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AN AID TO THE IDENTIFICATION OF THE SOUTH AMERICAN SPECIES OF *AMPHISBAENA* (SQUAMATA, AMPHISBAENIDAE)

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ABSTRACT

A matrix of meristic characters is presented to orient the identification of South American Amphisbaena. Complementarily is given a checklist containing the citation of the original description, the type locality, identified, and a citation of a modern description useful to the identification.

KEYWORDS: *Amphisbaena*, identification.

RESUMO

O trabalho consiste de uma matriz de caracteres merísticos, destinada a orientar a identificação das espécies sul americanas de Amphisbaena. Complementarmente é apresentada uma lista remissiva contendo a citação original, a localidade tipo, identificada, e a citação de uma descrição recente útil à identificação.

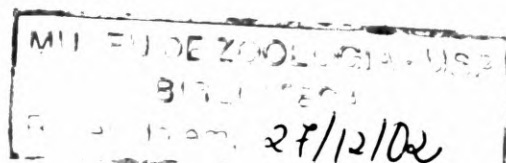
PALAVRAS-CHAVE: *Amphisbaena*, identificação

INTRODUCTION

The species of *Amphisbaena* are relatively easy to identify based on meristic characters. This sort of approach indicates a matrix format as more

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adequate than dichotomous keys, such as given in Peters & Donoso-Barros (1986). The matrix here presented is arranged according to the succession of steps taken in our laboratory.

It starts with the number of preanal pores, sequentially ordered, and proceeds through the usual scale counts: body annuli, tail annuli, autotomy level, number of dorsal and ventral segments to a midbody annulus. The scale count ranges presented are from the literature and from our own collection (37 identified South American species, ca. 1700 specimens). A brief indication of geographical range is given for a first check of the plausibility of the identification. This procedure usually results in a quick and reliable identification, but this cannot be considered completed without reference to a good detailed description of the species; a list of easily available ones is contained in the appended checklist, which additionally mentions the original description and the type locality (geographical coordinates mostly researched by myself).

This matrix has been in use in our laboratory for the last twenty years, and has proved easy and satisfactory to use.

CHECKLIST

Amphisbaena alba Linnaeus, 1758 (p. 228).

Type locality, "America".

Reference: Gans 1962a.

Amphisbaena albocingulata Boettger, 1885 (p. 219).

Type locality, "Paraguay".

Reference: Gans 1966 (*A. prunicolor albocingulata*).

Amphisbaena anaemariae Vanzolini, 1997 (p. 66).

Type locality, Brasil: Goiás: Serra da Mesa, Ponto 2 (14°02'S, 48°13'W).

Amphisbaena angustifrons Cope, 1861 (p. 76).

Type locality, Argentina: Buenos Aires: Buenos Aires (34°38'S, 58°28'W).

References: Gans 1965; Gans and Diefenbach 1972.

Amphisbaena arenaria Vanzolini, 1991 b (p. 350).

Type locality, Brasil: Bahia: Raso da Catarina (09°42'S, 38°31'W).

Amphisbaena bolivica Mertens, 1929 (60).

Type locality, Bolivia: Tarija: Villa Montes (21°15'S, 63°30'W).

Reference: Montero 1996.

	Pores		Annuli		Autotomy	Segments	Distribution
	body	tail	body	tail			
<i>dubia</i>	0,2		213-231	13-17	N	13-16/16-19	São Paulo to Santa Catarina
<i>neglecta</i>	2		151-161	14-16	4-6	12-14/12-14	Central Brasil
<i>anaemariae</i>	2		156-170	18-20	3-4	14-16/14-16	Southern Goiás
<i>silvestrii</i>	2		173-185	20-22	4-6	10-12/10-14	Mato Grosso
<i>crisae</i>	2		180-185	20-22	4-5, 5-6	10/10	Northern Mato Grosso
<i>mitchelli</i>	2		203-220	26-29	7	12-14/14-16	Pará
<i>leeseri</i>	2		216-242	14-19	5-6	12-15/12-18	Mato Grosso do Sul, Paraguay
<i>miringoera</i>	2		250-262	22-24	N	12/12-15	Mato Grosso
<i>darwini</i>	2-5		178-199	18-23	6-8	13-18/16-22	Uruguay
<i>heterozonata</i>	2-6		190-207	13/17	5-8	14-19/15-22	Argentina, Bolivia, Paraguay
<i>angustifrons</i>	3-6		190-253	12/18	N	20-31/21-30	Argentina
<i>camura</i>	3-6		188-206	14-19	3-5	28-42/29-46	Bolivia, Brasil (Mato Grosso do Sul)
<i>bolivica</i>	3-6		200-231	18-26	3-5	27-36/26-36	Bolivia, Paraguay, N Argentina
<i>trachura</i>	4		168-208	5-22	5-9	14-21/17-23	São Paulo to Uruguay, Argentina
<i>ridleyi</i>	4		172-192	14-17	N	16-18/20-28	Fernando de Noronha
<i>slateri</i>	4		176-206	20-21	8-9	10-14/14-16	Puno, Peru
<i>hogeii</i>	4		177-191	15-19	4-7	10-13/14-18	São Paulo to Santa Catarina
<i>prunicolor</i>	4		180-206	18-24	6-9	10-16/14-19	Minas Gerais and Espírito Santo to Misiones
<i>heathi</i>	0,4		183-187	32	7-8	12/18-20	Rio Grande do Norte
<i>albocingulata</i>	4		183-204	23-24	7-9	12-13/15-18	Paraguay
<i>arenaria</i>	4		195	27	6	14/14	Rio São Francisco
<i>tragorhectes</i>	4		196	31	14	12/12	Rio Trombetas
<i>munoi</i>	4		196-219	16-21	8-9	12-14/13-20	Uruguay
<i>cegei</i>	4		198	22	7	21-22/22-23	Bolivia (Santa Cruz)
<i>pericensis</i>	4		198-218	16-19	6-8	12-16/16-20	Cajamarca, Peru
<i>slevini</i>	4		204-211	23-25	5-6	10-14/10-12	Manaus
<i>rozeti</i>	4		205-209	20	6	30/32	Venezuela

	Pores		Annuli		Autotomy	Segments	Distribution
	body	tail	body	tail			
<i>mensae</i>	4		206-228	25-29	6-8	12-14/16-18	Goiás
<i>plumbea</i>	4		210-282	16-21	5-9	18-27/20-30	Argentina
<i>vermicularis</i>	4		211-254	23-30	6	18-26/18-25	Pará, Mato Grosso, Minas Gerais
<i>talisae</i>	4		218	?	7	10/14	Southeastern Mato Grosso
<i>spurrelli</i>	4		218-222	18-20	7	16-18/16-18	Chocó, Colombia
<i>myersi</i>	4		221	28	8	16/16	Surinam
<i>nigricauda</i>	4		222-226	19-24	6-9	10/16	Espírito Santo
<i>gracilis</i>	4		224-248	21-24	6-7	13-16/14-17	Delta-Amacuro
<i>hugoi</i>	4		225	36	23	16/18	Balbina Dam (Amazonas)
<i>vanzolinii</i>	4		225-228	7	7	12-13/16-17	Espírito Santo
<i>lumbicalis</i>	4 (2,5,6)		225-247	20-26	(6-10)	12-16/16-20	Lower Rio S. Francisco
<i>cunhai</i>	4		226-239	25-26	5-7	14-16/14-18	Rondônia
<i>medemi</i>	4		230-235	17-18	5-7	16/18	Colombia
<i>carvalhoi</i>	4		231-245	19-22	7-8	12-14/16-18	Mato Grosso
<i>frontalis</i>	4		257-272	23-24	6-7	14-16/14-16	Rio São Francisco
<i>occidentalis</i>	4		261-279	18-26	9	16-19/22-27	Peru
<i>minuta</i>	4		265-271	22	8	17-19/20	Catamarca, Argentina
<i>hastata</i>	4		266-273	40	12-16	18/16	Rio São Francisco
<i>polygrammica</i>	4		270	20		18/16	Junin, Peru
<i>alba</i>	4-10		198-248	13-21	N	30-42/35-46	Cis-Andean South America south to Paraguay
<i>pretrei</i>	5-9		231-255	22-26	5-7	20-27/22-28	Northeastern Brasil
<i>stejnegeri</i>	6		243-247	?	9	17-19/16-20	Guyana
<i>ignatiana</i>	6		255-263	32-36	6	16/20-22	Rio São Francisco
<i>mertensi</i>	6-8		210-250	25-32	5-8	14-25/16-25	São Paulo, Paraguay, Misiones
<i>fuliginosa</i>	6-10		190-220	23-30	4-6	10-13/9-13	Panama to Bolivia
<i>leucocephala</i>	12		233-240	26-27	6	18-20/21-22	Bahia

Amphisbaena camura Cope, 1862 (p. 350).

Type locality, "Paraguay".

Reference: Montero 1996.

Amphisbaena carvalhoi Gans, 1965a (p. 625).

Type locality, Brasil: Pernambuco: Poção (08°11'S, 36°43'W).

Amphisbaena cegei Montero, Fernandez & Gonzalez, 1997 (p. 218).

Type locality, Bolivia: Santa Cruz: Pampa Grande (18°05'S, 64°06'W).

Reference: Montero 2001.

Amphisbaena crisae Vanzolini, 1997 (p. 68).

Type locality, Brasil: Mato Grosso: Cafeara (11°50'S, 55°20'W).

Amphisbaena cunhai Hoogmoed and Avila-Pires, 1991 (p. 78).

Type locality, Brasil: Rondônia: Cachoeira do Samuel (08°45'S, 63°28'W).

Amphisbaena darwinii Duméril and Bibron, 1839 (p. 490).

Type locality, Uruguay: Montevideo: Montevideo (34°55'S, 56°10'W).

Reference: Gans 1966 (*A. d. darwinii*).

Amphisbaena dubia Müller, 1924 (p. 86).

Type locality, Brasil: São Paulo: Piracicaba (22°42'S, 47°38'W).

Reference: Gans 1964.

Amphisbaena frontalis Vanzolini, 1991b (p. 348).

Type locality, Brasil: Bahia: Alagoado (09°29'S, 41°21'W).

Amphisbaena fuliginosa Linnaeus, 1758 (p. 229).

Type locality, "America".

Reference: Vanzolini 1951 (subspecies).

Amphisbaena gracilis Strauch, 1881 (p. 70).

Type locality, not stated.

Reference: Señaris 2001.

Amphisbaena hastata Vanzolini, 1991a (p. 259).

Type locality, Brasil: Bahia: Ibiraba (10°48'S, 42°50'W).

Reference: Vanzolini 1996.

Amphisbaena heathi Schmidt, 1936 (p. 29).

Type locality, Brasil: Rio Grande do Norte: Baixa Verde, now João Câmara. (05°32'S, 35°48'W).

Reference: Vanzolini 1996.

Amphisbaena heterozonata Burmeister, 1861 (p. 527).

Type locality, "Tucumán" (Gans 1966).

Reference: Gans 1966 (*A. darwinii heterozonata*).

Amphisbaena hogei Vanzolini, 1950.

Amphisbaena darwinii hogei Vanzolini, 1950 (p. 70).

Type locality, Brasil: São Paulo: Ilha dos Alcatrazes (24°05'S, 45°42'W).

Amphisbaena hugoi Vanzolini, 1990 (p. 525).

Type locality, Brasil: Amazonas: Balbina (01°53'S, 59°28'W).

Amphisbaena ignatiana Vanzolini, 1991 (p. 264).

Type locality, Brasil: Bahia: Santo Inácio (11°06'S, 42°44'W).

Reference: Vanzolini 1996.

Amphisbaena leeseri Gans, 1964 (p. 554).

Type locality, Brasil: Mato Grosso do Sul: Urucum (19°10'S, 57°39'W).

Amphisbaena leucocephala Peters, 1878 (p. 778).

Type locality, Brasil: Bahia: —.

Reference: Gans 1965c.

Amphisbaena lumbricalis Vanzolini, 1996 (p. 294).

Type locality, Brasil: Alagoas: Usina Hidroelétrica de Xingó (09°24'S, 37°58'W).

Amphisbaena medemi Gans and Mather, 1977 (p. 22).

Type locality, Colombia: Atlantico: Ciénaga de Amajahuevo (10°24'N, 75°03'W).

Amphisbaena mensae Castro-Mello, 2000 (p. 244).

Type locality, Brasil: Goiás: Serra da Mesa (14°02'S, 48°19'W).

Amphisbaena mertensii Strauch, 1881 (p. 66).

Type locality, "South America", restricted by Gans (1966) to the state of São Paulo.

Amphisbaena minuta Hulse & McCoy, 1979 (p. 2).

Type locality, Argentina: Catamarca: Bolsón de Pipanaco (28°07'S, 66°25'W).

Amphisbaena miringoera Vanzolini, 1971 (p. 191).

Type locality, Brasil: Mato Grosso: Porto Velho, Rio Tapirapés (10°47'S, 51°00'W).

Amphisbaena mitchelli Procter, 1923 (p. 1065).

Type locality, Brasil: Pará: Island of Marajó (01°00'S, 49°30'W).
Reference: Gans 1963 a.

Amphisbaena munoai Klappenbach, 1960 (p. 3).

Type locality, Uruguay: Maldonado: Cerro de Animas (34°42'S, 55°19'W).
Reference: Gans 1966.

Amphisbaena myersi Hoogmoed, 1989 (p. 67).

Type locality, Surinam: Jodensavanne (05°25'N, 54°59'W).

Amphisbaena neglecta Dunn and Piatt, 1936 (p. 527).

Type locality, Brasil: Mato Grosso: Chapada, now Chapada dos Guimarães (15°26 S, 55°45W).
Reference: Vanzolini 1997.

Amphisbaena nigricauda Gans, 1966 (p. 252).

Type locality, Brasil: Espírito Santo: Refúgio Sooretama (19°00'S, 40°00'W).

Amphisbaena occidentalis Cope, 1876 (p. 176).

Type locality, Peru: Libertad: Valle de Jequetepeque (07°22'S, 79°34'W).
Reference: Gans 1961 (subspecies).

Amphisbaena pericensis Noble, 1921 (p. 141).

Type locality, Peru: Cajamarca: Perico (05°21'S, 78°47'W).
Reference: Gans 1963c.

Amphisbaena plumbea Gray, 1872 (p. 36).

Type locality, Argentina: Mendoza: —.
Reference: Parker 1928.

Amphisbaena polygrammica Werner, 1901 (p. 5).

Type locality, Peru: Junin: Chanchamayo (11°04'S, 75°19'W).

Amphisbaena pretrei Duméril and Bibron, 1839 (p. 486).

Type locality, "Brasil".

Reference: Gans 1965c.

Amphisbaena prunicolor (Cope, 1885).

Aporarchus prunicolor Cope, 1885: 189.

Type locality, Brasil: Rio Grande do Sul: São João do Montenegro, now Montenegro (29°42'S, 51°28'W).

Reference: Gans 1966 (subspecies).

Amphisbaena ridleyi Boulenger, 1890 (p. 481).

Type locality, Brasil: Archipelago of Fernando de Noronha; ? West Indies: Porto Bello. Restricted to Fernando de Noronha by Gans 1963d.

Note: this species is endemic to an oceanic archipelago, and should not properly be included here; it is included only as a matter of convenience.

Amphisbaena rozei Lancini, 1963 (p. 1).

Type locality, Venezuela: Bolivar: headwaters of Caño Majagua (enters the Rio Chipurá at 05°30'N, 64°40'W).

Amphisbaena sanctaeritae Vanzolini, 1994 (p. 29).

Type locality, Brasil: São Paulo: Santa Rita do Passa Quatro (21°42'S, 47°28'W).

Amphisbaena silvestrii Boulenger, 1902 (p. 287).

Type locality, Brasil: Mato Grosso: Cuyabá (= Cuiabá) (15°36'S, 56°05'W).

Reference: Vanzolini 1997.

Amphisbaena slateri Boulenger, 1907 (p. 487).

Type locality, Peru: Puno: Valley of the Rio San Gabán (enters the Rio Inambari at 13°25'S, 70°18'W).

Reference: Gans 1967a.

Amphisbaena slevini Schmidt, 1936 (p. 31).

Type locality, Brasil: Amazonas: Manaus (03°07'S, 60°00'W).

Reference: Gans 1963.

Amphisbaena spurrelli Boulenger, 1915 (p. 659).

Type locality, Colombia: Chocó: Andagoya (05°06'N, 76°40'W).

Reference: Gans 1962.

Amphisbaena stejnegeri Ruthven, 1922 (p. 1).

Type locality, Guyana: Demerara: Vreed en Rust (06°27'N, 58°19'W).

Reference: Gans 1963b.

Amphisbaena talisiae Vanzolini, 1995 (p. 217).

Type locality, Brasil: Mato Grosso: Serra da Pitomba (15°49'S, 52°10'W).

Amphisbaena trachura Cope, 1885 (p. 189).

Type locality, Brasil: Rio Grande do Sul: São João do Montenegro, now Montenegro (29°42'S, 51°28'W).

Reference: Gans 1966 (*A. darwinii trachura*).

Amphisbaena tragorhectes Vanzolini, 1971 (p. 192).

Type locality, Brasil: Pará: Oriximiná (01°46'S, 55°51'W).

Amphisbaena vanzolinii Gans, 1963b (p. 13).

Type locality, Guyana: Marudi (02°05'N, 59°00'W).

Amphisbaena vermicularis Wagler, 1824 (p. 73).

Type locality, Brasil: Bahia: — (Vanzolini 1981).

Reference: Gans and Amdur 1966; Vanzolini, Ramos-Costa and Vitt 1980.

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