

SUPPLEMENTAL INFORMATION

**AMPHIBIANS AND REPTILES OF TAIM, A BRAZILIAN RAMSAR SITE:  
CURRENT KNOWLEDGE AND A POSSIBLE CASE  
OF LOCAL EXTINCTION**

*ALEXANDRO M. TOZETTI, CAMILA F. MOSER, PATRICK COLOMBO, ROBERTO BAPTISTA DE  
OLIVEIRA, AND DANIEL LOEBMANN*

The following material is provided by the authors and was not subject to review or editing by *Herpetological Conservation and Biology*.

**TABLE S1.** List of amphibian and reptile species recorded in the Taim Ecological Station.  
Legend: Regional (RE), National (NA), Global (GL), Least Concern (LC), Vulnerable (VU).  
Previous lists = Gayer et al. (1988) and Gomes and Krause (1982).

<b>AMPHIBIA</b>							
<b>ANURA</b>	<b>Common name</b>	<b>Conservation status</b>			<b>PREVIOUS LISTS</b>	<b>Current list</b>	<b>Additional comments</b>
		<b>RE</b>	<b>NA</b>	<b>GL</b>			
<b>Bufonidae</b>							
<i>Rhinella arenarum</i> (Hensel, 1867)	Common Toad	LC	LC	LC	X	X	
<i>Rhinella dorbignyi</i> (Duméril and Bibron, 1841)	Dorbigny's Toad	LC	LC	LC	X	X	
<b>Ceratophryidae</b>							
<i>Ceratophrys ornata</i> (Bell, 1843)	Escuerzo, Ornate Horned Frog	CR	NT	NT	X		possible local extinction
<b>Hylidae</b>							
<i>Boana pulchella</i> (Duméril & Bibron, 1841)	White-banded Treefrog	LC	LC	LC	X	X	
<i>Dendropsophus minutus</i> (Peters, 1872)	Lesser Treefrog	LC	LC	LC	X	X	
<i>Dendropsophus sanborni</i> (Schmidt, 1944)	Sanborn's Treefrog	LC	LC	LC	X	X	
<i>Pseudis minuta</i> Günther, 1858	Lesser Swimming Frog	LC	LC	LC	X	X	
<i>Scinax granulatus</i> (Peters, 1871)	Treefrog	LC	LC	LC	X	X	
<i>Scinax squalirostris</i> (Lutz, 1925)	Striped Snouted Treefrog	LC	LC	LC	X	X	
<i>Scinax berthae</i> (Barrio, 1962)	Dwarf Snouted Treefrog	LC	LC	LC	X	X	
<b>Leptodactylidae</b>							
<i>Leptodactylus gracilis</i> (Duméril and Bibron, 1840)	Dumeril's Striped Frog	LC	LC	LC	X	X	
<i>Leptodactylus latinasus</i> Jiménez de la Espada, 1875	Oven Frog	LC	LC	LC	X	X	
<i>Leptodactylus</i> aff. <i>luctator</i> (Steffen, 1815)	Butter Frog	LC	LC	LC	X	X	
<i>Physalaemus biligonigerus</i> (Cope, 1861)	Weeping Frog	LC	LC	LC	X	X	
<i>Physalaemus gracilis</i> (Boulenger, 1883)	Graceful Dwarf Frog	LC	LC	LC	X	X	
<i>Physalaemus henselii</i> (Peters, 1872)	Hensel's Dwarf Frog	LC	LC	LC	X		possible local extinction
<i>Pseudopaludicola falcipes</i> (Hensel, 1867)	Hensel's Swamp Frog	LC	LC	LC	X	X	
<b>Microhylidae</b>							
<i>Elachistocleis bicolor</i> (Valenciennes in Guérin-Ménéville, 1838)	Two-colored Oval Frog	LC	LC	LC		X	
<b>Odontophrynidae</b>							

<i>Odontophrynus maisuma</i> Rosset, 2008	Lesser Ground Frog	LC	LC	LC	X	X
<b>GYMNOPHIONA</b>						
<b>Caecilidae</b>						
<i>Chthonerpeton indistinctum</i> (Reinhardt and Lütken, 1862)	Caecilian	LC	LC	LC		X
<b>REPTILIA</b>						
<b>AMPHISBAENIA</b>						
<b>Amphisbaenidae</b>						
<i>Amphisbaena darwinii</i> Duméril & Bibron, 1839	Darwin's Ringed Worm Lizard	LC	LC	LC	X	X
<i>Amphisbaena kingii</i> (Bell, 1833)	King's Worm Lizard	LC	LC	LC		X
<b>CHELONIA</b>						
<b>Chelidae</b>						
<i>Acanthochelys spixii</i> (Spix, 1824)	Black Spine-necked Swamp Turtle	LC	LC	LC	X	X
<i>Phrynops hilarii</i> (Duméril & Bibron, 1835)	Hilaire's Toadhead Turtle	LC	LC	LC	X	X
<i>Hydromedusa tectifera</i> Cope, 1869	South-American Snake-headed Turtle	LC	LC	LC	X	X
<b>Emydidae</b>						
<i>Trachemys dorbigni</i> (Duméril & Bibron, 1835)	Black-bellied Slider	LC	LC	LC	X	X
<b>LACERTILIA</b>						
<b>Gekkonidae</b>						
<i>Hemidactylus mabouia</i> (Moreau de Jonnés, 1818)	House Gecko	LC	LC	LC		X
<b>Gymnophthalmidae</b>						
<i>Cercosaura schreibersii</i> Wiegmann, 1834	Long-tailed Little Lizard	LC	LC	LC	X	X
<b>Teiidae</b>						
<i>Salvator merianae</i> (Duméril & Bibron, 1839)	Argentine Giant Tegu	LC	LC	LC	X	X
<i>Teius oculatus</i> (D'Orbigny & Bibron, 1837)	Green Tegu	LC	LC	LC	X	
<b>Liolaemidae</b>						
<i>Liolaemus occipitalis</i> Boulenger, 1885	Skull Tree Iguana	VU	VU	VU	X	X
<b>SERPENTES</b>						
<b>Colubridae</b>						
<i>Chironius gouveai</i> Entiaspe- Neto, Lyra, Koch, Quintela, Diesel-Abegg & Loebmann 2020	Two-headed Sipo	LC	LC	LC		X
<b>Dipsadidae</b>						
<i>Boiruna maculata</i> (Boulenger, 1896)	Mussurana	LC	LC	LC		X
<i>Erythrolamprus jaegeri</i> (Günther, 1858)	Jaeger's Ground Snake	LC	LC	LC	X	X
<i>Erythrolamprus poecilogyrus</i> (Wied-Neuwied, 1825)	Grass Snake	LC	LC	LC	X	X
<i>Erythrolamprus semiaureus</i> (Cope, 1862)	Water Snake	LC	LC	LC	X	X

<i>Helicops infrataeniatus</i> (Jan, 1865)	Water Snake	LC	LC	LC	X	X
<i>Lygophis anomalus</i> (Günther, 1858)	Striped Snake	LC	LC	LC	X	X
<i>Lygophis flavifrenatus</i> (Cope, 1862)	Fronted Ground Snake	LC	LC	LC		X
<i>Oxyrhopus rhombifer</i> Duménil, Bibron & Duménil, 1854	False Coral Snake	LC	LC	LC		X
<i>Philodryas aestiva</i> (Duménil, Bibron & Duménil, 1854)	Brazilian Green Racer	LC	LC	LC		X
<i>Pseudablables patagoniensis</i> (Girard, 1858)	Patagonia Green Racer	LC	LC	LC	X	X
<i>Phalotris lemniscatus</i> (Duménil, Bibron & Duménil, 1854)	Dumeril's Diadem Snake	LC	LC	LC	X	X
<i>Psomophis obtusus</i> (Cope, 1864)	Wide Ground Snake	LC	LC	LC		X
<i>Taeniophallus poecilopogon</i> (Cope, 1863)	Red Belly Grass Snake	LC	LC	LC		X
<i>Dryophylax hypoconia</i> (Cope 1860)	False Lancehead Snake	LC	LC	LC	X	X
<i>Xenodon dorbignyi</i> (Duménil, Bibron & Duménil, 1854)	South American Hognose Snake	LC	LC	LC	X	X
<b>Viperidae</b>						
<i>Bothrops alternatus</i> Duménil, Bibron & Duménil, 1854	Urutu	LC	LC	LC	X	X
<i>Bothrops pubescens</i> (Cope, 1870)	Pampa's Jararaca	LC	LC	LC		X
<b>CROCODYLIA</b>						
<b>Alligatoridae</b>						
<i>Caiman latirostris</i> (Daudin, 1802)	Broad-snouted Caiman	LC	LC	LC	X	X

**TABLE S2.** Vouchers and documentation of the availability of photographic information for the species recorded for the Taim Ecological Station (ESEC Taim). Legend: CHLEVT = Herpetological Collection of the Universidade do Vale do Rio dos Sinos; CHFURG = Herpetological Collection of the Universidade Federal do Rio Grande; MCN = Herpetological Collections of the Natural Sciences Museum of the Secretaria Estadual do Meio Ambiente e Infraestrutura do Rio Grande do Sul; UFRGS = Herpetological Collection of the Universidade Federal do Rio Grande do Sul.

<b>AMPHIBIA</b> <b>ANURA</b>	<b>Photo Available</b>	<b>CHLEVT</b>	<b>CHFURG</b>	<b>MCN</b>	<b>UFRGS</b>
<b>Bufonidae</b>					
<i>Rhinella arenarum</i> (Hensel, 1867)	Yes	0381	1252	05230	0218
<i>Rhinella dorbignyi</i> (Duméril and Bibron, 1841)	Yes	0429	1050	13382	0260
<b>Ceratophryidae</b>					
<i>Ceratophrys ornata</i> (Bell, 1843)	No	x	x	x	x
<b>Hylidae</b>					
<i>Boana pulchella</i> (Duméril & Bibron, 1841)	Yes	x	1040	01915	0995
<i>Dendropsophus minutus</i> (Peters, 1872)	Yes	0707	3166	11227	x
<i>Dendropsophus sanborni</i> (Schmidt, 1944)	Yes	0550	1055	x	6975
<i>Pseudis minuta</i> Günther, 1858	Yes	0544	1009	11269	6972
<i>Scinax granulatus</i> (Peters, 1871)	Yes	0542	1012	01125	0208
<i>Scinax squalirostris</i> (Lutz, 1925)	Yes	0581	1010	11231	0182
<i>Scinax berthae</i> (Barrio, 1962)	Yes	x	1225	x	0259
<b>Leptodactylidae</b>					
<i>Leptodactylus gracilis</i> (Duméril and Bibron, 1840)	Yes	0554	1015	x	6985
<i>Leptodactylus latinasus</i> Jiménez de la Espada, 1875	Yes	0546	1021	13381	0247
<i>Leptodactylus</i> aff. <i>latrans</i> (Steffen, 1815)	Yes	0504	1044	11268	0934
<i>Physalaemus biligonigerus</i> (Cope, 1861)	Yes	0512	1080	x	6981
<i>Physalaemus gracilis</i> (Boulenger, 1883)	Yes	0554	1015	x	6985
<i>Physalaemus henselii</i> (Peters, 1872)	No	x	x	x	0963
<i>Pseudopaludicola falcipes</i> (Hensel, 1867)	Yes	1187	1068	11232	6980

<b>Microhylidae</b>					
<i>Elachistocleis bicolor</i> (Valenciennes in Guérin-Ménéville, 1838)	Yes	x	1011	x	x
<b>Odontophrynidae</b>					
<i>Odontophrynus maisuma</i> Rosset, 2008	Yes	0081	1061	x	0226
<b>GYMNOPHIONA</b>					
<b>Caecilidae</b>					
<i>Chthonerpeton indistinctum</i> (Reinhardt and Lütken, 1862)	Yes	x	x	x	0140
<b>REPTILIA</b>					
<b>AMPHISBAENIA</b>					
<b>Amphisbaenidae</b>					
<i>Amphisbaena darwinii</i> Duméril & Bibron, 1839	Yes	x	1072	x	5005
<i>Amphisbaena kingii</i> (Bell, 1833)	Yes	x	1071	x	x
<b>CHELONIA</b>					
<b>Chelidae</b>					
<i>Acanthochelys spixii</i> (Spix, 1824)	Yes	0143	x	9109	x
<i>Phrynops hilarii</i> (Duméril & Bibron, 1835)	Yes	x	2320	6261	x
<i>Hydromedusa tectifera</i> Cope, 1869	Yes	x	3446	6296	x
<b>Emydidae</b>					
<i>Trachemys dorbigni</i> (Duméril & Bibron, 1835)	Yes	0142	3445	6273	x
<b>LACERTILIA</b>					
<b>Gekkonidae</b>					
<i>Hemidactylus mabouia</i> (Moreau de Jonnés, 1818)	Yes	x	x	x	x
<b>Gymnophthalmidae</b>					
<i>Cercosaura schreibersii</i> Wiegmann, 1834	Yes	0121	1038	9669	7047
<b>Teiidae</b>					
<i>Salvator merianae</i> (Duméril & Bibron, 1839)	Yes	x	1296	x	x
<i>Teius oculatus</i> (D'Orbigny & Bibron, 1837)	No	x	x	x	0096
<b>Liolaemidae</b>					
<i>Liolaemus occipitalis</i> Boulenger, 1885	Yes	0149	2375	x	3650
<b>SERPENTES</b>					
<b>Colubridae</b>					
<i>Chironius gouveai</i> Entiauspe-Neto, Lyra, Koch, Quintela, Diesel-Abegg & Loebmann 2020	Yes	x	x	x	x

<b>Dipsadidae</b>					
<i>Boiruna maculata</i> (Boulenger, 1896)	Yes	x	x	15973	x
<i>Erythrolamprus jaegeri</i> (Günther, 1858)	Yes	0138	1077	9340	7051
<i>Erythrolamprus poecilogyrus</i> (Wied–Neuwied, 1825)	Yes	0042	1037	9101	7052
<i>Erythrolamprus semiaureus</i> (Cope, 1862)	Yes	x	1402	9102	x
<i>Helicops infrataeniatus</i> (Jan, 1865)	Yes	0111	1432	9165	0222
<i>Lygophis anomalus</i> (Günther, 1858)	Yes	0185	1479	7011	x
<i>Lygophis flavifrenatus</i> (Cope, 1862)	Yes	x	1420	x	7048
<i>Oxyrhopus rhombifer</i> Duméril, Bibron & Duméril, 1854	Yes	x	1500	x	x
<i>Philodryas aestiva</i> (Duméril, Bibron & Duméril, 1854)	Yes	x	x	x	1330
<i>Pseudablables patagoniensis</i> (Girard, 1858)	Yes	x	x	x	1265
<i>Phalotris lemniscatus</i> (Duméril, Bibron & Duméril, 1854)	Yes	0191	x	x	6668
<i>Psomophis obtusus</i> (Cope, 1864)	Yes	0110	x	x	6669
<i>Taeniophallus poecilopogon</i> (Cope, 1863)	Yes	x	1403	x	x
<i>Thamnodynastes hypoconia</i> (Cope 1860)	Yes	0012	5252	x	5007
<i>Xenodon dorbignyi</i> (Duméril, Bibron & Duméril, 1854)	Yes	0120	1076	x	3581
<b>Viperidae</b>					
<i>Bothrops alternatus</i> Duméril, Bibron & Duméril, 1854	Yes	x	1315	x	7046
<i>Bothrops pubescens</i> (Cope, 1870)	Yes	x	x	x	x
<b>CROCODYLIA</b>					
<b>Alligatoridae</b>					
<i>Caiman latirostris</i> (Daudin, 1802)	Yes	x	1514	x	x

Study site comments.

The herpetological interest in Taim is reinforced by the environmental properties of the entire area. Taim is formed by coastal habitats, such as sand dunes, freshwater wetlands, restingas, grasslands, and subtropical forest-like habitats, which inflate the expected species richness. Despite the great variety of habitats observed, Taim belongs to a single Biome, the Pampa. The Pampa Biome is mainly characterized by open areas that encompass Argentina, Brazil, Paraguay, and Uruguay. In Brazil, the Pampa is restricted to the southern part of the state of Rio Grande do Sul, including the coastal region, where it forms an ecosystem that shelters extensive areas of wetlands, besides formations of grasslands, coastal dunes, restingas and swamp forests (Overbeck et al. 2007). This landscape is a geological heritage driven by successive advances and retreats of the sea during the Quaternary (the Laguna-Barreira System) (Villwock et al. 1986) that were responsible for the formation of a mosaic of coastal lagoons. These lagoons are permeated by wetlands and estuarine areas, which give them a unique peculiarity and enormous conservation appeal (Ramsar 2021). In the 1970s, the Brazilian government decreed the creation of the Taim Ecological Station (ESEC Taim), a federal protection area. The recognition of its international relevance was reinforced with the inclusion of ESEC Taim in the list of Ramsar sites (Ramsar 2021). Taim is inserted in a matrix of private properties formed by flooded fields with different levels of conservation.

Despite the homogeneity in rainfall over the months, the flooding period is concentrated between June and August and therefore it is possible to identify the periods of flood and drought that bring significant changes to the landscape. However, even in the driest months, the presence of water is constant due to the existence of artificial channels and permanent ponds. The soil is predominantly sandy, with sandbank formations, pioneer vegetation, sandy dunes (interposing and coastal), native grasslands, and dense forests.

The herpetofauna of ESEC Taim consists mainly of species that are typical of open areas, particularly the Brazilian subtropical wetlands. The species richness in ESEC Taim is also slightly higher than that in the Lagoa do Peixe National Park (Loebmann and Vieira 2005; Machado et al. 2012), another Conservation Unit on the Coastal Plain of Rio Grande do Sul. Regarding reptiles, Taim has a record of 28 of the 34 species known for the municipality of Rio Grande (see Quintela and Loebmann 2009; Quintela et al. 2011a).

In comparison with other studies in nearby areas, it is important to notice that Taim is near one of the less sampled areas in Uruguay (Carreira et al. 2012). As Taim and Uruguay form



contiguous habitats, our list is useful to predict herpetological diversity on an international border. The whole Uruguayan herpetofauna consists of 61 species spread across 176215 km<sup>2</sup>. In Taim, we found 47 species in 328 km<sup>2</sup>. In a minimalist and speculative evaluation, Taim supports 0.14 species/km<sup>2</sup> and Uruguay 0.00003 species/km<sup>2</sup>. This is an extraordinary species/area relation that deserves attention for future studies. Another significant aspect of the herpetological diversity of Taim is that, as Uruguay is mostly formed by open habitats like Taim, both areas should share species from many different habitats. In fact, we observed that the herpetofauna of Taim also includes species from other regions in the state of Rio Grande do Sul, such as the northwestern grasslands (Santos et al. 2005; Zanella et al. 2013), coastal grasslands (Quintela et al. 2006; Oliveira et al. 2013), forested lowland areas (Moser et al. 2018; Moser et al. 2021), and forested highland areas (Kwet et al. 2010).

### **Taxonomic comments:**

#### **Amphibians:**

It is important to note that *Oloolygon x-signata eringiophila* in the preliminary list (Gayer et al. 1988), after a taxonomic revision, is considered as *Scinax granulatus* (Treefrog) (Kwet 2001).

#### **Snakes:**

The record of the snake *Xenodon histricus* has been removed, as it is an identification error, and has been corrected to *X. dorbignyi* (South American Hognose Snake, UFRGS 108) (Di-Bernardo et al. 2003).

Two subspecies *Helicops carinicaudus*, were recognized at the time of the first species list publication (*H. c. carinicaudus* and *H. c. infrataeniatus*), a taxonomic level that was not considered by the authors, and which were later elevated to the species level by Deiques and Cechin (1991). The species present in TAIM corresponds to *H. infrataeniatus*.

Although in the year of publication of the list of Gomes and Krause (1982) different forms of *Liophis miliaris* were already recognized (misspelled as *Liophis* “militaris” in the publication) (Gans 1964), it was only later that some of these were recognized as subspecies (Dixon 1983). The populations present in ESEC Taim correspond to *L. m. semiaureus*, which was later elevated to the species level by Giraudo et al. (2006).

## **Lizards:**

A similar case is that of *Teius teyou*, a species that, after the publication of the list of Gomes & Krause (1982), was split, with the populations present in ESEC Taim corresponding to *Teius oculatus* (Ceï 1993; Ceï and Lescure 1985).

## **Amphisbaenians:**

Gomes and Krause (1982) mentioned the presence of *Amphisbaena darwinii trachura* and, although the testimony material has not been reviewed, we consider that this results from an identification error. When the preliminary list of ESEC Taim was published, in 1982, three subspecies of *Amphisbaena darwinii* (Darwin's Ringed Worm Lizard) were recognized (*A.d. darwinii*, *A.d. heterozonata* and *A.d. trachura*). The taxonomy of these species has never been clear (Perez et al. 2012), and the diagnosis between them is based on a few morphological characters, with great overlap, making it difficult to differentiate the taxa. In recent samples in ESEC Taim, only the species *A. darwinii* has been recorded, which corroborates recent taxonomic reviews of species in the *Amphisbaena darwinii* complex (Perez et al. 2012; Perez 2016) that do not indicate the existence of *A. trachura* in the region. In this way, we consider that the record of *A. d. trachura* results from a misidentification of a specimen of *A. darwinii* (= *A. d. darwinii* at the time of publication).

## **Literature Cited**

- Carreira S., B. Alejandro, A. Camargo, I. da Rosa, A. Canavero, R. Maneyro. 2012. Diversity of Reptiles of Uruguay: Knowledge and Information Gaps. *Boletín de la Sociedad Zoológica del Uruguay* 21:9-29.
- Ceï J.M. 1993. Reptiles del noroeste, nordeste y este de la Argentina. *Museo Regionale di Scienze Naturali, Monografie* 14:1-949.
- Ceï J.M., J. Lescure, J. 1985. Identité de *Lacerta palluma* Molina, 1782, et revalidation de *Centrura flagellifer* Bell, 1843 (Reptilia, Sauria). *Bulletin Muséum National d'Histoire Naturelle (Paris), Series* 7(4), section A, 2:451–459.
- Deiques C.H., S.T.Z. Cechin. 1991. O status de *Helicops carinicaudus* (Wied 1825) (Serpentes: Colubridae). *Acta biologica leopoldensia* 12:313-326.
- Di-Bernardo M., M. Borges-Martins, R.B. Oliveira. 2003. Répteis. Pp. 165–188 *In Livro*

- vermelho da fauna ameaçada de extinção no Rio Grande do Sul. Fontana, C.S., G.A. Bencke, R.E. Reis (Eds.). Porto Alegre: EDIPUCRS.
- Dixon J.R. 1983. Taxonomic status of the South American snakes *Liophis miliaris*, *L. amazonicus*, *L. chrysostomus*, *L. mossoriensis* and *L. purpurans*. *Copeia* 1983:791-802
- Gans C. 1964. A redescription of, and geographic variation in, *Liophis miliaris* LINNÉ, the common water snake of southeastern South America. *American Museum Novitates* 2178:1-58
- Gayer S.M.P., L. Krause, N. Gomes. 1988. Lista preliminar dos anfíbios da Estação ecológica do Taim, Rio Grande do Sul, Brasil. *Revista Brasileira de Zoologia* 5:419-425.
- Giraud A.R., V. Arzamendia, P. Cacciali. 2006. Geographic variation and taxonomic status of the southernmost populations of *Liophis miliaris* (Linnaeus, 1758) (Serpentes: Colubridae). *The Herpetological Journal* 16:213-220
- Gomes N., L. Krause. 1982. Lista preliminar de répteis da estação ecológica do Taim, Rio Grande do Sul. *Revista Brasileira de Zoologia* 1:71-77.
- Kwet, A. 2001. Sudbrasilianische Laubfrosche der Gattung *Scinax* mit Bemerkungen zum Geschlecht des Gattungsnamens und zum taxonomischen Status von *Hyla granulata* Peters, 1871. *Salamandra-Bonn* 37(4):211-238
- Kwet, A., R. Lingnau, and M. Di Bernardo†. 2010. Pró-Mata: Anfíbios da Serra Gaúcha, Sul do Brasil – Amphibien der Serra Gaúcha, Südbrasilien – Amphibians of the Serra Gaúcha, South of Brazil. EDIPUCRS, Porto Alegre, Brazil, 148 pp.
- Loebmann D., J.P. Vieira. 2005. Relação dos anfíbios do Parque Nacional da Lagoa do Peixe, Rio Grande do Sul, Brasil. *Revista Brasileira de Zoologia* 22:339-341.
- Machado I.F., L. Maltchik, L.F.B. Moreira. 2012. Effects of pine invasion on anurans assemblage in southern Brazil coastal ponds. *Amphibia-Reptilia* 33:227-237.
- Moser C.F., F.R.D. Avila, R.B.D. Oliveira, J.M. Oliveira, M. Borges-Martins, A.M. Tozetti. 2018. Reptile diversity of Sinos River Basin. *Biota Neotropica* 18: e20180530
- Moser C.F., R.K. Farina, M. Borges-Martins, I.F. Machado, P. Colombo, A.M. Tozetti. 2021. Amphibians of the Sinos River Basin, southern Brazil. *Neotropical Biology and Conservation* 16:435.
- Oliveira M.C.L.M., M.B. dos Santos, D. Loebmann, A. Hartman, A.M. Tozetti. 2013. Diversity and associations between coastal habitats and anurans in southernmost Brazil. *Anais da Academia Brasileira de Ciências* 85:575–583.
- Overbeck G.E., S.C. Müller, A. Fidelis, J. Pfadenhauer, V.D. Pillar, C.C. Blanco, I.I. Boldrini, R. Both, E.D. Forneck. 2007. Brazil's neglected biome: the South Brazilian

- Campos. *Perspectives in Plant Ecology, Evolution and Systematics* 9:101-116.
- Perez R. 2016. Revisão taxonômica e sistemática filogenética do complexo de espécies associadas à *Amphisbaena darwinii* (Amphisbaenia: Amphisbaenidae) a partir de dados morfológicos e moleculares. Ph.D. Dissertation, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil. 44 p.
- Perez R., S. Ribeiro, M. Borges-Martins. 2012. Reappraisal of the taxonomic status of *Amphisbaena prunicolor* (Cope 1885) and *Amphisbaena albocingulata* Boettger 1885 (Amphisbaenia: Amphisbaenidae). *Zootaxa* 3550:1–25
- Quintela F.M, D. Loebmann, N.M. Gianuca. 2006. Répteis continentais do município de Rio Grande, Rio Grande do Sul, Brasil. *Biociências*, 14:180-188.
- Quintela F.M., D. Loebmann. 2009. Guia Ilustrado: Os répteis da região costeira do extremo sul do Brasil. Pelotas: Useb.
- Quintela F.M., R.P. Martins, D. Loebmann. 2011 a. Composição e uso do habitat pela herpetofauna em uma área de mata paludosa da Planície Costeira do Rio Grande do Sul, extremo sul do Brasil. *Revista Brasileira de Biociências* 9(1): 6-11.
- Ramsar. 2021. The Ramsar Sites. <https://www.ramsar.org/sitescountries/the-ramsar-sites> [Accessed 18 Feb 2021].
- Santos T.G.D., K.A. Kopp, M.R. Spies, R. Trevisan, S.Z. Cechin. 2005. Répteis do campus da Universidade Federal de Santa Maria, RS, Brasil. *Biota Neotropica* 5:171-178.
- Villwock J.A., L.J. Tomazelli, E.L. Loss, E.A. Dehnhardt, F.N.O. Horn. 1986. Geology of the Rio Grande do Sul coastal province. Pp. 79–97 *In* International symposium on sea-level changes and quaternary shorelines. 17 July 1986, São Paulo, Brazil
- Zanella N., A.D. Paula, S.A. Guaragni, L.D.S. Machado. 2013. Herpetofauna do Parque Natural Municipal de Sertão, Rio Grande do Sul, Brasil. *Biota Neotropica* 13:290-298.