

Last updated: 19 November 2013

## **EREMNOPHILA**

*Eremnophila* Menke, 1964c:875. Type species: *Ammophila opulenta* Guérin-Meneville, 1838, by original designation.

Revision: Menke, 1964c.

### **1. *asperata* (W. Fox)**

*Ammophila asperata* W. Fox, 1897b:374, ♀. Lectotype: ♂, Brazil: Mato Grosso: Chapada de Guimares (Carnegie Mus.), designated by Menke, 1964c:883. – Menke, 1964c:883 (in revision of *Eremnophila*). – **As *Eremnophila asperata***: R. Bohart and Menke, 1976:147 (new combination, in checklist of world Sphecidae); Amarante, 2002:67 (in catalog of Neotropical Sphecidae).

### **2. *aureonotata* (Cameron)**

*Ammophila aureonotata* Cameron, 1888a:7, ♀ (as *aureo-notata*, incorrect original hyphenation). Lectotype: ♂, Mexico: Yucatán: Valladolid (BMNH), designated by Menke, 1964c:881. – Dalla Torre, 1897:396 (in catalog of world Hymenoptera); W. Fox, 1897b:374 (Brazil: Chapada, Corumbá, and Pedra Branca); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:159 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Murray in Muesebeck et al., 1951:975 (in catalog of North American Hymenoptera); Evans, 1959d:464 (nesting behavior); Menke, 1964c:881 (in revision of *Eremnophila*). – **As *Sphecx aureonotatus***: J.Ch. Bradley, 1928:1012 (new combination, in catalog of New York Sphecidae); Fernald, 1934:65 (revision); Brimley, 1938:444 (North Carolina: statewide); Fernald, 1943a:290 (Florida); Dreisbach, 1944:268, 269 (in key to Sphecinae of Michigan), 273 (Michigan: locality records); Krombein, 1953a:298 (visiting flowers of *Monarda punctata* and *Cephalanthus occidentalis*), 333 (North Carolina), 1953b:133 (North Carolina: Kill Devil Hills); Krombein and Evans, 1954:233 (Florida), 1955:232 (Florida); Krombein, 1958a:52 (USA: West Virginia: Lost River State Park), 1958c:104 (prey, prey carrying, nest), 1963f:276 (Maryland: Plummers Island near Washington, D.C.); L. Davis, 1978:217 (North Carolina: Kill Devil Hills, data from Krombein, 1953a). – **As *Eremnophila aureonotata***: R. Bohart and Menke, 1976:147 (new combination, in checklist of world Sphecidae); Krombein, 1979b:1588 (in catalog of North American Hymenoptera); Nascimento and Overall, 1980:5 (Brazil); Finnamore, 1982:25 (in Sphecid Fauna of Southern Quebec); Brockmann, 1985b:312 (nest closure summary); O'Brien, 1989b:209 (distribution in Michigan); Kurczewski and Acciavatti, 1990:59 (New York: Cayuga County); Maes, 1989:94 (in catalog of Nicaraguan Sphecidae); Ahlstrom, 1995:107 (in checklist of insects of North Carolina); Hanson and Menke, 1995:638 (known from Costa Rica); Menke, 1996e:191 (in key), 196 (in revision of Costa Rican species); Menke and Parker, 1996:187 (Costa Rica: population largest during the dry season); Skevington et al., 2001:127 (Canada: Ontario: Lambton County); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Buck, 2004:24 (in checklist of Sphecidae of Ontario, Canada); Lechner, 2006b:353 (copulation); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 47 (Mexico: Tamaulipas); Miller, Pearce, and O'Neill, 2009:3 (known to be parasitized by *Paraxenos lugubris* (Pierce)); Dollfuss, 2010a:536 (Nebraska: Sharpy County: Papillon; Mexico: Guerrero: 35 km S Chilpancingo); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini).

### **3. *auromaculata* (Pérez)**

*Ammophila auromaculata* Pérez, 1891:499, ♀. Holotype: ♀, Argentina: Gran Chaco: no specific locality (MNHN). – Dalla Torre, 1897:396 (in catalog of world Hymenoptera); Menke, 1964c:882 (in revision of *Eremnophila*), 1965a:215 (study of type). – **As *Eremnophila auromaculata***: R. Bohart and Menke, 1976:147 (new combination,

in checklist of world Sphecidae); Nascimento and Overall, 1980:5 (Argentina); Garcete-Barrett, 2001a:56 (Paraguay: locality records); Amarante, 2002:67 (in catalog of Neotropical Sphecidae).

*Ammophila giacomellii* Schrottky, 1910:31, ♀, ♂. Syntypes: Argentina: La Rioja; Catamarca: Andalgalá (depository?). Synonymized with *Ammophila auromaculata* by Menke, 1964c:882.

#### 4. *binodis* (Fabricius)

*Sphex binodis* Fabricius, 1798:243, ♀. Holotype: ♀, French Guyana: Cayenne (MNHN, Bosc coll.). – Fernald, 1931a:446 (study of type material). – Fabricius, 1799:46 (in Index to his Supplementum, 1798); Coquebert, 1799:22, pl. V Fig. 8 (illustration of Fabrician type). – **As *Ammophila binodis***: Dalla Torre, 1897:396 (new combination, in catalog of world Hymenoptera); Menke, 1964c:880 (in revision of *Eremnophila*), 1965a:215 (study of type material). – **As *Eremnophila binodis***: R. Bohart and Menke, 1976:147 (new combination, in checklist of world Sphecidae); Nascimento and Overall, 1980:5 (Brazil); Callan, 1990b:19 (in checklist of Trinidad Sphecidae); Buys, 1999:184 (nesting behavior); Garcete-Barrett, 2001a:56 (Paraguay: locality records); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Starr and Hook, 2003:22 (in catalog of Aculeata of Trinidad, West Indies); Buys, 2009d:319 (nesting habits, male territoriality, larval development), 2009e:276 (Brazil: Rio de Janeiro: Duque de Caxias, Nova Friburgo, Petrópolis, Reserva Biológica de Poço das Antas, São Francisco de Itabapoana); Dollfuss, 2010a:536 (locality records from Brazil, Bolivia, French Guiana, Paraguay, and Peru); Field, Ohl, and Kennedy, 2011:734 (in molecular cladistic analysis of Ammophilini).

*Pelopoeus abbreviatus* Fabricius, 1804:204, sex not indicated. Lectotype ♂, South America: no specific locality (ZMUC), designated by Fernald, 1931a:446 and by van der Vecht, 1961a:38. Synonymized with ... by ... – Cresson, 1863:319 (in catalog of North American Hymenoptera); W. Fox, 1897b:374 (Brazil). – **As *Sphex abbreviatus***: H. Smith, 1908b:329 (new combination, in revision of Nebraskan Sphecidae); Schrottky, 1913a:224 (Argentina, Paraguay); Rohwer, 1916b:682 (in catalog of Hymenoptera of Connecticut, as *abbreviata*); Mickel, 1918b:401 (in catalog of Nebraskan Sphecidae); Rau, 1922:24 (USA: Missouri: Wickes, prey: hesperiid larva); Rohwer *in* Viereck, 1925:681, 682 (in key to Sphecidae of Connecticut); Fernald, 1931a:445 (study of type material, North American specimens assigned to this species are *Sphex aureonotatus*), 1942:31 (Guyana). – **As *Ammophila abbreviata***: Lepeletier de Saint Fargeau and Audinet-Serville, 1828:452 (new combination, redescription); Dahlbom, 1843:15 (in revision of Sphecidae and Pompilidae), 1845:XX (new combination based on study of collection Fabricius), 431 (in key); Lepeletier de Saint Fargeau, 1845:375 (in revision of world Hymenoptera); Erichson, 1849:589 (British Guyana); F. Smith, 1856:220 (in catalog of Hymenoptera in British Museum); A. Costa, 1862a:17 (two specimens from Brazil in Museo Zoologico di Napoli); Cresson, 1887:274 (in catalog of North American Hymenoptera); Dalla Torre, 1897:393 (in catalog of world Hymenoptera); W. Fox, 1899:199 (Brazil: Rio Grande do Sul); Kohl, 1901b:405 (gynandromorph); Melander, 1903:157 (diagnostic characters), 159, 160, 161 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution); Schrottky, 1909c:210, 212 (occurring on dry sand); Barth, 1910:119 (nest structure); Strand, 1910a:129 (Paraguay); Salt, 1927:182 (stylopized specimen; Virginia: Falls Church); Richards, 1937a:101 (Guyana); van der Vecht, 1961a:38 (validity of Fernald's selection of lectotype); Bischoff and von Schulthess, 1937:168 (Argentina, Bolivia); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Pagliano, 2008:510 (specimens in M. Spinola collection, Torino, ).

*Ammophila brasiliiana* Brèthes, 1909b:62, ♂. Holotype: ♂, Brazil: no specific locality (Mus. Montevideo). Synonymized with *Eremnophila binodis* by Menke *in* R. Bohart and Menke, 1976:147. – Genise, 1990:26 (type material in Museo de Montevideo)

*Ammophila guiana* Cameron, 1912a:428, ♀. Holotype or syntypes: ♀, Guyana: Demerara: no specific locality (BMNH). Synonymized with *Ammophila binodis* by Menke, 1964c:880.

*Ammophila oxystoma* Cameron, 1912a:429, ♂. Holotype or syntypes: ♂, Guyana: Demerara (BMNH). Synonymized with *Ammophila binodis* by Menke, 1964c:880.

### 5. *catamarcensis* (Schrottky)

*Ammophila catamarcensis* Schrottky, 1910a:31, ♂. Holotype or syntypes: ♂, Argentina: Catamarca: Andalgalá (depository?). – Menke, 1964c:882 (in revision of *Eremnophila*). – **As *Sphex catamarcensis***: Schrottky, 1913a:224 (new combination, Argentina: Catamarca). – **As *Eremnophila catamarcensis***: R. Bohart and Menke, 1976:147 (new combination, in checklist of world Sphecidae); Amarante, 2002:67 (in catalog of Neotropical Sphecidae).

### 6. *eximia* (Lepeletier de Saint Fargeau)

*Ammophila eximia* Lepeletier de Saint Fargeau, 1845:373, ♂ (authorship attributed to Klug). Holotype or syntypes: ♂, Brazil: no specific locality (Torino). – F. Smith, 1856:219 (in catalog of Hymenoptera in British Museum); Dalla Torre, 1897:399 (in catalog of world Hymenoptera); Strand, 1910a:130 (Paraguay, redescription); Menke, 1964c:882 (in revision of *Eremnophila*), 1965a:215 (study of type); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection, Torino); Pagliano, 2008:509 (specimens in M. Spinola collection, Torino). – **As *Eremnophila eximia***: R. Bohart and Menke, 1976:147 (new combination, in checklist of world Sphecidae); Nascimento and Overall, 1980:5 (Brazil); Genise, 1981c:47 (nesting behavior); Garcete-Barrett, 2001a:57 (Paraguay: locality records); Amarante, 2002:67 (in catalog of Neotropical Sphecidae); Buys, 2009e:276 (Brazil: Rio de Janeiro: Duque de Caxias, Itatiaia, Seropédica); Dollfuss, 2010a:536 (locality records from Bolivia and Paraguay); Buys, 2011a:411 (Bolivia: El Carmen, 2011b:2 (Brazil: Rio de Janeiro: Seropédica).

*Ammophila eugenia* F. Smith, 1856:220, ♀ (actually ♂: Dalla Torre, 1897:399, Schrottky, 1910a:30; Menke, 1965a:216), as *Eugenia*, incorrect original capitalization. Holotype or syntypes: ♀, Argentina: Río Grande: no specific locality (OXUM). Synonymized with *Ammophila eximia* by Menke, 1964c:882, synonymy confirmed by Menke, 1965a:215. – Dalla Torre, 1897:399 (in catalog of world Hymenoptera); Schrottky, 1910a:30 (Argentina: Catamarca: Andalgalá). – **As *Sphex eugenia***: Schrottky, 1913a:224 (new combination, Argentina: Catamarca).

*Sphex nigrocinctus* Fernald, 1907:269, ♀. Holotype: ♀, Argentina: Córdoba: Córdoba (depository?). Synonymized with *Ammophila eximia* by Menke, 1964c:882. – Schrottky, 1913a:224 (Argentina).

*Ammophila friedrichi* Schrottky, 1909b:244, ♀. Holotype or syntypes: ♀, Argentina: Misiones: San Ignacio (depository?). Synonymized with *Ammophila eximia* by Menke, 1964c:882. – Schrottky, 1910a:31 (redescription, in key to *Ammophila eugenia* group); Jörgensen, 1912:285 (Argentina: Mendoza Province). – **As *Sphex friedrichi***: Schrottky, 1913a:224 (new combination, Argentina: Misiones).

*Ammophila trimaculigera* Strand, 1910:130, ♂, proposed conditionally. Holotype: ♂, Paraguay: Villa Morra (ZMHU). Synonymized with *Ammophila eximia* by Menke, 1964c:882. – Amarante, 2005:14 (correction to his 2002 catalog)

### 7. *melanaria* (Dahlbom)

*Ammophila melanaria* Dahlbom, 1843:15, ♀, ♂. Lectotype: ♂, Brazil: no specific locality (Lund), designated by Menke, 1964c:878. – Dahlbom, 1845:431 (in key); A. Costa, 1864b:111 (two specimens from Cayenne in Museo Zoologico di Napoli), 1866:24 (specimen from Cayenne, French Guyana, in Museo Zoologico di Napoli); Burmeister, 1872:241 (Argentina: Buenos Aires); F. Lynch Arribálzaga, 1878:329 (Argentina: Buenos Aires area); Holmberg, 1884:226 (Uruguay); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Schrottky, 1903b:123 (in checklist of Hymenoptera of Argentina, Paraguay, and Uruguay); Campos, 1922:68 (Ecuador: El Salado); Menke, 1964c:878 (in revision of *Eremnophila*); Pagliano, 2008:509 (holotype in M. Spinola collection, Torino). – **As *Sphex melanarius***: Schrottky, 1913a:224 (new combination, Argentina: Buenos Aires, Catamarca); Fernald, 1934:74 (revision), 1942:31 (Guyana: Kartabo); Casolari and Casolari Moreno, 1980:100 (specimens in M. Spinola collection). – **As *Eremnophila melanaria***: R. Bohart and Menke, 1976:147 (new combination, in checklist of world Sphecidae); Hanson and Menke, 1995:638 (known from Costa Rica); Menke, 1996e:192 (in key), 196 (in revision of Costa Rican species); Menke and Parker, 1996:188 (Costa Rica: population largest during the wet season); Garcete-Barrett, 2001a:57 (Paraguay: locality records); Amarante, 2002:68 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 47 (Mexico: Tamaulipas); Buys,

2009e:276 (Brazil: Rio de Janeiro: Cachoeiras de Macacu, Nova Friburgo, Itatiaia, Petrópolis, Rio de Janeiro, Teresópolis); Dollfuss, 2010a:536 (locality records from Brazil, Bolivia, Ecuador, French Guiana, and Peru); Buys, 2011b:2 (Brazil: Rio de Janeiro: Itatiaia, Teresópolis).

? *Ammophila miliaris* Cameron, 1888a:3, ♀, ♂. Lectotype: ♀, Panama: Bugaba (BMNH), designated by Menke, 1964c:878. Tentatively synonymized with *Ammophila melanaria* by Menke, 1964c:878. – W. Fox, 1897b:374 (Brazil: Chapada and Santarém); Dalla Torre, 1897:404 (in catalog of world Hymenoptera); Melander, 1903:160, 161 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution). – **As *Sphex miliaris***: Fernald, 1934:71 (new combination, revision)

? *Ammophila iridipennis* Cameron, 1888a:5, ♀, ♂. Lectotype: ♀, Guatemala: Zapote (BMNH), designated by Menke, 1964c:878. Tentatively synonymized with *Ammophila miliaris* by Fernald, 1934:71 and with *Ammophila melanaria* by Menke, 1964c:878. – Dalla Torre, 1897:403 (in catalog of world Hymenoptera); Ashmead, 1899d:354 (in checklist of North American Sphecidae); Melander, 1903:161 (in key to North American Ammophilini), 163 (bibliographic references, geographic distribution).

*Ammophila velutina* Schrottky, 1910a:31, ♀. Holotype or syntypes: ♀, Argentina: Misiones: San Ignacio (depository?). Tentatively synonymized with *Ammophila melanaria* by Menke, 1964c:878, and treated as synonym by Menke, 1996e:196. – **As *Sphex velutinus***: Schrottky, 1913a:224 (new combination, Argentina: Misiones).

*Ammophila lobicollis* Cameron, 1912a:428, ♀. Holotype or syntypes: ♀, Guyana: no specific locality (BMNH). Synonymized with *Ammophila melanaria* by Menke, 1964c:878.

### 8. *opulenta* (Guérin-Méneville)

*Ammophila opulenta* Guérin-Méneville, 1838:261, ♀. Holotype: ♀, Brazil: Pará: no specific locality (MSNG). – F. Smith, 1856:219 (in catalog of Hymenoptera in British Museum); Dalla Torre, 1897:406 (in catalog of world Hymenoptera); W. Fox, 1897b:374 (Brazil, diagnostic characters); Strand, 1910a:129 (Paraguay); Richards, 1937a:101 (Guyana, caterpillar prey); Guiglia, 1948b:179 (type in Genova); Menke 1964c:878 (in revision of *Eremnophila*). – **As *Sphex opulentus***: Fernald, 1934:69 (new combination, revision), 1942:32 (Guyana: Kartabo). – **As *Eremnophila opulenta***: R. Bohart and Menke, 1976:147 (new combination, in checklist of world Sphecidae); Nascimento and Overal, 1980:5 (Brazil); Callan, 1990b:19 (in checklist of Trinidad Sphecidae); F. Fernández, 1990:24 (Colombia: Meta: Parque Nacional Natural La Macarena); Cambra, 1993:16 (Peru: Pakitza, 11°57'S, 71°17'W); Hanson and Menke, 1995:638 (known from Costa Rica); Menke, 1996e:192 (in key), 194 (in revision of Costa Rican species); Menke and Parker, 1996:187 (Costa Rica: phenological observations); Garcete-Barrett, 2001a:57 (Paraguay: locality records); Amarante, 2002:68 (in catalog of Neotropical Sphecidae); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:669 (in checklist of Mexican Sphecidae); Starr and Hook, 2003:22 (in catalog of Aculeata of Trinidad, West Indies); Rasmussen and Asenjo, 2009:15 (in checklist of Crabronidae of Peru); Dollfuss, 2010a:536 (locality records from Argentina, Bolivia, Ecuador, and French Guiana).

*Ammophila bimaculigera* Strand, 1910a:129, ♀. Lectotype: ♀, Paraguay: Villa Morra (ZMHU), designated by Menke, 1964c:878. Synonymized with *Ammophila opulenta* by Menke, 1964c:878.

### 9. *willinki* (Menke)

*Ammophila willinki* Menke, 1964c:881, ♂, ♀. Holotype: ♂, Brazil, Santa Catarina: Nova Teutonia (CAS). Paratypes: Argentina. – **As *Eremnophila willinki***: R. Bohart and Menke, 1976:147 (new combination, in checklist of world Sphecidae); Garcete-Barrett, 2001a:58 (Paraguay: locality records); Amarante, 2002:68 (in catalog of Neotropical Sphecidae); Dollfuss, 2010a:537 (Bolivia: Departamento Santa Cruz: Río Seco, and Paraguay: Cghaco: 90 km SE Filadelfia).

### sp.

Callan, 1954:24 (Venezuela: Paria Peninsula: Irapa, sp. near *aureonotata*); F. Fernández, 1990:24 (Colombia: Meta: Parque Nacional Natural La Macarena).