattern is unique to this species and *S. agilis* among all species of the *S. catharinae* Group.

The pale belly and throat differentiate the new species from *S. ariadne*, *S. brieni*, *S. catharinae*, *S. flavoguttatus*, *S. jureia*, and *S. tripui* (*S. ariadne*, *S. flavoguttatus*, and *S. tripui* have irregular beige spots on brown background in this region; *S. brieni*, *S. catharinae*, and *S. jureia* have irregular lines and dots equally distributed on beige background in this region).

The new species has no flash color on the inguinal region and hidden areas of the thigh and shank, unlike *S. ariadne* (light brown irregular blotches on violet or pink background; personal observation), *S. aromothyella* (dark yellow; Faivovich 2005), *S. berthae* ("irregular yellow-orange spots"; Barrio 1962), *S. brieni* ("pale bluish color on the concealed areas"; B. Lutz 1973), *S. canastrensis* ("yellow"; Cardoso & Haddad 1982), *S. catharinae*, *S. humilis*, and *S. trapicheiroi* (dark brown blotches on light blue or white background; personal observation), *S. centralis* ("yellow on dark brown background"; Pombal & Bastos 1996), *S. flavoguttatus* and *S. heyeri* (brown blotches on orange backgroud; personal observation), *S. hiemalis* ("black blotches on green background"; Haddad & Pombal 1987), *S. longilineus* and *S. machadoi* (vermiculate spots on yellow or pale background; personal observation) *S. obtriangulatus* ("dull grayish violet"; B. Lutz 1973), *S. pombali* (irregular brown blotches on yellow background; personal observation) *S. ranki* (dark brown blotches on greenish background; personal observation), *S. skaios* (vermicularis dark brown spots on light green background; personal observation), *S. strigilatus* ("concealed surfaces of flanks and thighs greenish"; Pimenta *et al.* 2007), and *S. tripui* (irregular brown blotches on light green background; personal observation).

Description of the holotype. Small sized (SVL 13.1). The snout is subovoid in dorsal view and protruding in profile. Nostril elliptical, located laterally, immediately before the tip of snout, opening directed dorso–laterally. *Canthus rostralis* undifferentiated. Loreal region oblique and concave. Eye large, diameter 50% of head width. Interorbital and internostril distance 41.3% and 28.3% of head width respectively. Tympanum rounded, annulus tympanicus well defined, its diameter 39% of eye diameter. Supratympanic fold present, well evident, extending from posterior corner of eye to just anterior to shoulder. Tongue unattached on the posterior and laterally borders. Vocal slits present, originating on the side of the tongue and running to the posterolateral corner of the mouth. Choanae elliptical. Vomerine teeth in two contiguous convex series of three teeth each, positioned between choanae. Vocal sac not expanded externally. Forearms longer than arms, hypertrophied in males.

Pectoral area and medial region of the forearm without macroscopic glandular acini. Outer margin of forearm and tarsus smooth. Outer metacarpal tubercle bifid. Inner metacarpal tubercle single and elliptical. Subarticular tubercles single and rounded. Supernumerary tubercles small and rounded. Dorsal region of the fingers II and III without macroscopic glandular acini. Webbing absent between fingers II and III and basal between other fingers. Discs on fingers elliptical, wider than long. Relative finger length II<III=V<IV. Glandular area on medial margin of Finger II develop to form a distinct dark colored nuptial pad.

Foot 40% of snout vent length. Inner metatarsal tubercle single and elliptical, larger than outer, which is single, rounded and very little. The subarticular tubercles are single and rounded. Inner metatarsal tubercle single and rounded, larger than the outer that is rounded and very small. Supernumerary tubercles rounded and distributed across the plantar surface. Relative toe length: I<II<V<III<IV. Webbing formula I — II$1^{1/2}$ — 3III$1^{1/2}$ — 3IV3 — $1^{1/2}$V (basal between toes I and II). Discs elliptical, wider than long.

Externally differentiated inguinal gland absent. The pectoral region has compound folds, that is, when folds has both pre-axillary and post-axillary elements (see character 3, state 0 in Faivovich, 2002). Cloacal opening at upper level of thighs. Skin on dorsum smooth; granular on throat, belly, and undersurfaces of thigh.

Measurements of the holotype. SVL 13.1; HW 4.42; HL 5.1; END 1.26; IND 1.34; ED 2.32; IOD 1.88; TD 0.8; TL 6.64; THL 6.76; FL 5.12.

Color of holotype in preservative. Overall dorsal coloration brown. The upper lip is white with brown dots. The interocular region has a black longitudinal line. The lateral region has a white stripe dorsally bordered by a brown line, originates on the posterior region of eye and reaches the inguinal region. The dorsum presents two longitudinal brown lines that reach the inguinal region, and three other lines that are clearer and disrupted in some points, interspersing the first two. The dorsal region of hindlimbs is pale and has brown dots. *Canthus rostralis* with a black line. Iris gray. The inguinal region is fully pale. The belly and throat are pale.

Color in life (based on type series). The same as in preservative, except by the brighter and sharper intensity of color and by the brown colored iris. The inguinal region shows no vivid color.

Variation among paratypes and referred specimens. Some measurements are shown on Table 1. Males are more robust and smaller than females. The forearms of females are not hypertrophied as in males. Males and females have variable toe webbing formula: I — II$1^{1/2}$ — 3(3^{+})III$1^{1/2}$ — 3^{-}(3)IV$2^{1/2}$(3) — $1^{1/2}$V in males and I — II$1^{1/2}$ — 3(3^{+})III11/2(1^{+}) — 3^{+}($3^{1/2}$)IV3($2^{1/2}$) — $1^{1/2}$(1)V in females (rudimentary between fingers I and II). Some specimens may have four vomerine teeth (n=4), in some others the vomerine teeth seemed damaged (n=6), so they were not counted. Some specimens have no interocular line (n=6). The longitudinal lines on dorsum are absent in some specimens (n=4); others specimens have only the two darker lines (n=3) or have three to five longitudinal lines, disrupted (n=4) or complete (n=3).

TABLE 1. Recorded measurements (in mm) of the adult paratypes of *Scinax melanodactylus*. Ranges followed by means and standard deviation in parentheses.

	Males (n=11)	Females (n=5)
SVL	12.0–16.0 (13.5±0.9)	13.2–17.3 (16.3±1.2)
HL	4.3–6.0 (5.3±0.5)	5.6–6.3 (6.0±0.2)
HW	4.0–5.6 (4.6±0.4)	5.0–5.9 (5.5±0.3)
END	1.2–2.3 (1.5±0.2)	1.1–2.3 (1.8±0.3)
IND	1.1–1.6 (1.3±0.1)	1.4–1.7 (1.6±0.1)
ED	2.2–2.9 (2.3±0.1)	2.3–2.9 (2.6±0.2)
IOD	1.7–2.3 (1.9±0.2)	2.0–2.3 (2.8±0.2)
TD	0.7–1.1 (0.9±0.1)	0.8–1.1 (1.0±0.1)
THL	5.8–8.2 (6.8±0.6)	8.0–8.7 (8.4±0.3)
TL	6.7–8.6 (7.3±0.5)	7.7–9.2 (8.7±0.5)
FL	4.0–6.1 (5.4±0.4)	10.0–11.5 (10.6±0.5)

Structure of the nuptial pad (CFBH 36902). The surface of the nuptial pad is easily distinguishable from the rest of the skin by the presence of numerous dark colored epidermal projections (EPs). The space between EPs is not colored. The nuptial pad covers dorsally the base of the first digit reaching the proximal margin of the basal phalanx and, ventrally, nearly half of the inner metacarpal tubercle (Fig. 5A–B). The scanning electron microscopy (SEM) observations show epidermal surface specializations on the pad area (Fig. 5C). The EPs are irregular in size, and show ornamentations covering the surface of each EP. These ornamentations are made by multiple projections, which are radially distributed over the EPs and have a sharpened distal end (Fig. 5D–E).

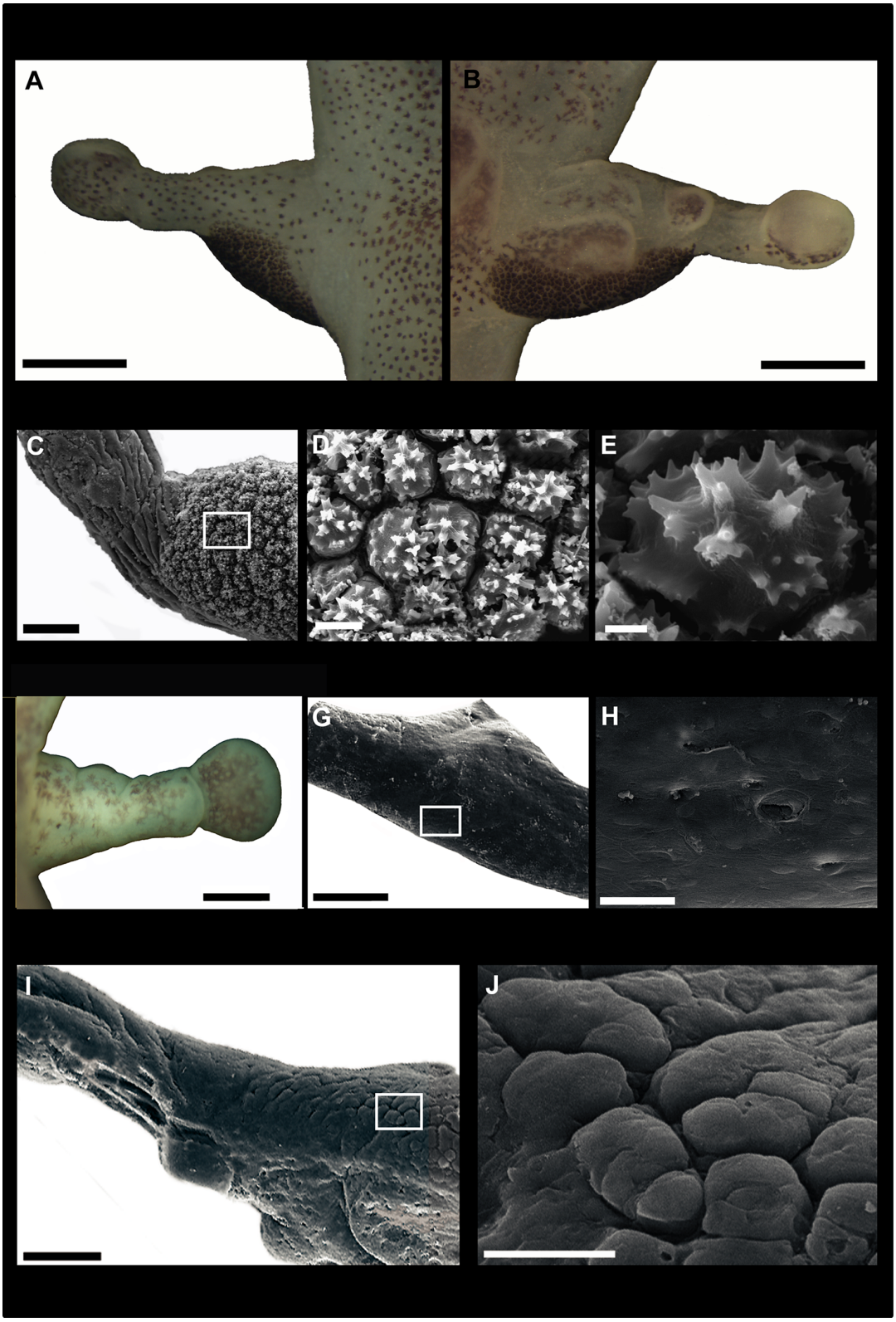

FIGURE 5. Nuptial pad of *Scinax melanodactylus* **sp. nov.** (CFBH 36902). (A) Dorsal view of finger II. (B) Ventral view of finger II. (A–B) Scale bar=500µm. (C–E) Scanning electron micrographs of nuptial pad. (C) General view of finger II. Notice the epidermal modification of the nuptial pad area. Scale bar=100µm. (D) Higher magnification of nuptial pad viewed from above showing the irregularly EPs, scale bar=20µm. (E) Detailed view of a single EP, scale bar= 5µm. (F-H) Nuptial pad of *Scinax agilis*. (F) Dorsal view of finger II. Scale bar =500µm. (G) Scanning electron micrographs of finger II. Note the absence of a distinctively area. Scale bar= 200µm. (H) Detail of the area delimited in (G) showing absence of EPs. Scale bar= 20µm. (I-J) Nuptial pad of *Scinax berthae*. (I) Scanning electron micrographs of finger II. Note the presence of EPs. Scale bar= 200µm. (J) Detail of the area delimited in (I) showing smooth EPs. Scale bar= 50µm.

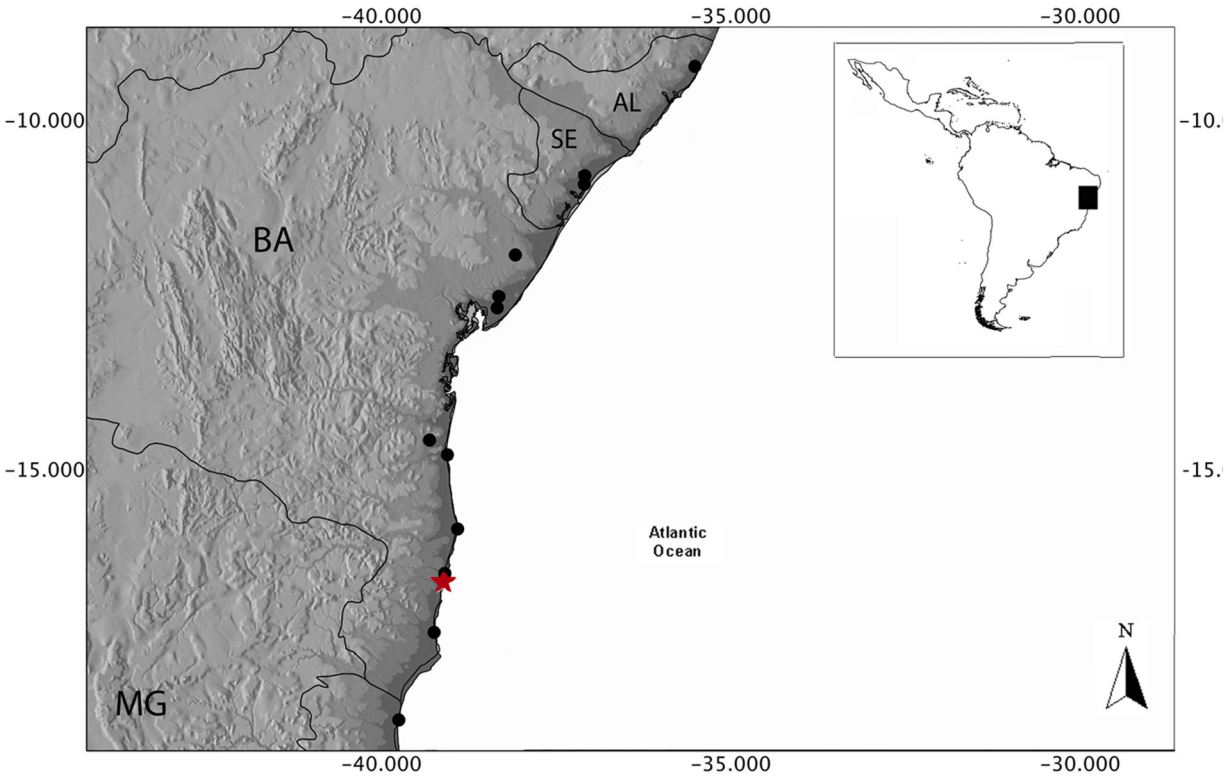

FIGURE 6. Geographical distribution of *Scinax melanodactylus* **sp. nov.** in southeastern and northeastern Brazil (the star represents district of Trancoso, Municipality of Porto Seguro, Bahia, the type locality). AL = State of Alagoas; SE = State of Sergipe; BA = State of Bahia; MG = State of Minas Gerais.

Comparison between nuptial pad structures. Nuptial pads of all other species of the *S. catharine* Group are whitish when are observed with a stereomicroscope (e.g. *Scinax agilis*, Fig. 5F). The SEM observations show differences in the development of epidermal modifications. Nuptial pads of *S. agilis* show not distinctively area (Fig. 5G–H). The nuptial pads of other species show EPs covering the nuptial pad area (e.g. *Scinax berthae* Fig. 5I). Detail view of the EPs of *S. berthae* show the smoothness of the surface of each EP (Fig. 5J), differing from the presence of conspicuous ornamentations in the new species.

Distribution and natural history. *Scinax melanodactylus* is found in Brazilian coastal sandbanks and in forest areas near these environments, occurring from northern of Espírito Santo State to Sergipe State (Fig. 6). Individuals of this species were observed on leaves and stems of vegetation, especially in bromeliads, in the margins of temporary and permanent water bodies, both streams as swamps. Males were not heard calling, but the species is apparently abundant in the places visited. One female has 133 oocytes (CFBH 36868).

Recently, the geographical distribution of *S. agilis* was expanded in some studies. Perhaps, the specimens of these studies may actually be *S. melanodactylus*. For instance, Toledo (2005) registered *S. agilis* in Municipality of Passo do Camaragibe, State of Alagoas. In our analysis we identified specimens of *S. melanodactylus* from the same Municipality. However, we examined the specimens collected by this author (CFBH 7358–7361) and all are females. As the diagnostic character that distinguishes *S. melanodactylus* from *S. agilis* is only observed in males, we cannot confirm assuredly the identity of specimens collected by Toledo (2005). In the other study, Nunes *et al.* (2007) described the vocalization of two specimens of *S. agilis* from Municipality of Camaçari, State of Bahia. In accordance with the distribution of the new species presented herein, these specimens can be actually *S. melanodactylus*. However, the identity of these specimens cannot be verified because they were not collected. Similarly, Peixoto *et al.* (2003) registered *S. agilis* in Municipality of Prado, State of Bahia. The specimens collected by these authors are also probable *S. melanodactylus*, considering its distribution. Nevertheless, we did not analyze these specimens and its identity could not be verified.

Etymology. The species name *melanodactylus* is derived from the Latin *melano* (=black) + *dactylus* (=finger). The name is an allusion to the black nuptial pad, a so far exclusive feature among all known species of *Scinax*.

Discussion

The description of *Scinax melanodactylus* brings to 33 the number of species included in the *S. catharinae* Group. Although this new species is superficially similar with *S. agilis*, it differs for having a dark colored nuptial pad. This is the first species of *Scinax* having dark colored nuptial pad, since all available descriptions and references about *Scinax* so far indicate that they all have whitish (or "unpigmented") glandular nuptial pads (Pyburn 1973; Heyer *et al.* 1990; Duellman & Wiens 1992, 1993; Pombal *et al.* 1995; Faivovich 2005; Cardoso & Pombal 2010; Faivovich *et al.* 2010; Silva & Alves-Silva 2011; Sturaro & Peloso 2014), make no reference to the color of this structure (Duellman 1986; Pyburn 1992; Lima *et al.* 2005; Silva & Alves-Silva 2008; Lourenço *et al.* 2009; Pugliese *et al.* 2009; Nunes *et al.* 2010; Pombal *et al.* 2010; Cruz *et al.* 2011; Lima *et al.* 2011; Lacerda *et al.* 2012; Lourenço *et al.* 2013), or even mention this structure (e.g. Haddad & Pombal 1987; Peixoto 1988; Pombal & Gordo 1991; Brasileiro *et al.* 2007a; Brasileiro *et al.* 2007b; Moravec *et al.* 2009; Nunes & Pombal 2010; Nunes & Pombal 2011; Pombal *et al.* 2011; Nunes *et al.* 2012).

The SEM observations of *S. melanodactylus* show a conspicuous topography in the nuptial pad area. We did not see any distinct area in the pads of *S. agilis*. However, observations of nuptial pads of other species in the *Scinax catharinae* Group have shown EPs covering the nuptial pad area (Fig. 5I–J; Luna, unpublished). This indicates that the presence of EPs is independent of the coloration of the nuptial pad although this is only clarified by the study of nuptial pads through SEM. One possible explanation of the absence of a distinctive topography in the nuptial pad of *S. agilis* is that our adult specimen might not have been active reproductively. Another possibility is that in this species there are only glandular acini without conspicuous epidermal modifications, as seen in some species of *Dendropsophus* and *Hyla* (data not shown). SEM analyses of additional specimens and histological studies will help to clarify this situation.

The phylogenetic relationship of *S. agilis* with other species has been approached in some studies. In the original description of *S. agilis*, Cruz & Peixoto (1983 "1982") included this species in the *S. ruber* Group, despite stating that it was similar to *S. berthae* (then allocated in the *S. staufferi* Group, sensu Fouquette & Delahoussaye 1977). However, the first phylogenetic study of *Scinax* (Faivovich 2002) found *S. agilis* as sister taxon to *S. catharinae* Group. Faivovich (2002) have pointed out that *S. agilis* have the morphological synapomorphies of the *S. catharinae* Group: posterior part of the cricoid ring extensively elongated and curved; partial mineralization of intercalary elements between ultimate and penultimate phalanges; the laterodistal origin of the *m. extensor brevis distalis digiti* III.

Of all species in the *S. catharinae* Group, only *S. agilis* and *S. melanodactylus* have a pectoral fold; a condition observed in almost all species of the *S. ruber* Group (Faivovich 2002). The exception is *S. cardosoi* (Carvalho-e-Silva & Peixoto 1991; Lourenço, personal observation) that lacks such folds and whose phylogenetic relationships have not been studied yet. Faivovich (2002) further indicated that the occurrence of a pectoral fold added to the synapomorphies of the *S. catharinae* Group in this species represents an interesting mosaic of character states from both major clades of *Scinax*. These observations are now extensive to *S. melanodactylus*. A phylogenetic study involving more terminal taxa and characters, and including larval characters of these two species (as indicated by Faivovich 2002), could assist in determining if the absence of pectoral fold is a synapomorphy of the *S. catharinae* clade (reverted in *S. agilis* and *S. melanodactylus*), or of the *S. catharinae* Group excluding these two species (with independent loss of the pectoral fold on the species of the *S. perpusillus* Group). The colored nuptial pad of *S. melanodactylus* is most parsimoniously interpreted as an autapomorphy.

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References

Andrade, G.V. & Cardoso, A.J. (1987) Reconhecimento do grupo *rizibilis* e descrição de uma nova espécie de *Hyla* (Amphibia, Anura). *Revista Brasileira de Zoologia*, 51 (2), 391–402.

Barrio, A. (1962) Los Hylidae de Punta Lara, Provincia de Buenos Aires. Observaciones sistemáticas, ecológicas y análisis espectrográfico del canto. *Physis*, 23 (65), 129–142.

Bock, W.J. & Shear, C.R. (1972) A staining method for gross dissection of vertebrate muscles. *Anatomischer Anzeiger Journal*, 130, 222–227.

Bokermann, W.C.A. (1964) Uma nova especie de *Hyla* da Serra do Mar em São Paulo (Amphibia, Salientia). *Revista Brasileira de Biologia*, 24 (4), 429–434.

Bokermann, W.C.A. (1967) Dos nuevas especies de *Hyla* del grupo *catharinae*. *Neotropica*, 13 (41), 61–66.

Bokermann, W.C.A. & Sazima, I. (1973) Anfíbios da Serra do Cipó, Minas Gerais, Brasil. 1: duas novas espécies de Hyla (Anura, Hylidae). *Revista Brasileira de Biologia*, 33 (4), 457–472.

Boulenger, G.A. (1888) A list of batrachians from the Province Santa Catharina, Brazil. *Annals and Magazine of Natural History*, 6, 415–417.
http://dx.doi.org/10.1080/00222938809460758

Brasileiro, C.A., Oyamaguchi, H.M. & Haddad, C.F.B. (2007a) A new island species of *Scinax* (Anura; Hylidae) from southeastern Brazil. *Journal of Herpetology*, 41 (2), 271–275.
http://dx.doi.org/10.1670/0022-1511(2007)41[271:ANISOS]2.0.CO;2

Brasileiro, C.A., Haddad, C.F.B., Sawaya, R.J. & Martins, M. (2007b) A new and threatened species of *Scinax* (Anura: Hylidae) from Queimada Grande Island, southeastern Brazil. *Zootaxa*, 1391, 47–55.

Brusquetti, F. & Lavilla, E.O. (2006) Lista comentada de los anfibios de Paraguay. *Cuadernos de Herpetologia*, 20 (2), 3–79.

Busin, C.S., Zanella, N., Guaragni, S., De Paula, A. & De Lima, M.C.K. (2010) Geographic distribution: *Scinax aromothyella*. *Herpetological Review*, 41, 376.

Caramaschi, U. & Kisteumacher, G. (1989) Duas novas espécies de *Ololygon* Fitzinger, 1843, do Sudeste do Brasil (Amphibia, Anura, Hylidae). *Boletim do Museu Nacional Nova Série Zoologia*, 327, 1–15.

Cardoso, A.J. & Haddad, C.F.B. (1982) Nova espécie de *Hyla* da Serra da Canastra (Amphibia, Anura, Hylidae). *Revista Brasileira de Biologia*, 42 (3), 499–503.

Cardoso, M.W. & Pombal Jr., J.P. (2010) A new species of small *Scinax* Wagler, 1830 (Amphibia, Anura, Hylidae) of the *Scinax ruber* clade from Cerrado of Central Brazil. *Amphibia-Reptilia*, 31, 411–418.
http://dx.doi.org/10.1163/156853810791769455

Carvalho-e-Silva, S.P. & Peixoto, O.L. (1991) Duas novas espécies de *Ololygon* para os Estados do Rio de Janeiro e Espírito Santo (Amphibia, Anura, Hylidae). *Revista Brasileira de Biologia*, 51 (1), 263–270.

Cruz, C.A.G. & Peixoto, O.L. (1982 "1983") Uma nova espécie de *Hyla* do Estado do Espírito Santo, Brasil (Amphibia, Anura, Hylidae). *Revista Brasileira de Biologia*, 42 (4), 721–724.

Cruz, C.A.G., Nunes, I. & Lima, M.G. (2011) A new *Scinax* Wagler belonging to the *S. catharinae* clade (Anura: Hylidae) from the state of Alagoas, northeastern Brazil. *Zootaxa*, 3096, 18–26.

De Witte, G.F. (1930) Liste des reptiles et batraciens récoltés au Brésil par la Mission Massart (1922–23) et description de sept nouvelles espèces. *In*: Massart, J. (Ed.), *Une Mission Biologique Belge au Brésil (août 1922–mai 1923) par Jean Massart, Raymond Bouillene, Paul Ledoux, Paul Brien, et Albert Navez*, 2, pp. 213–230.

Duellman, W.E. (1970) The Hylid Frogs of Middle America. *Monograph of the Museum of Natural History*, *University of Kansas*, 1, 1–753.
http://dx.doi.org/10.5962/bhl.title.2835

Duellman, W.E. (1986) Two new species of *Ololygon* (Anura: Hylidae) from the Venezuelan Guyana. *Copeia*, 4, 864–870.
http://dx.doi.org/10.2307/1445281

Duellman, W.E. & Wiens, J.J. (1992) The status of the hylid frog genus *Ololygon* and the recognition of Scinax Wagler, 1830. *Occasional Papers of the Museum of Natural History of Kansas*, 151, 1–23.

Duellman, W. & Wiens, J.J. (1993) Hylid frogs of the genus *Scinax* Wagler, 1830, in Amazonian Ecuador and Peru. *Occasional Paper of the Museum of Natural History*, 153, 1–57. [University of Kansas]

Fabrezi, M. & Alberch, P. (1996) The carpal elements of anurans. *Herpetologica*, 52 (2), 188–204.
Faivovich, J. (2002) A cladistic analysis of *Scinax* (Anura: Hylidae). *Cladistics*, 18: 367–393.
http://dx.doi.org/10.1016/s0748-3007(02)00001-4
Faivovich, J. (2005) A new species of *Scinax* (Anura: Hylidae) from Misiones, Argentina. *Herpetologica*, 61 (1), 69-77.
http://dx.doi.org/10.1655/04-32.1
Faivovich, J., Haddad, C.F.B., Garcia, P.C.A., Frost, D.R., Campbell, J.A. & Wheeler, W.C. (2005) Systematic review of the frog family Hylidae, with special reference to the Hylinae: phylogenetic analysis and taxonomic revision. *Bulletin American Museum of Natural History*, 294: 1–240.
http://dx.doi.org/10.1206/0003-0090(2005)294[0001:srotff]2.0.co;2
Faivovich, J., Gasparini, J.L. & Haddad, C.F.B. (2010) A new species of the *Scinax perpusillus* group (Anura: Hylidae) from Espírito Santo, Brazil. *Copeia*, 1: 97–102.
http://dx.doi.org/10.1643/ch-08-181
Frost, D.R. (2014) Amphibian Species of the World: an Online Reference, version 6.0, American Museum of Natural History, New York, USA. Available from: http://research.amnh.org/herpetology/amphibia/index.html (accessed 27 May 2014)
Fouquette, M.J. & Delahoussaye, A.J. (1977) Sperm morphology in the *Hyla rubra* group (Amphibia, Anura, Hylidae) and its bearing on generic status. *Journal of Herpetology*, 11 (4), 387–396.
http://dx.doi.org/10.2307/1562720
Haddad, C.F.B. & Pombal Jr., J.P. (1987) *Hyla hiemalis*, nova espécie do grupo *rizibilis* do estado de São Paulo. *Revista Brasileira de Biologia*, 47, 127–132.
Heyer, W.R., Rand, A.S., Cruz, C.A.G., Peixoto, O.L. & Nelson, C.E. (1990) Frogs of Boracéia. *Arquivos de Zoologia*, 31, 231–410.
Lacerda, J.V.A., Peixoto, O.L. & Feio, R.N. (2012) A new species of the bromeligenous *Scinax perpusillus* group (Anura; Hylidae) from Serra do Brigadeiro, State of Minas Gerais, southeastern Brazil. *Zootaxa*, 3271, 31–42.
Laufer, G., Piñeiro-Guerra, J.M., Pereira-Garbero, R., Barreneche, J.M. & Ferrero, R. (2009) Distribution extension of *Scinax aromothyella* (Anura, Hylidae). *Biota Neotropica*, 9, 275–278.
http://dx.doi.org/10.1590/s1676-06032009000200028
Lima, L.P., Bastos, R.P. & Giaretta, A.A. (2005) A new *Scinax* Wagler, 1830 of the *S. rostratus* group from central Brazil (Amphibia, Anura, Hylidae). *Arquivos do Museu Nacional*, 62 (4), 505–512.
Lima, M.G., Cruz, C.A.G, & Azevedo Jr., S.M. (2011) A new species belonging to the *Scinax catharinae* group from the state of Alagoas, northeastern Brazil (Amphibia, Anura, Hylidae). *Boletim do Museu Nacional Nova Serie Zoologia*, 529, 1–12.
Lourenço, A.C.C., Nascimento, L.B. & Pires, M.R.S. (2009) A new species of the *Scinax catharinae* species group (Anura: Hylidae) from Minas Gerais, southeastern Brazil. *Herpetologica*, 65 (4), 468–479.
http://dx.doi.org/10.1655/07-088.1
Lourenço, A.C.C., Carvalho, A.L.G, Baêta, D., Pezzuti, T.L. & Leite, F.S.F. (2013) A new species of the *Scinax catharinae* group (Anura: Hylidae) from Serra da Canastra, southeastern State of Minas Gerais, Brazil. *Zootaxa*, 3613 (6), 573–588.
http://dx.doi.org/10.11646/zootaxa.3613.6.4
Luna, M.C., Taboada, C.A., Baeta D. & Faivovich, J. (2012) Structural diversity of nuptial pads in Phyllomedusinae (Amphibia: Anura: Hylidae). *Journal of Morphology*, 273: 712–724.
http://dx.doi.org/10.1002/jmor.20016
Lutz, A. & Lutz, B. (1939) New Hylidae from Brazil/Hylideos novos do Brasil. *Anais da Academia Brasileira de Ciências*, 11, 67–89.
Lutz, B. (1954) Anfibios anuros do Distrito Federal/The frogs of the Federal District of Brazil. *Memórias do Instituto Oswaldo Cruz,* 52, 155–197 (Portuguese), 219–238 (English).
Lutz, B. (1968). New Brazilian forms of *Hyla. Pearce-Sellard*, 10, 3–18.
Lutz, B. (1973) *Brazilian species of Hyla*. University of Texas Press, Austin and London, XVIII + 260 pp.
Miranda-Ribeiro, A. (1926) Notas para servirem ao estudo dos Gymnobatrachios (Anura) brasileiros. *Arquivos do Museu Nacional*, 27, 1–227.
Moravec, J., Tuanama, I.A. Pérez-Peña, P.E. & Lehr, E. (2009) A new species of *Scinax* (Anura: Hylidae) from the area of Iquitos, Amazonian Peru. *South American Journal of Herpetology*, 4(1): 9–16.
http://dx.doi.org/10.2994/057.004.0102
Myers, C.W. & Duellman, W.E. (1982) A new species of *Hyla* from Cerro Colorado, and other tree frog records and geographical notes from Western Panama. *American Museum Novitates*, 2752, 1–32.
Nunes, I., Santiago, R.S. & Junca, F.A. (2007) Advertiment calls of four hylid frogs from the State of Bahia, northeastern Brazil. *South American Journal of Herpetology*, 2 (2), 89–96.
http://dx.doi.org/10.2994/1808-9798(2007)2[89:acofhf]2.0.co;2
Nunes, I. & Pombal Jr., J.P. (2010) A new *Scinax* Wagler (Amphibia, Anura, Hylidae) from the Atlantic rain forest remains of southern State of Bahia, north-eastern Brazil. *Amphibia-Reptilia*, 31, 347–353.
http://dx.doi.org/10.1163/156853810791769482
Nunes, I. & Pombal Jr., J.P. (2011) A new snouted treefrog of the speciose genus *Scinax* Wagler (Anura, Hylidae) from northeastern Brazil. *Herpetologica*, 67 (1), 80–88.
http://dx.doi.org/10.1655/herpetologica-d-10-00026.1

Nunes, I., Carvalho, R.R. de & Pereira, E.G. (2010) A new species of *Scinax* Wagler (Anura: Hylidae) from Cerrado of Brazil. *Zootaxa*, 2514, 24–34.
Nunes, I., Kwet, A. & Pombal, J.P. Jr. (2012) Taxonomic revision of the *Scinax alter* species complex (Anura: Hylidae). *Copeia*, 3, 554–569.
http://dx.doi.org/10.1643/ch-11-088
Passos, M.A., Brusch, D.P., Lima, J. & Toledo, L.F. (2012) Amphibia, Anura, *Scinax agilis* (Cruz and Peixoto, 1983): Filling gap and new state record. *Check List. Journal of Species Lists and Distribution*, 8 (4), 792–793.
Peixoto, O.L. & Weygoldt, P. (1987) Notes on *Ololygon heyeri* Weygoldt 1986 from Espirito Santo, Brazil (Amphibia: Salientia: Hylidae). *Senckenbergiana Biologica*, 68, 1–9.
Peixoto, O.L. (1988) Sobre o "status" taxonômico de *Hyla catharinae* alcatraz B. Lutz 1973, com a descrição de uma nova espécie para o grupo *perpusilla* (Amphibia, Anura, Hylidae). *Acta Biologica Leopoldensia*, 10 (2), 253–267.
Peixoto, O.L., Gomes, M.R. & Carvalho-e-Silva, S.P. (2003) Geographic distribution: *Scinax agilis*. *Herpetological Review*, 34, 163.
Pereyra, M.O., Borteiro, C., Baldo, D., Kolenc, F. & Conte, C.E. (2012) Advertisement call of the closely related species *Scinax aromothyella* Faivovich 2005 and *S. berthae* (Barrio 1962), with comments on the complex calls in the *S. catharinae* group. *Herpetological Journal*, 22, 133–137.
Pimenta, B.V.S., Faivovich, J. & Pombal Jr, J.P. (2007) "On the identity of *Hyla strigilata* Spix, 1824 (Anura: Hylidae): redescription and neotype designation for a 'ghost' taxon" *Zootaxa*, 1441, 35–49.
Pombal Jr., J.P. & Gordo, M. (1991) Duas novas espécies de *Hyla* da floresta atlantica no estado de São Paulo (Amphibia, Anura). *Memórias do Instituto Butantan*, 53 (1), 135–144.
Pombal Jr., J.P. & Bastos, R.P. (1996) Nova espécie de *Scinax* Wagler, 1830 do Brasil Central (Amphibia, Anura, Hylidae). *Boletim do Museu Nacional Nova Série Zoologia*, 371, 1–11.
Pombal Jr., J.P., Haddad, C.F.B. & Kasahara, S. (1995) A new species of *Scinax* (Anura: Hylidae) from southeastern Brazil, with comments on the genus. *Journal of Herpetology*, 29 (1), 1–6.
http://dx.doi.org/10.2307/1565078
Pombal Jr., J.P., Carvalho, R.R. Jr., Canelas, M.A.S. & Bastos, R.P. (2010) A new *Scinax* of the *S. catharinae* species group from Central Brazil (Amphibia, Anura: Hylidae). *Zoologia*, 27 (5), 795–802.
http://dx.doi.org/10.1590/s1984-46702010000500016
Pombal Jr., J.P., Bilate, M., Gambale, P.G., Signorelli, L. & Bastos, R.P. (2011) A new miniature treefrog of the *Scinax ruber* clade from the cerrado of central Brazil (Anura: Hylidae). *Herpetologica*, 67 (3), 288–299.
http://dx.doi.org/10.1655/herpetologica-d-10-00067.1
Pugliese, A., Baêta, D. & Pombal Jr., J.P. (2009) A new species of *Scinax* (Anura: Hylidae) from rocky montane fields in southeastern and central Brazil. *Zootaxa*, 2269, 53–64.
Pyburn, W.F. (1973) A new Hylid from the Llanos of Colombia. *Journal of Herpetology*, 7 (3), 297–301.
http://dx.doi.org/10.2307/1563014
Pyburn, W.F. (1992) A new tree frog of the genus *Scinax* from the Vaupes River of northwestern Brazil. *Texas Journal of Science*, 44, 405–411.
Rocha, C.F.D., Hatano, F.H., Vrcibradic, D. & Van Sluys, M. (2008) Frog species richness, composition and Beta-diversity in coastal Brazilian Restinga habitats. *Brazilian Journal Biology*, 68 (1), 101–107.
http://dx.doi.org/10.1590/s1519-69842008000100014
Savage, J.M. & Heyer, W.R. (1967) Variation and distribution in the tree-frog genus *Phyllomedusa* in Costa Rica, Central America. *Beitrage Zur Neotropischen Fauna*, 5, 111–131.
http://dx.doi.org/10.1080/01650526709360400
Silva, H.R. & Alves-Silva, R. (2008) New coastal and insular species of the bromeligenous *Scinax perpusillus* group, from the State of Rio de Janeiro, Brazil (Anura, Hylidae). *Zootaxa*, 1914, 34–44.
Silva, H.R. & Alves-Silva, R. (2011) A new bromeligenous species of the *Scinax perpusillus* group from the hills of the state of Rio de Janeiro, Brazil (Anura, Hylidae). *Zootaxa*, 3043, 54–68.
Spix, J.B. (1824) *Animalia nova sive species novae Testudinum et Ranarum, quas in itinere per Brasiliam annis MDC–CCXVII–MDCCCXX jussu et auspiciis Maximiliani Josephi I. Bavariae Regis*. Typis Franc. Seraph, Hübschmanni, Monachii, XXXIX + 53 pp.
http://dx.doi.org/10.5962/bhl.title.3665
Sturaro, M.J. & Peloso, P.L.V. (2014) A new species of *Scinax* Wagler, 1830 (Anura; Hylidae) from the Middle Amazon River Basin, Brazil. *Papéis Avulsos de Zoologia*, 54 (2), 9–23.
http://dx.doi.org/10.1590/0031-1049.2014.54.02
Taylor, W.R. & Van Dyke, G.C. (1985) Revised procedures for staining and clearing small fishes and other vertebrates for bone and cartilage study. *Cybium*, 9 (2), 107–119.
Toledo, L.F. (2005) Geographic distribution: *Scinax agilis*. *Herpetological Review*, 36 (1), 77.
Weygoldt, P. (1986) Beobachtungen zur Ökologie und Biologie von Fröschen an einem neotropischen Bergbach/Observations on the ecology and biology of frogs of a neotropical mountain stream. *Zoologische Jahrbücher. Abteilung für Systematik, Ökologie und Geographie*, 113, 429–454.

APPENDIX. Additional specimens examined.

Scinax agilis: **BRAZIL**, **Espírito Santo**: Domingos Martins (CFBH 19450), Guarapari (CFBH 1358, 19459, 22804, and 22808, MZUSP 102453–102454 and 102456), Linhares (MNRJ 4146 and 14210–14213 **paratypes**, CFBH 18052–18056, MNRJ 43094–43095, MZUSP 59517), São Matheus, (CFBH 1567), Sooretama (ZUEC 9485), Vila Velha (ZUEC 3743 and 5990).

Scinax albicans: **BRAZIL**, **Rio de Janeiro**: Angra dos Reis (CFBH 5759), Bom Jardim (MNRJ 75294–75296), Cachoeira de Macacu (MNRJ 40080–40082, 64652, and 72588–72591), Duque de Caxias (MNRJ 49717–49722, 53670–53687, 54126–54136, and 57991–57995), Guapimirim (MNRJ 40104–40109 and 57126), Mangaratiba (MNRJ 54762, 68748, and 81504, ZUFRJ 2686, 2864–2866, 5115–5118, 5141–5143, 5145–5147, 5153, 5158–5160, 5169, 5300–5301, and 11424, UNIRIO 1164, 1232–1236, 1238, 1240–1241, 1247, 1289, 1381–1382, 1415, 1501, 1939, 2501–2502, 3256, 3413, 3419, 3484, and 3879), Nova Friburgo (MNRJ 23393–23396, 35863–35866, 51488, 52117–52118, 61112, 67868–67884, and 78060–78089), Parati (MNRJ 32862–32864), Petrópolis (MNRJ 57578–57580, 74499, and 75180–75195, ZUEC 11000–11001), Rio Claro (MNRJ 63117–63118, 76632, 76646, 78108–78113, and 81017), Rio de Janeiro (MNRJ 47491–47492), Serra dos Orgãos (MNRJ 53937–53938), Teresópolis (MZUSP 109634 **holotype** and 109625–109633 **paratypes**, MNRJ 4037–4038 **syntypes** of *H. catharinae opalina*, MNRJ 4053, 39930–35, 30917–30918, 32980, 39366–39367, 39930–39935, 51011–51015, and 53938–53947).

Scinax angrensis: **BRAZIL**, **Rio de Janeiro**: Angra dos Reis (MNRJ 2018 and 2512 **syntypes**, MNRJ 49656, CFBH 5760, ZUFRJ 9021 and 9023–9024); Parati (MNRJ 22115–22117 and 44115–44117).

Scinax ariadne: **BRAZIL**, **São Paulo**: São José do Barreiro (MZUSP 74199 **holotype**, 74200 **alotype**, 73897–73932 **paratypes**, 95523–95528, and 110313–110339, MNRJ 4051 **paratype**, 43610, and 76658–76668, CFBH 585 and 18105–18106).

Scinax argyreornatus: **BRAZIL**, **Bahia**: Canavieiras (MNRJ 40303–40308 and 54551–54553), Florestal (MZUSP 126359–126360), Guaratinga (MNRJ 26467–26470 and 37928), Ilhéus (CFBH 2887–2888 and 32481, MNRJ 4527–4542, 36895–368910, 37934, 48652, and 51728–51729, MZUSP 107236–107338 and 117820), Itapepi (UESC 9265), Porto Seguro (MNRJ 26462, 28909, 32106, 32111, 37929–37933, 51729, and 80162–80170), Una MZUSP (63734), Uruçuca CFBH (28165), UESC (9430–9436), Valença (MNRJ 67945–67946). **Espírito Santo**: Aracruz (MNRJ 75677–75678 and 7749–7754, CFBH 4496–4498, 5340–5341, 5344–5344, 5350, and 5353), Cariacica (MNRJ 27917–27919 and 27960–27963), Castelo (MNRJ 76908), Colatina (MNRJ 0114 **lectotype**, 0113, 5097–5098, 5099, and 5100 **paralectotypes**), Domingos Martins (MNRJ 24943–24959), Guaçuí (MNRJ 30865), Linhares (CFBH 19434, 19444, 26367, 26373, 26485, and 32028, MNRJ 22967–23038, 23005, 23018, 23025, 30491, 49653, and 61887–61902, MZUSP 118086–118096), Mimoso do Sul (MZUSP 61017–61019 and 66459–66474), Presidente Kennedy (MNRJ 43091–43092 and 66475–66478), Regência (MNRJ 55389), Santa Teresa (CFBH 25447, 262336, 26321, and 26326, MNRJ 23821, 28360–28372, 28406, 30497–30498, 34915–34918, 35672, 38399–38400, 40525–40549, 46723, 53565–53570, and 53731–53741), Serra MNRJ (68074–68077), Sooretama (MZUSP 120534–120542). **Paraná**: Matinhos (MCNUFPR 053–056), Paranaguá (MCNUFPR 057–058). **Rio de Janeiro**: Barro Branco (MNRJ 43595 and 43598), Cabo Frio (MNRJ 47538), Cachoeira de Macacu (MNRJ 49516–49525 and 72581–72585), Carapebus (MNRJ 79068), Citrolândia (MNRJ 54990 and 54992), Coroa Grande (MNRJ 27141), Duque de Caxias (MNRJ 1622, 8443–8445, 43595, 43598, 60651, 70070–70078, and 75521–75522), Guapimirim (MNRJ 47989), Itaguaí (MNRJ 16892–16893, 32036–32042, and 58245–58247), Magé (MNRJ 27964–27965, 46547, 54987–54995, 54990, 54992, 56160–56162, 60233, 69919–69944, 71169–71170, and 73400–73401), Maricá (MNRJ 41744 and 49728–49729), Niterói (MNRJ 51542–51543, 59555, 59581–59588, 59590–59592, 59595–59596, 59600–59601, 59678–59681, 59795–59796, 59811–59814, 66084, and 69601), Rio de Janeiro (MNRJ 1895, 27034, 27115–27121, 30311, 38399–38400, 57988–57990, 71583, and 75403–75409), Sarapuí (MNRJ 0669 and 7070–7078), São Francisco do Itabapoana (MNRJ 45711–45715 and 54148–54154), Silva Jardim (MNRJ 73515 and 73517). **Santa Catarina:** Graxaim (MZUSP 97058–97059), Joinville (MNRJ 3610–3614), Palhoça (MNRJ 74385–74417, 74127, and 75154). **São Paulo**: Cananéia (CFBH 17064, and 19017), Ilha Comprida (CFBH 19074), Ilha Bela (MNRJ 23655–23656), Praia Grande (ZUEC 2906), Pariquera-Açu (MNRJ 64805–64806), Ubatuba (CFBH 764, 1047, 1122, 1124, 1135, 1138, 1142, 1281, 1283, 1287, 1292–1294, 1298, 2001, 2067, 2193, 2197, 13061–13075, and 13099–13115, ZUEC 613). **Sergipe:** Camaragibe (MZUSP 36819).

Scinax aromothyella: **ARGENTINA**, **Misiones**: San Vicente (MACN 35278 **holotype**, MACN 35270–35277, 35262, 35265–35269, and 37103–37117, **paratypes**). **BRAZIL: Santa Catarina**: Chapecó (CFBH 3865), Passos Maia (CFBH 25776–25784).

Scinax berthae: **ARGENTINA**, **Province of Buenos Aires**: Escobar (MACN 37241–37243 and 37245–37257), Ingeniero Maschwitz (MACN 16094 **syntype**, MACN 36983–36985), Isla Talabera (MACN 36984–36985, 36989–36996, and 36998), Pichanal (MZUSP 78186–78189), Punta Lara (MACN 11001–11002 and MNRJ 3590 **syntypes**), San Isidro (MNRJ 59527–59528). **BRAZIL**, **Paraná**: Wenceslau-Braz (MZUSP 128350 and 128400). **São Paulo**: Botucatu (MNRJ 32501, 34761–34765, 39897, 40581, 62855, 69383–69385, 69445, 69986–69997, 70012–70017, and 80342–80345, MZUSP 76857–76859), Campinas (CFBH 184–185), Iporanga (CFBH 25703), Itirapina (CFBH 5555 and 6476); Mauá (CFBH 9553–9554), Mogi das Cruzes (CFBH 13561), Porangaba (MZUSP 128347–128348), Santa Bárbara (CFBH 22335–22342), São Carlos (CFBH 26850–26851 and 26855), São José do Rio Preto (MZUSP 92556), Teodoro Sampaio (CFBH 18357–18359). **Rio Grande do Sul**: Santa Maria (MNRJ 34763, 39897, 69987–69990, 69995, 70014, and 80344).

Scinax brieni: **BRAZIL**, **São Paulo**: Capão Bonito (MZUSP 136554–136557), Juquitiba (MZUSP 134707–134710), Miracatu (MZUSP 35978–35982, 54427–54429, 76722, and 95440–95444), Paranapiacaba (AL–MN 2592–2594, CFBH 15567, 24838–24839, 28203, and 29098, IRSN 1027 (pictures), MNRJ 4073, MZUSP 9625–9626, 10634, 10980, 108083, 109455–109457, and 109459), Piedade (MZUSP 123391–123397), Ribeirão Pires (MNRJ 71155–71156), Santo André (CFBH 24838), Salesópolis (MZUSP 451, 30864, 30867–30869, and 54486–54487), Tapiraí (CFBH 15566).

Scinax catharinae: **BRAZIL**, **Paraná**: Antonina (CFBH 11055), Guaratuba (MNRJ 35106–35107), Morretes (MNRJ 50204). **Rio Grande do Sul**: São Francisco de Paula (UFMG 2474). **Santa Catarina**: "Sierra de Catarino" BMNH 1947.2.12.65 (picture and drawing), Chapecó (CFBH 6391), Florianópolis (MNRJ 55639 and 72229–72238, UFMG 2377 and 3447–3448), Rancho Queimado (MNRJ 72423–72435), UFMG (2533 and 2382), Rio Vermelho (MZUSP 64661–64674, 116271, 116275–116278, 116285–116288, 116292–116293, 116301–116308, 116393, and 121607), Santo Amaro da Imperatriz (MNRJ 74419–74428 and 74430), São Bento do Sul (MNRJ 44411–44413), Santo Amaro da Imperatriz (MNRJ 74418–74430, 74432, and 74719–74720, MCNAM 16124), Rio Vermelho (MZUSP 116288, 116302, 116306, and 116393), Treviso (CFBH 8499 and 10319).

Scinax canastrensis: **BRAZIL**, **Minas Gerais**: Araxá (CFBH 11576 and 11580–11581), Capitólio (MNRJ 49484), Furnas (CFBH 17346–17347 and 17353–17354), São Roque de Minas (MNRJ 4147 **holotype**, MNRJ 4148 **paratype**, ZUEC 4188–4189 and ZUEC 4191–4193 **paratypes**, ZUEC 4336–4337, 4340, 4357, and 4444, CFBH 29 and 9152–9154), Serra do Salitre (MCNAM 13847–13848), Vargem Bonita (MZUSP 109462–109463). **São Paulo**: Pedregulho (CFBH 13438–13439 and 13975–13978).

Scinax carnevallii: **BRAZIL**, **Minas Gerais**: Açucena (MCNAM 5733 and 14952), Botumirim (MNRJ 82433–82434), Braúnas (MCNAM 1389 and 2013), Caeté (MCNAM 10494–10515, 10538–10539, and 3432–3435), Caratinga (MNRJ 4201–4209, **paratypes**, MNRJ 57694, MCNAM 1353, ZUEC 6633 and 6635), Carangola (MNRJ 44609–44610), Conceição do Mato Dentro (MCNAM 3432–3442 and 3463–3464, MNRJ 9595, 9598, 4978–4981, 6111–6113, 14393, 14425–14428, 14474, 15077–15068, and 75700), Ipanema (MNRJ 60119–60120), Itambé do Mato Dentro (MCNAM 5659–5664 and 5667), Irapé (MCNAM 6208, 6717–6722, 7542, 9421, and 9426), Marliéria (MNRJ 4182 **holotype**, 4186–4200 **paratypes**), Novo Horizonte (MCNAM 16156–16161), Ouro Preto (MCNAM 16626–16627), Rio Acima (MCNAM 10494–10515 and 10538–10539), Santana do Riacho (MCAM 5401), São João Evangelista (MNRJ 67274–67275), São José do Mantimento (MCNAM 4060–61, 4978–81, 11577–11578, and 11582).

Scinax centralis: **BRAZIL**, **Goiás**: Itapari (MNRJ 17932), Silvânia (MNRJ 17465 **holotype**, 17466–17475 **paratypes**, 32239–44, CFBH 2640–2644 **paratypes**).

Scinax flavoguttatus: **BRAZIL**, **Minas Gerais**: Antônio Carlos (MCNAM 8501), Lima Duarte (MNRJ 24840–24841, 24848, 26307–26308, 44128, 48693, 58938–58939, and 79425–79428), Rio Preto (MNRJ 52302), Simonésia (MNRJ 21507–21508, 32800, and 32803–32804). **Rio de Janeiro**: Cachoeira de Macacu (MNRJ 46536 and 68785–68793), Cambuci (MNRJ 51483–51484), Duque de Caxias (MNRJ 1274, 2262, 16230–16231, 1659–16410, 49716, 53688–53703, 54575, 60711–60713, 71862, 71927, and 71740–1741), Itatiaia (MZUSP 44129 and 109421–109422), Nova Friburgo (MNRJ 23397–23401 and 51481–51482), Parati (MNRJ 32862–32864), Penedo (MNRJ 39693), Petrópolis (MNRJ 57575–57576, 75196–75214, and 78915–78917), Resende (MZUSP 143886 and 55646), Rio de Janeiro (MNRJ 47490), Teresópolis (MNRJ 55646, 59460–59461, 60958, 72634–72638, 78909, and 78914–78913, MZUSP 53335–53343, 109416, and 109471), Visconde de Mauá (MNRJ 75290–75293, 76991–76998, 77006–77009, and 77155). **São Paulo**: São José do Barreiro (AL–MN 2090 **holotype**, MNRJ 23404–23407, 76651–76652, and 78910–78912, MZUSP 109415), Salesópolis (MZUSP 2229, 3515, 32000, and 68983), São Luis do Paraitinga (CFBH 6487–6486, 7021, 8415, 8916–1917, 9298–9299, 9305, 9571, 11309, 16035–16048, 17393, 22023, and 27355).

Scinax heyeri: **BRAZIL**, **Espírito Santo**: Cariacica (CFBH 23625), Santa Tereza (MNRJ 56023–56027, MZUSP 76668 and 87595–87633, USNM 255230 **paralectotype** (picture), ZUEC 7527).

Scinax hiemalis: **BRAZIL**, **Minas Gerais**: Cristina (CFBH 14630 and 16239). **Rio de Janeiro**: Itatiaia (CFBH 24144–24145), Nova Friburgo (ZUEC 5226), Parati (MNRJ 1462, 66797–66802, and 75838–7540, Resende (ZUEC 4081–82). **São Paulo**: Bertioga (MZUSP 137330–137331, and 137343), Boracéia (MZUSP 30846–30847 and 30865–30866), Botucatu (MNRJ 16087–16118, 20008–20009, 30645–30675, 34499–34501, 61572, 62177–62230, 62676–62729, 64633, 66152–66153, 70605–70611, 71699–71725, 73670–73673, 73742–73745, 73784–73797, 79109–79110, 80816–80817, and 80289–80301, MZUSP 95736–95738, CFBH 4187–4188 and 4544–4548), Campinas (CFBH 189, 190, and 192, ZUEC 5856 and 5859–5864 **paratypes**, MNRJ 5973–5974, MZUSP 60555 **holotype**, and 137376), Campos do Jordão (MZUSP 77625, 107811–107847, and 108291, CFBH 14632–14633, 14643, and 24142), Cotia (CFBH 11664–11669 and 11671–11674), Joanópolis (MZUSP 76707), Jundiaí (CFBH 7297–7299, 7707, 9930, 24835–24836, and 29654), Mauá (CFBH 22634), Mogi das Cruzes (MZUSP 137355–137356 and 137361–137363), Paranapiacaba (MZUSP 10628–106233, 109454, 109458, 109650, 13687, 136845, and 137330–137331, CFBH 29090–29091), Pindamonhangaba (MZUSP 77625), Poá (MZUSP 76714 and 95577–95581), Ribeirão Branco (MZUSP 129407), Salesópolis (MZUSP 30846–30847, 30865–30866, 127574, 134004, and 133990), Santa Isabel (CFBH 14519, MZUSP 3740–3741), Santo Antônio do Pinhal (CFBH 7190–7192), São José do Barreiro (MNRJ 2679, 18107–18108, 75838–75840, and 76669–76678, ZUEC 6476–6478 and 6491–6492), Serra da Cantareira (MZUSP 60882 and 74356–74357), Souzas (MZUSP 60555 and 106776).

Scinax humilis: **Rio de Janeiro**: Araruama (MNRJ 4135), Cachoeira de Macacu (MNRJ 40082–40095, 49278, 61213, 65413–65415, and 72507–72526), Cassimiro de Abreu (MNRJ 57093, 57149, 57951, 60551, 61152–61153, and

76540–76542), Duque de Caxias (MNRJ 1478 **syntype**, 0675, 1555, 2231, 2345, 2756, 3696, 3796, 10812–10814, 43052–43058, 50835–50836, 53715–53717, 54573–54577, 57996–57997, 60647, 65586–65587, 71748, 71807–71844, 71857–71861, and 72354–72355), Guapimirim (MNRJ 23411–23412, 40096–40103, 40179–40180, and 47987), Grumari (MNRJ 40181 and 43052–43058), Macaé (MNRJ 47376, 50288, and 73190), Magé (MNRJ 46546, 50289, 54833–54836, 55229–55237, 59027–59029, 60228–60232, 71168, 72453–72454, 73397–73399, and 75388), Mangaratiba (MNRJ 54762), Maricá (MNRJ 74570–74572), Nova Iguaçu (MNRJ 2248 **syntype**), Paracambi (MNRJ 76526–76533 and 76532–76533), Parati (MNRJ 22115–22117 and 44115–44117, CFBH 30605, ZUFRJ 289–298, 817, 819–820, 2685, 5303, and 5150), Piraí (MNRJ 75530), Rio de Janeiro (MNRJ 40178–40181, 47376, 71857–71862, 77167–77168, and 77183, MZUSP 107756–107758 and 107762), Saquarema (MNRJ 77167–77168 and 77183), Silva Jardim (MNRJ 71696–71697 and 73440), Tijuca (MZUSP 107757), Vargem Grande (MZUSP 107758–107764).

Scinax jureia: **BRAZIL**, **São Paulo**: Iguape (CFBH 6268–6269 **paratypes**, MNRJ 14202–14203 **paratypes**, ZUEC 8875 **holotype** and 8864–8865, 8869–8870, 8872, 8896 **paratypes**), Pedro de Toledo (CFBH 21259), Peruíbe (CFBH 24101).

Scinax kautskyi: **BRAZIL**, **Espírito Santo**: Aracruz (MNRJ 39785–39798, CFBH 4422–4423), Cariacica (MNRJ 27889–27890 and 27956), Domingos Martins (ZUFRJ 2012 **holotype**, 2013 **paratype**, 5753–5755, 5757–5758, and 6321–6322), Santa Teresa (CFBH 1041 and 30729–30731).

Scinax littoralis: **BRAZIL**, **Paraná**: Guaraqueçaba (MNRJ 33763), Guaratuba (CFBH 23213), Matinhos (CFBH 758, MCNUFPR 007, 100, 171–173, 199, 223–224, and 372), Morretes (CFBH 18094–18095 and 23169–23171, ZUEC 4724–4726). **Rio Grande de Sul**: Viamão (ZUEC 15285–15286). **Santa Catarina**: Blumenau (MNRJ 62808, ZUEC 4808–4809), São Bento do Sul (MZUSP 116272–116274). **São Paulo**: Caraguatatuba (MNRJ 40281), Cubatão (CFBH 9234–9235, 9240, 10541, and 11379), Guarujá (ZUEC 15373–15374), Iguape (CFBH 811, 813, and 815, ZUEC 8892 **holotype**, 8876, 8880, 8882–8886, 8889–8890, and 8893–8894 **paratypes**, MZUSP 73736–7338 **paratypes**), Itariri (CFBH 10637), Jacupiranga (MNRJ 68861–68862), Jequitibá (CFBH 12152), Juréia (MNRJ 46993), Mongaguá (CFBH 17361, 17364–17366, 17368, 17370, 17374, 17377–17378, and 17380), Peruíbe (CFBH 24080), Santos (CFBH 15951–15967 and 23921), São Sebastião (CFBH 9841–9842, 9844–9846, 19251, 20183–20187, and 20189–20190, MNRJ 32530–32532), Ubatuba (CFBH 1048, 1095, 1099–1100, 1106–1107, 1109–1110, 1112, 1114, 1212, 1222–1224, 1818, 2066, 2106, 2591, 2593, 4288–4290, 4295–4299, 4300–4302, 7634–7636, 7781–7782, 7912–7916, 7781, 11648, 13113–13114, and 15014, MZUSP 122871, ZUEC 4156 and 4551–4552).

Scinax longilineus: **BRAZIL**, **Minas Gerais**: Belo Horizonte (MCNAM 069, 073, 123, 137–138, 621–622, 640, 656, 1543–1545, 1549, 2261, 2340–2344, 2367, 2960, 4100, 4321, 4475–4477, 5148, 5164–5166, 5171–5174, 5182, 5266, 5270, 5320, 5325, 5336, 5341, 5388, 5391, 5418, 5460, 5464, 5496, 5581–5582, 5620, 5635–5637, 5814, 5832, 6813, 7360, 12066, and 12070, MNRJ 5361, 16003–16007, 22817, 30966–30969, and 61407–61454), Brumadinho (MCNAM 4319, 7858, and 16617), Caeté (MCNAM 10538–10539 and 11460–11461), Congonhas (MCNAM 11720–11722), Ibertioga MCNAM (8502), Ibituruna (MNRJ 75108 and 76514–76518), Itabira (MCNAM 14660), Lagoa Santa (MZUSP 34000 and 59915– 59917, MCNAM 2346–2360, 2362, and 2365), Moeda (MCNAM 12244, 12310, 12313–12315, and 12331, MNRJ 65652–65659), Nova Lima (MCNAM 1783, 1785, 1802, 1813, 1890, 1933, 1977–1978, 4107, 4109, 4135, 4142–4143, 4145, 4148, 4152, 4157, 4160–4161, 4163, 4166–4167, and 7837–7838), Ouro Branco (MCNAM 4956–4958, 6783, and 7700–7716), Ouro Preto (LZV 263A, 317A, 648A, 771A, 775A, 780A, 784A, and 786A–787A, MCNAM 4396, 10828–10829, and 10831, MNRJ 75741–75746), Pains (MNRJ 49473), Poços de Caldas (CFBH 17327–17331 and 17555, MNRJ 4060 **holotype** and 40618, ZUEC 7601–7603, 7608, 7610–7616, and 8288), Rio Acima (MCNAM 2972 and 3063–3064), Sabará (MCNAM 12485 and 12487), Sete Lagoas (MNRJ 78640–78643).

Scinax luizotavioi: **BRAZIL**, **Minas Gerais**: Bom Jardim de Minas (MNRJ 75113–75116 and 76519–76524), Brumadinho (MNRJ 66655–66656), Catas Altas (MNRJ 4210 **holotype**, 4211–4215 **paratypes**, 4509–4516 **paratypes**, 60129–60130 **paratypes**, 44709, 49684–49688, 53054, 53057–53060, 55053–55055, 60341–60346, 70411–70421, 76788–76791, 77665, and 82619–82630, MZUSP 61043–61044 **paratypes**), Belo Horizonte (MNRJ 46655–46659), Conceição do Mato Dentro (MZUSP 142198), Conselheiro Lafaiete (MNRJ 65107), Ewbank da Câmara (MNRJ 47863), Itabira (MNRJ 25644), Lima Duarte (MNRJ 16956–16957 and 36552–36557), Moeda (MNRJ 60301–60305), Nossa Senhora dos Remédios (MNRJ64227), Ouro Preto (LZV 626–629, 772–779, 781–783, and 788–789, MCNAM 7717–7740, MNRJ 41742, 48121, and 75741–75745), Passa Quatro (MNRJ 40113), São Gonçalo do Rio Abaixo (MNRJ 4473–4516, 21439–21448, 32462–32474, 36761–36804, 36822–36826, 50234–50235, 50616, 50619–50621, 52364, 53789–53801, 56475–56478, 66228–66236, and 80764–80777), São Gotardo (MNRJ 7355–73562), Serra da Moeda (MNRJ 60303), Simonésia (MNRJ 21509, 32801–32802, and 32805).

Scinax machadoi: **BRAZIL**, **Minas Gerais**: Catas Altas da Noruega (MCNAM 4807), Conceição do Mato Dentro (MCNAM 3443, MZUSP 145500), Cristália (MNRJ 32288), Gouveia (MNRJ 64605–64609), Grão-Mogol (UFMG 1649), Santana do Riacho (CFBH 6243–6247, MNRJ 17476–17477 **paratypes**, 39696, and 71957–71958, MZUSP 73669 **holotype**, 76670–76671, 76238, 76669–79671, 113245–113248, ZUEC 1929–1934, 1936–1937, 2107, 2240, 10730, 15873–15881, and 15904–15912 **paratypes,** 12730, 1940, 3345, 2818–2819, 2822–2824), São Gonçalo do Rio Preto (MCNAM 11672–11683 and 8573–8588). **Bahia**: Caetité (UFMG 2046 and 2100).

Scinax muriciensis: **BRAZIL**, **Alagoas**: Murici (MNRJ 60189 **holotype** and 60187–60188 **paratypes**).

Scinax obtriangulatus: **BRAZIL**, **Rio de Janeiro**: Itatiaia (MNRJ 4036 **alotype**, 32517–23, 44130, 51286, 54404–54416, and 54414), Resende (ZUEC 4081–4082). **São Paulo**: Campos do Jordão (MNRJ 55840–55854).

Scinax ranki: **BRAZIL**, **Minas Gerais**: Poços de Caldas (ZUEC 4309, 4490, 4535, 5400–5401, 5403–5404, 5406, and

5028–5032 **paratypes**, 49657, and 57947, MZUSP 59540, 106417, 114622, and 134492–134493).

Scinax rizibilis: **BRAZIL**, **Minas Gerais**: Cristália (MNRJ 32493–32494). **Santa Catarina**: Campo Alegre (MZUSP 142260), Corupá (AL–MN 1803–1806, ZUEC 4801–4802), Itapema (ZUEC 805), Rio Vermelho (MZUSP 116281), Santo Amaro da Imperatriz (MNRJ 74432 and 74489–74490), São Bento do Sul (MNRJ 44524 and 76306, ZUEC 5290 and 6957–6959). **São Paulo**: Barra do Turvo (MZUSP 135476–135477), Bertioga (MZUSP 136796), Capão Bonito (MZUSP 136612–136613, ZUEC 9062), Cotia (MZUSP 134323–134328, 134084–134085, and 138361), Eldorado Paulista (MZUSP 135473–135474), Embu (MZUSP 134219), Ibiúna (MZUSP 141693), Iporanga (ZUEC 8265), Paranapiacaba (MNRJ 40564–40566), Piedade (MZUSP 136483–136494), Ribeirão Branco (CFBH 1790, 1797, and 1802, MNRJ 18224–18225, 28139, and 28149), Ribeirão Branco (CFBH 1790, 1797–1798, and 1802, MNRJ 18224–18225, 28139, and 28149, MZUSP 88092, 88086–88089, 93284, and 129408, ZUEC 6587, 6589, 7013, 7018–7019, and 9786), Ribeirão Grande (MNRJ 3635, 4046, 17654, 18225, 19360–68, 28131–28152, 50213–50218, and 74481–74488, MZUSP 117424–117425, 117507–117508, and 147440–147446), São Miguel Arcanjo (MZUSP 136611), Santo André (MZUSP 73660 **holotype**, 73853–73858, and 105207 **paratypes**, and 105208–105212), Tapiraí (MZUSP 125382).

Scinax skaios: **BRAZIL**, **Goiás**: Barro Alto (MCNAN 5916), Chapada dos Guimarães (MNRJ 46545), Pirenópolis (MNRJ 72264), Santa Rita do Novo Destino (MCNAM 6220–6223, 6225, 6227, 6229–6231, and 6233, MNRJ 54471 **holotype** and 54472–54474 **paratypes**). **Mato Grosso**: Chapada dos Guimarães (MNRJ 46545).

Scinax skuki: **BRAZIL**, **Alagoas**: Maceió, (MNRJ 70000 **holotype** and 70001–70011 **paratopotypes**, MZUSP 11984).

Scinax strigilatus: **BRAZIL**, **Bahia**: Amargosa (MNRJ 55960), Ataca (MNRJ 44987–44988), Belmonte (MNRJ 38096 and 38099), Camacan (UESC 8625, 9080, and 9082), Ibirapitanga (MNRJ 30098 **neotype** 38091–38097), Ilhéus (MNRJ 48644, CFBH 27711, 32087, and 32090), Itamaraju (MNRJ 46805–46806), Itapebe (MNRJ 38101–38103), Itaperá (UESC 8819, 9262, and 9293), Jequié (CFBH 32280), Jussari (MNRJ 38980, 44946–44949, and 48644), Nilo Peçanha (MNRJ 38100), Uruçuca (CFBH 32420, 32423, and 32431–32433).

Scinax trapicheiroi: **BRAZIL**, **Rio de Janeiro**: Angra dos Reis (ZUFRJ 9021–9025), Bom Jesus do Itabapoana (MNRJ 36473–36474, 42510, and 51485–51487), Cambuci (MNRJ 47612–47618), Engenheiro de Paulo de Frontin (MNRJ 21002), Ilha Grande (MNRJ 39202–39203, 47975, 48117, 51517, 64157–64158), Mangaratiba (MNRJ 2433 and 20809–20892), Maricá (MNRJ 73533–73540, 75032–75033, 73055–73062, 76179–76183, 76194–76199, 76264–76265, 77959–77968, and 78012–74013), Miguel Pereira (MNRJ 30697), Niterói (MNRJ 59550–59552, 59558, 59567, 59599, 59675, 59782–59788, 59810, and 63771–63773), Nova Iguaçu (MNRJ 59832–59842), Parati (MNRJ 3587 and 14621–14625), Petrópolis (MNRJ 34093–34100 and 54763–54764), Piraí (MNRJ 75531–75533), Rio de Janeiro (MNRJ 1281–1282, 3615–3625 **syntypes**, 16035–16048, 16967–16973, 27583, 27605–27609, 27697–27704, 27731, 27618–27622, 27641, 27656–27688, 27697–27704, 28410–28411, 32247, 34779–34780, 34883–34884, 35862, 36525, 41685, 47166, 47172–47173, 48674–48683, 54737–54738, 55678–55680, 70569–70570, 74622, 74815–74822, 76117, 76276, 77363–77372, and 77375), Saquarema (MNRJ 30181–30185, 74709–74710, 74766, 75911–75912, 75918–75922, 76762, 76766, 79572–79579), Valença (MNRJ 47619–47620), Volta Redonda (MNRJ 75534). **Minas Gerais**: Belmiro Braga (MNRJ 27359–27360).

Scinax tripui: **BRAZIL**, **Minas Gerais**: Belo Horizonte (MCNAM 061–068, 070–078, 080, 134, 138, 241–242, 363, 400, 418, 421–423, 455, 464, 2291–2292, and 4784), Itabira (MNRJ 30472–30474), Mariana (MNRJ 30618); Nova Lima (MCNAM 1762, 1772, 1934, 2466, 3061, 4108, 14379, and 24050), Ouro Branco (MCNAM 6272, 6548), Ouro Preto (MNRJ 42890 **holotype**, 48743–48745, 48762–48767, 75231–75231, 75233–75234, MCNAM 7741–7761 **paratypes**, 4266, and 5671, LZV 756A–790A), Sabará (MCNAM 9671–9673), Simonésia (MNRJ 21507–21508). **Espírito Santo**: Patrimônio da Penha (MNRJ 44128).