

Scientific Note

Update distribution of the mud-dauber wasp *Sceliphron fistularium* (Dahlbom, 1843) (Hymenoptera: Sphecidae) in South America with new records

Distribución actualizada de la avispa alfarera *Sceliphron fistularium* (Dahlbom, 1843) (Hymenoptera: Sphecidae) en América del Sur con nuevos registros

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Abstract. New records of the mud-dauber wasp *Sceliphron fistularium* (Dahlbom, 1843) for South America are reported. First record for Upper Demerara-Berbice (Guyana), Miranda (Venezuela), Vaupés (Colombia), Azuay, Orellana, Manabí, and Napo (Ecuador), Ayacucho and Cusco (Peru), Alagoas and Distrito Federal (Brazil), Amambay and Central (Paraguay), Canelones and Cerro Largo (Uruguay), and Santa Fe (Argentina) are given. The detailed distribution for each country of the continent is shown.

Key words: Faunistic; occurrence records; Neotropical region.

Resumen. Se reportan nuevos registros de la avispa alfarera *Sceliphron fistularium* (Dahlbom, 1843) en América del Sur. Se cita por primera vez en Alto Demerara-Berbice (Guyana), Miranda (Venezuela), Vaupés (Colombia), Azuay, Orellana, Manabí y Napo (Ecuador), Ayacucho y Cusco (Perú), Alagoas y Distrito Federal (Brasil), Amambay y Central (Paraguay), Canelones y Cerro Largo (Uruguay) y Santa Fe (Argentina). Se muestra la distribución detallada para cada país del continente.

Palabras clave: Faunística; registros de presencia; región neotropical.

The mud-dauber wasps genus *Sceliphron* Klug, 1801 is widespread in all continents except Antarctica and according to Pulawski (2022) includes 35 species. Four species of the genus are known in South America: the native species *S. asiaticum* (Linnaeus, 1758), *S. fistularium* (Dahlbom, 1843) and the alien species *S. caementarium* (Drury, 1773), native to North America, and *S. curvatum* (Smith, 1870), native to Asia, recently introduced by human activities (Barrera-Medina and Garcete-Barrett 2008; Compagnucci and Roig-Alsina 2008; Barrera-Medina and Sepúlveda-Osorio 2014; Ceccolini 2021), with *S. caementarium* recorded for the first time in the continent for a more time, in the 50s of 20th century (Van der Vecht and Van Breugel 1968)—whilst *S. curvatum* was reported in South America for the first time in 2007 (Barrera-Medina and Garcete-Barrett 2008).

Sceliphron fistularium was described by Dahlbom (1843) reporting the following words about its distribution: "Ad africæ promont. bon. Sp. a Cel. Thunberg olim detectus & Cel. Fallén & Zetterstedt communicatus. E Brasilia specimen ab amico Erichson accepi."

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However, it is clear that the African specimens reported (but not seen by Dahlbom) did not belong to this species, since the species has a clearly Neotropical distribution with all many occurrence data being from America and no one from Africa. Moreover, Dahlbom (1845) himself listed the species as American only. It is known from Central and South America. In particular, in Central America the species is known from Mexico, Guatemala, Costa Rica, Panama, and Trinidad (Pulawski 2022). In South America the presence of this mud-dauber wasp is currently reported from almost all countries and all literature data are reported in Tab. 1. The present work quotes new distributional records of *S. fistularium* from South America, adding some new regions.

Many records are from photographic material, since *S. fistularium* can be easily identifiable by photos because all *Sceliphron* species present in South America are easily distinguishable by images. This is a simplified key, adapted from Fernández and Castro-Huertas (2014), to identify the South American species of *Sceliphron* through photographic material:

- 1a. Reddish legs and metasoma striped.....*S. curvatum* (Smith, 1870)
- 1b. Exclusively black and yellow coloured.....2
- 2a. Hind tibiae with broad yellow ring at base.....*S. caementarium* (Drury, 1773)
- 2b. Hind legs dorsally entirely black from trochanters to tarsi.....3
- 3a. A sole large yellow mark in propodeum. Black coxae.....*S. asiaticum* (Linnaeus, 1758)
- 3b. A black line that splits the yellow mark in two parts lengthwise. Coxae with yellow markings.....*S. fistularium* (Dahlbom, 1843)

Table 1. List of literature data from South America for *Sceliphron fistularium*. / Lista de datos de literatura de América del Sur para *Sceliphron fistularium*.

Country	Region	Reference
Argentina	Buenos Aires	Compagnucci and Roig Alsina (2008)
	Chaco	Compagnucci and Roig Alsina (2008)
	Entre Ríos	Compagnucci and Roig Alsina (2008)
	Entre Ríos/ Corrientes	Fritz and Genise (1980)
	Jujuy	Compagnucci and Roig Alsina (2008)
	Mendoza	Compagnucci and Roig Alsina (2008)
	Misiones	Compagnucci and Roig Alsina (2008)
Bolivia	Tucumán	Van der Vecht and Van Breugel (1968)
	Cochabamba	Kohl (1918)
Brazil	Amapá	Nascimento and Overal (1980); Amarante (2002)
	Amazonas	Kohl (1918); Van der Vecht and Van Breugel (1968); Amarante (2002); Pádua <i>et al.</i> (2022)
	Ceará	Fox (1897)

Country	Region	Reference
Brazil	Espirito Santo	Kohl (1918); Amarante (2002); Rodrigues and Buys (2013); Buys and Rodrigues (2014)
	Mato Grosso	Van der Vecht and Van Breugel (1968); Amarante (2002)
	Mato Grosso do Sul	Amarante (2002); Silvestre <i>et al.</i> (2014); Trad and Silvestre (2017)
	Minas Gerais	Kohl (1918)
	Pará	Kohl (1918); Porter (1926); Van der Vecht and Van Breugel (1968); Nascimento and Overal (1980); Amarante (2002)
	Paraná	Kohl (1918)
	Pernambuco	Van der Vecht and Van Breugel (1968)
	Rio de Janeiro	Kohl (1918); Van der Vecht and Van Breugel (1968); Amarante (2002); Buys (2009, 2011, 2014, 2020)
	Rio Grande do Norte	Amarante (2002)
	Rio Grande do Sul	Fox (1897, 1899); Kohl 1918; Van der Vecht and Van Breugel (1968); Amarante (2002)
Colombia	Santa Catarina	Kohl (1918); Van der Vecht and Van Breugel (1968); Amarante (2002)
	São Paulo	Camillo (2002); Amarante (2002)
	Amazonas	Fernández and Castro-Huertas (2014)
	Antioquia	Fernández and Castro-Huertas (2014)
	Bogotá	Van der Vecht and Van Breugel (1968)
	Bolívar	Fernández and Castro-Huertas (2014)
	Boyacá	Fernández and Castro-Huertas (2014)
	Caquetá	Fernández and Castro-Huertas (2014)
	Cauca	Cheesman (1929) (Island of Gorgona); Fernández and Castro-Huertas (2014)
	Chocó	Van der Vecht and Van Breugel (1968)
	Cundinamarca	Fernández and Castro-Huertas (2014)
	Magdalena	Van der Vecht and Van Breugel (1968)
	Meta	Fernández (1990); Fernández and Castro-Huertas (2014); León-Burgos <i>et al.</i> (2019)
	Nariño	Fernández and Castro-Huertas (2014)

Country	Region	Reference
Colombia	Norte de Santander	Fernández and Castro-Huertas (2014)
	Risaralda	Fernández and Castro-Huertas (2014)
	Santander	Fernández and Castro-Huertas (2014)
	Tolima	Fernández and Castro-Huertas (2014)
	Valle del Cauca	Fernández and Castro-Huertas (2014)
	Vichada	Fernández and Castro-Huertas (2014)
Ecuador	Guayas	Kohl (1918)
French Guyana	Cayenne	Lepeletier de Saint Fargeau (1845); Costa (1864a); Kohl (1918); Dollfuss (2016)
Guyana	Cuyuni-Mazaruni	Van der Vecht and Van Breugel (1968)
Paraguay	Asunción	Strand (1910, 1912); Kohl (1918)
	Cordillera	Kohl (1918)
	Paraguarí	Kohl (1918)
Peru	Junín	Van der Vecht and Van Breugel (1968); Rasmussen and Asenjo (2009)
	Lima	Van der Vecht and Van Breugel (1968); Rasmussen and Asenjo (2009)
	Loreto	Van der Vecht and Van Breugel (1968); Rasmussen and Asenjo (2009)
	Piura	Soukup (1943); Van der Vecht and Van Breugel (1968); Rasmussen and Asenjo (2009)
	Ucayali	Rasmussen and Asenjo (2009)
Suriname	Brokopondo	Van der Vecht and Van Breugel (1968)
	Commewijne	Van der Vecht and Van Breugel (1968)
	Marowijne	Van der Vecht and Van Breugel (1968)
	Para	Van der Vecht and Van Breugel (1968)
	Paramaribo	Kohl (1918); Van der Vecht and Van Breugel (1968)
	Sipaliwini	Van der Vecht and Van Breugel (1968)
	Wanica	Van der Vecht and Van Breugel (1968)
Uruguay	Montevideo	Costa (1864b)

Country	Region	Reference
Venezuela	Aragua	Van der Vecht and Van Breugel (1968); Dollfuss (2016)
	Capital District	Kohl (1918)
	Mérida	Kohl (1918); Van der Vecht and Van Breugel (1968); Alarcón and Cazorla (2021)

The photographic material comes from the biodiversity platform website iNaturalist (www.inaturalist.org) (IN). Some data has been duplicated from the primary web source also in the platform GBIF—Global Biodiversity Information Facility—(iNaturalist contributors, iNaturalist 2022) but anyway only the primary source is reported. Moreover, some records are from specimens deposited in Museo di Storia Naturale dell’Università degli Studi di Firenze, Sezione di Zoologia “La Specola”, Florence, Italy (MZUF). Each record was identified or confirmed by the author. In the material examined the following information is given: locality, coordinates, date, number of specimens, author of the photo or repository. Geographical coordinates are in decimal degrees (datum WGS84). The uncertainty of data (in metres) was indicated according to the point-radius method (Wieczorek *et al.* 2004).

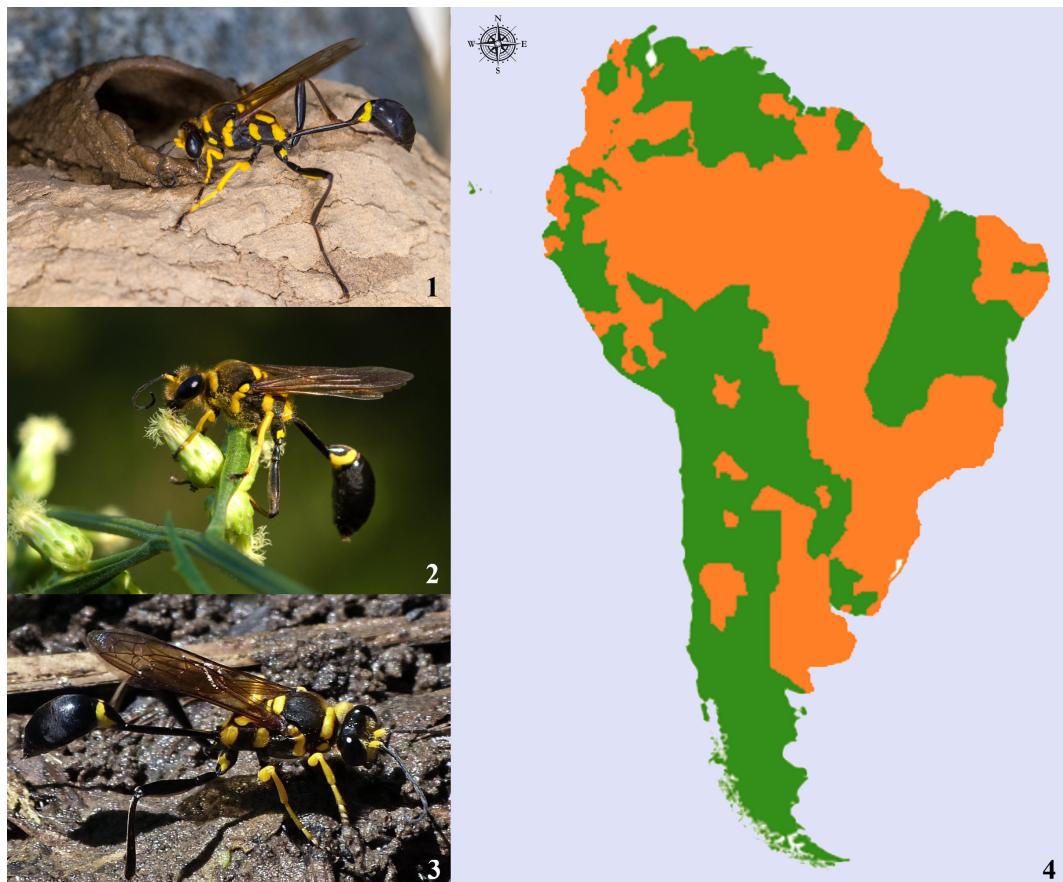
The countries are listed geographically from north to south and for each country the regions are listed in alphabetical order.

***Sceliphron fistularium* (Dahlbom, 1843)**
(Figs. 1-3)

Material examined. **Guyana.** Upper Demerara-Berbice: Linden, MacKenzie, 1931-1932, 2 specimens, N. Beccari expedition legit, MZUF. **Venezuela.** Miranda: Sucre, 10.508602° N -66.791687° E (un. not recorded), 3.I.2021, 1 specimen, photo by Fernando Nunes (IN). **Colombia.** Vaupés: Mitù, 1.252174° N -70.233618° E (un. = 2.26 km), 28.I.2022, 1 specimen, photo by Jonathan Newman (IN). **Ecuador.** Azuay: Nabón, -3.20222° N -79.036674° E (un. = 488 m), 6.I.2022, 1 specimen, photo by Rudy Gelis (IN). Orellana: Joya de los Sachas, -0.314624° N -76.796984° E (un. = 244 m), 1.VI.2010, 1 specimen, photo by David Torres (IN); Parque Nacional Yasuní, -0.524485° N -76.439879° E (un. = 21 m), 1.II.2019, 1 specimen, photo by Laurent Hesemans (IN). Manabí: Chone, -0.70846° N -80.198502° E (un. = 8 m), 2.XI.2021, 1 specimen, photo by David Torres (IN). Napo: Tena, -0.962877° N -77.860893° E (un. = 15 m), 9.V.2018, 1 specimen, photo by Graham Wise (IN) (Fig. 1). **Peru.** Ayacucho: Huamanga, -13.080459° N -74.240028° E (un. = 100 m), 2.I.2022, 1 specimen, photo by “cristhian_cuchuri02” (IN); La Convención: -12.932529° N -73.531301° E (un. = 7 m), 30.IV.2022, 1 specimen, photo by Floro Ortiz Contreras (IN). Cusco: Paucartambo, -12.889489° N -71.35974° E (un. = 4 m), 17.X.2019, 1 specimen, photo by Jared Shorma (IN). **Brazil.** Alagoas: Murici, -9.2061° N -35.8688° E (un. = 100 m), 8.XI.2019, 1 specimen, photo by “deboas” (IN). Distrito Federal: Brasília, Asa Norte, -15.743313° N -47.885113° E (un. = 61 m), 1.IV.2022, 1 specimen, photo by Silvio Wolff /IN); *idem*, SQN 415 Bloco F, -15.739326° N -47.886455° E (un. = 357 m), 9.I.2021, 1 specimen, photo by Krishna Bonavides (IN); *idem*, 12 - St. de Habitações Individuais Norte QL 5 - Lago Norte, -15.729339° N -47.85887° E (un. = 50 m), 11.IV.2018, 1 specimen, photo by “douglas-u-oliveira” (IN). **Paraguay.** Amambay: Pedro Juan Caballero, Parque Nacional de Cerro Cora, -22.65058° N -56.018192° E (un. not recorded), 17.XI.2019, 1 specimen, photo by “solmnbn” (IN). **Central**: Areguá, San Miguel, -25.292842° N -57.376465° E (un. = 8 m), 22.III.2008, 1 specimen, photo by Emilio Buongermini (IN). **Uruguay.** Canelones: Santa Lucia, Picada Alaniz, -34.478791° N -56.402751° E (un. = 36 m), 27.III.2020, 1 specimen, photo by

Guillermo Menéndez (IN) (Fig. 2). Cerro Largo: Melo, -32.366152° N -54.188583° E (un. = 306 m), 26.III.2022, 1 specimen, photo by Luis Vescia da Rosa (IN). Rocha: Arroyo Valizas, -34.343467° N -53.78924° E (un. not recorded), 16.III.2022, 1 specimen, photo by Martin Abreu (IN). **Argentina**. Santa Fe: La Capital, -31.636241° N -60.673648° E (un. = 173 m), 14.II.2014, 1 specimen, photo by Gustavo Fernando Durán (IN) (Fig. 3).

In some countries the occurrence records of *S. fistularium* were limited so far, but since the species is widespread in the continent such lacking data seems to be an absence of research. With the present work *S. fistularium* are recorded for the first time in the following new regions: Upper Demerara-Berbice (Guyana), Miranda (Venezuela), Vaupés (Colombia), Azuay, Orellana, Manabí, and Napo (Ecuador), Ayacucho and Cusco (Peru), Alagoas and Distrito Federal (Brazil), Amambay and Central (Paraguay), Canelones and Cerro Largo (Uruguay), and Santa Fe (Argentina). The occurrence of the species in these regions confirmed that *S. fistularium* is widely distributed in large part of South America (Fig. 4).



Figures 1-4. *Sceliphron fistularium*. 1. Specimen from Tena, Napo (Ecuador) (photo Graham Wise). 2. Specimen from Santa Lucia, Canelones (Uruguay) (photo Guillermo Menéndez). 3. Specimen from Fernando Durán, Santa Fe (Argentina) (photo Fernando Durán). 4. Updated distribution of *Sceliphron fistularium* in South America. Orange colored: areas where the species is known; green colored: areas where the species is not known so far. / 1. Espécimen de Tena, Napo (Ecuador) (foto Graham Wise). 2. Espécimen de Santa Lucia, Canelones (Uruguay) (foto Guillermo Menéndez). 3. Espécimen de Fernando Durán, Santa Fe (Argentina) (foto Fernando Durán). 4. Distribución actualizada de *Sceliphron fistularium* en América del Sur. Color naranja: áreas donde se conoce la especie; color verde: áreas donde aún no se conoce la especie.

The present work provides information which increases the knowledge of the distribution of this species in the nation. For example, before this work in Ecuador and Uruguay the occurrence of this mud-dauber wasp was documented in only one region. For Guyana the only record with precise locality was reported so far by Van der Vecht and Van Breugel (1968) from Cuyuni-Mazaruni, which is a territory claimed by Venezuela. Anyway, in the Guyana the species is likely most abundant and some works cited the species in the country, although without exact locality (Erichson 1849; Bodkin 1918), and according to Richards (1937) it is “common on the costal plain”.

Although *S. fistularium* is a common and widespread species in the continent, further research will be needed to ascertain its detailed distribution, since in several countries the available records are quite poor and scattered and so far no records are from Chile.

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