

Last updated: 12 June 2010

DIDINEIS

Didineis Wesmael, 1852:109. Type species: *Alyson lunicornis* of Vander Linden, 1829 [= *Pompilus lunicornis* Fabricius, 1798], by monotypy.

Key: Handlirsch, 1895:839 (Nearctic species); Malloch and Rohwer, 1930:2 (Nearctic species).

Revision: Gussakovskij, 1937 (Palearctic species).

Review of biology: Kazenas, 2001b:217.

1. *aculeata* Cresson

Alyson aculeatus Cresson, 1865a:148, ♂. Holotype: ♂, Cuba: no specific locality (IZAC). – Packard, 1867:422 (listed); Handlirsch, 1888a:269 (original description translated into German); Ashmead, 1900:307 (in checklist of Caribbean Hymenoptera); W. Schulz, 1911b:178 (description of ♀); Cresson, 1916:97 (holotype in Gundlach collection). – **As *Didineis aculeata***: Dalla Torre, 1897:565 (new combination, in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Alayo Dalmau, 1969:3 (in revision of Cuban Bembicinae, as *aculeatus*), 1973:186 (in catalog of Cuban Hymenoptera, as *aculeatus*), 1976:28 (in checklist of Cuban Sphecidae, as *aculeatus*); R. Bohart and Menke, 1976:458 (listed); de Zayas, 1981:78 (Cuba, as *aculeatus*); Amarante, 2002:7 (in catalog of Neotropical Crabronidae); Fernández, Sariol, Vega, Ricardo, González, and Portuondo, 2002:46 (Cuba: Provincia Granma, as *aculeatus*); Portuondo and Fernández, 2004:134 (Cuba: Nipe-Sagua-Baracoa mountains, as *aculeatus*); Genaro, 2006:52 (in checklist of Cuban Sphecidae and Crabronidae).

2. *bactriana* Gussakovskij

Didineis bactriana Gussakovskij, 1937:613, ♀, ♂. Syntypes: Turkmenistan: Charjuy; Uzbekistan: Khatyrchi near Zirabulak railroad station (ZIN). – R. Bohart and Menke, 1976:458 (listed); Kazenas, 2001b:43 (in checklist of Sphecidae of Kazakhstan and Central Asia). – **As *Alysson bactriana* [sic]**: Kazenas, 1978b:95 (new combination, in key to Sphecidae of Kazakhstan and Central Asia).

3. *barbieri* (de Beaumont)

Alysson barbieri de Beaumont, 1968b:163, ♂. Holotype: ♂, Algeria: Oran Province: Sidi ben Chouiref (MNHN, coll. Granger). – **As *Didineis barbieri***: R. Bohart and Menke, 1976:458 (new combination, listed).

4. *botsharnikovi* Gussakovskij

Didineis botsharnikovi Gussakovskij, 1937:614, ♀, ♂. Syntypes: Azerbaijan: Djafarkhan in former Sal'yan District (ZIN). – R. Bohart and Menke, 1976:458 (listed, as *botscharnikovi*). – **As *Alysson botsharnikovi***: Kazenas, 1978b:95 (new combination, in key to Sphecidae of Kazakhstan and Central Asia)

5. *bucharica* Gussakovskij

Didineis bucharica Gussakovskij, 1937:604, ♂. Holotype: ♂, Uzbekistan: Kashka Darya District: Guzar (ZIN). – R. Bohart and Menke, 1976:458 (listed); Kazenas, 2001b:43 (in checklist of Sphecidae of Kazakhstan and Central Asia). – **As *Alysson bucharica* [sic]**: Kazenas, 1978b:95 (new combination, in key to Sphecidae of Kazakhstan and Central Asia).

6. *clavimana* Gussakovskij

Didineis clavimana Gussakovskij, 1937:605, ♀, ♂. Syntypes: Russia: Sarepta, now Krasnoarmeysk, may be Krasnodar (ZIN). – R. Bohart and Menke, 1976:458 (listed); Voblenko, Gorobchishin, and Nesterov, 1996:15 (Ukraine: Polesye Region). – **As *Alysson clavimana* [sic]**: de Beaumont, 1965a:41 (new combination, Greece); de Beaumont and

Bytinski-Salz, 1959:108 (Israel); Kazenas, 1978b:94, 95 (in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:213 (in key to Sphecidae of European part of former USSR, as *clavimanus*).

7. *crassicornis* Handlirsch

Didineis crassicornis Handlirsch, 1888a:266, ♂. Holotype: ♂, Hungary: no specific locality (TMB), actually Romania: Kopacs (Mocsáry, 1897:81). – Dalla Torre, 1897:565 (in catalog of world Sphecidae); Kokujev, 1906:217 (in key to Palearctic *Didineis*); Schmiedeknecht, 1907:226 (in key to Hymenoptera of Central Europe), 1930:688 (in keys to Hymenoptera of North and Central Europe); Bernard, 1935:64 (France: Var: Fréjus area); Gussakovskij, 1937:603 (in revision of Palearctic *Didineis*); Zavadil, 1937a:72 (eastern Slovakia); Zavadil, Šusterka, and Baťa, 1937:196 (in catalog of Sphecidae of Czechoslovakia); Móczár, 1943b:85 (Hungary: Baranya county, CzóronSzo-motor); Šnoflak in Zavadil and Šnoflak, 1948:79 (in key to Sphecidae of Czechoslovakia); Scobiola-Palade, 1951:272 (first record from Romania: several localities); Noskiewicz and Pulawski, 1960:85 (in key to Polish Sphecidae, not yet found in Poland); Balthasar, 1972:354 (in Sphecid Fauna of Czechoslovakia); R. Bohart and Menke, 1976:458 (listed); Gayubo and Tormos, 1986a:16 (Spain: Castellón de la Plana); Józán, 1986:373 (Hungary: Kiskunság National Park); Pádr in Šedivý, 1989a:167 (in checklist of Czechoslovakian Sphecidae); Dollfuss, 1991:182 (in key to Sphecidae of North and Central Europe); Pagliano, 1992:31 (in key to Italian Nyssoninae); Torregrosa, Gayubo, Tormos, and Asís, 1993:20 (Spain: Alicante Province); Negrisoló in Minelli, Ruffo, and La Posta, 1995b:3 (in catalog of Italian fauna); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:130 (in Sphecid Fauna of Western Europe); Dollfuss, Gusenleitner, and Bregant, 1998:522 (Austria: Burgenland: Frauenkirchen); Ljubomirov, 1999a:22 (Bulgaria: Rhodope Mts.); Gayubo, González, and Torres, 2000:187 (Spain: Salamanca Province); Zettel, Gross, and Mazzucco, 2001:79 (Austria: Wien); Beron, 2004:840 (Bulgaria, eastern Rhodope Mts.: Arda Hut, citation of Ljubomirov, 1999:22); Gayubo and Özbek, 2005:14 (first record from Turkey: Erzurum: University campus); Pagliano and Negrisoló, 2005:115 (in Sphecid Fauna of Italy); Zsolt, 2006:284 (Hungary: Barcs); Vepřek and Straka, 2007:207 (in catalog of Sphecidae of Czech Republic and Slovakia, known from Slovakia only); Ljubomirov and Yildirim, 2008:63 (in catalog of Crabronidae of Turkey); Gayubo, González, Tormos, and Asís, 2009:364 (Spain: Valladolid: Reserva Natural Riberas de Castronuño – Vega del Duero). – As *Alysson crassicornis*: Giner Marí, 1943a:154 (new combination, in Sphecid Fauna of Spain); Ceballos, 1949:100 (Spain), 1956:379 (in catalog of Hymenoptera of Spain); Bajári, 1957a:96 (in key to Hungarian Sphecidae, not yet found in Hungary); Scobiola-Palade, 1968b:142 (Romania: Island of Letea in delta of Danube), 1968c:384 (Romania: Andronache, Dăraști, Frătești, Moara Domnească); Diniz, 1973:49 (Portugal: Angeiras, Elvas); Pulawski, 1978:213 (in key to Sphecidae of European part of former USSR); Scobiola-Palade, 1985:96 (Romania: delta of Danube), 1989:88 (Romania: delta of Danube).

8. *dilata* Malloch and Rohwer

Didineis dilata Malloch and Rohwer, 1930:7, ♂. Holotype: ♂, USA: Wisconsin: Columbus (USNM). – Krombein in Muesebeck et al., 1951:981 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:459 (listed); Krombein, 1979b:1686 (in catalog of North American Hymenoptera); Buck, 2004:27 (in checklist of Crabronidae of Ontario, Canada), 30 (distribution within Ontario), 60 (first records from Canada: Alberta: Lethbridge; Ontario: Guelph; Saskatchewan: Saskatoon, Willow Bunch).

9. *hispanica* Guichard

Didineis hispanica Guichard, 1990a:274, ♂ (as *hispanicus*, incorrect original termination). Holotype: ♂, Spain: Cadiz: Algeciras (BMNH). – Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:132 (in Sphecid Fauna of Western Europe).

10. *kozhevnikovi* Kokujev

Didineis kozhevnikovi Kokujev, 1906:218, ♀. Holotype: ♀, Russia: Moscow Oblast: Serpukhov District: no specific locality (N. Kokujev coll., lost?). – Gussakovskij, 1937:612 (in revision of Palearctic *Didineis*); Balthasar,

1972:356 (in Sphecid Fauna of Czechoslovakia: may be expected in the country); R. Bohart and Menke, 1976:459 (listed). – **As *Alysson koshevníkovi***: Pulawski, 1978:213 (new combination, in key to Sphecidae of European part of former USSR).

11. *latimana* Malloch and Rohwer

Didineis latimana Malloch and Rohwer, 1930:4, ♀, ♂. Holotype: ♂, USA: Maryland: Glen Echo (USNM). – Krombein in Muesebeck et al., 1951:981 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:459 (listed); Krombein, 1979b:1686 (in catalog of North American Hymenoptera); Buck, 2004:27 (in checklist of Crabronidae of Ontario, Canada), 31 (distribution within Ontario), 61 (first records from Canada: Ontario, Quebec: list of localities).

As *Didineis texana*: Harrington, 1902:223 (Canada: Ontario: Ottawa) and Finnamore, 1982:207 (in Sphecid Fauna of Southern Quebec), corrected to *Didineis latimana* by Buck, 2004:61

12. *latro* (de Beaumont)

Alysson latro de Beaumont, 1967a:328, ♀, ♂. Holotype: ♀, Turkey: Antakya (M. Schwarz coll.). – **As *Didineis latro***: R. Bohart and Menke, 1976:459 (new combination, listed); Ljubomirov and Yildirim, 2008:63 (in catalog of Crabronidae of Turkey).

13. *lunicornis* (Fabricius)

Pompilus lunicornis Fabricius, 1798:241, sex not indicated. Holotype or syntypes: France: no specific locality (lost: van der Vecht, 1961a:46). – **As *Alysson lunicornis***: Lepeletier de Saint Fargeau and Audinet-Serville, 1825:50 (new combination, redescription); Vander Linden, 1829:90 (bibliographic references, Belgium: Bruxelles, France); Shuckard, 1837:207 (in revision of British Aculeata); Herrich-Schaeffer, 1840:292 (Germany: Bayern: Regensburg area); Dahlbom, 1845:474 (in key to European *Alysson*); Lepeletier de Saint Fargeau, 1845:86 (in revision of world Hymenoptera, as *Alyson lunicorne*); Kirschbaum, 1853:44 (Germany: Herzogtum Nassau: Wiesbaden, as *lunicorne*); F. Smith, 1856:374 (in catalog of Hymenoptera in British Museum); Schenck, 1857:177 (in revision of fossorial wasps of Nassau Region, Germany, as *lunicorne*); Taschenberg, 1858:86 (in key to Sphecidae of Germany); Schenck, 1860:148 (Germany: Nassau Region, as *Alyson lunicorne*); Brischke, 1862:100 (Germany: Preussen Province, now Poland: Pomorze Region, as *Alyson lunicorne*); A. Costa, 1864b:104 (two specimens from Torino, Italy, in Napoli Museum); Taschenberg, 1866:198 (in revision of Hymenoptera of Germany); Kirchner, 1867:219 (in catalog of European Hymenoptera); Schenck, 1867a:355 (Germany: Nassau Region); Friese, 1883:202 (Germany: Sachsen-Anhalt: Weissenfels); Brischke, 1888b:97 (Germany: Preussen Province, now Poland: Pomorze Region; as *lunicorne*); Acloque, 1897:84 (in Sphecid Fauna of France and Algeria); Friese, 1926:161 (in key to Sphecidae of Central Europe, short morphological and biological characteristics); Giner Marí, 1943a:153 (in Sphecid Fauna of Spain); Ceballos, 1949:100 (Spain), 1956:379 (in catalog of Hymenoptera of Spain); Bajári, 1957a:95 (in key to Hungarian Sphecidae); Noskiewicz and Pulawski, 1960:84 (in key to Polish Sphecidae); Grandi, 1962:97 (Italy); de Beaumont, 1964c:64 (in Sphecid Fauna of Switzerland); B. Klug, 1965:136 (Germany: Baden-Württemberg: Freiburg im Breisgau area); Gauss, 1967:553 (Germany: Baden-Württemberg); Scobiola-Palade, 1967b:47 (Romania); Benedek, 1968:72 (Hungary, visiting flowers of *Daucus carota* L.); Zangheri, 1969:1703 (Italy: in catalog of flora and fauna of Romagna Region: Balze, Scardavilla); Gauss and Perraudin, 1970:360 (Germany: Baden-Württemberg: Bodensee area); Oehlke, 1970:706 (Democratic Germany); Tsuneki, 1971m:12 (China: Inner Mongolia: Apaka); Haeseler, 1973:53 (Germany: Schleswig-Holstein: Schierensee near Kiel); Eck, 1976:90 (Democratic Germany); Pulawski, 1978:213 (in key to Sphecidae of European part of former USSR); Benedek, 1979:231 (Hungary: Bakony Hills); Casolari and Casolari Moreno, 1980:125 (specimens in M. Spinola collection); Richards, 1980:78 (in key to Sphecidae of British Isles); Józán, 1981:305 (Hungary: Hortobágy National Park); Skibińska, 1981:357 (Poland: Warszawa-Białoleka), 1982:119, 123 (Poland: Mazovian Voivodship: Białoleka); Packer, 1987:37 (summary of collecting localities in Great Britain); Kowalczyk, 1988a:45 (Poland: Rogów), 1988b:64 (Poland: environs of Łódź); 1990:291 (Poland: Góry Świętokrzyskie); Harvey and Plant,

1996:79 (Great Britain: summary of records from Essex). – *As Didineis lunicornis*: Wesmael, 1852:110 (new combination, Belgium); A. Costa, 1867c:76 and 1869b:92 (in revision of Italian Sphecidae); Dours, 1874:142 (in catalog of Hymenoptera of France); Kohl, 1883e:668 (Switzerland); Wüstnei, 1891a:27 (Germany: Schleswig-Holstein: Schanzen near Sonderburg); Kohl, 1893:28 (Austria: Niederösterreich); Krieger, 1894:9 (Germany: Kingdom of Saxony); Handlirsch, 1895:837 (additional bibliography; Croatia, Slovenia); Dalla Torre, 1897:565 (in catalog of world Sphecidae); Mocsáry, 1897:81 (Kingdom of Hungary, one locality is in today's Croatia); Handlirsch, 1898b:486 (Egypt: Turah); Antiga and Bofill, 1904:14 (Spain: Cataluña Province); Kubes, 1905:84 (Czech Republic: Kolín, Mančice, Obora); Mosolov, 1905:19 (Russia: Moscow Government: Mikhailovskoye); Kokujev, 1906:217, 218 (in key to Palearctic *Didineis*); Schmiedeknecht, 1907:225, 226 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:120 (in catalog of French Hymenoptera); Dittrich, 1911b:24 (Germany: Niederschlesien Province, now Poland: Dolny Śląsk Region); Graeffe, 1911:47 (Italy: Trieste area); Birula, 1912:541 (Ukraine: Zhytomyr Oblast': Radomyshl'); Ferton, 1912a:405 (Algeria, nesting habits); Schirmer, 1912:167 (Germany: Berlin area); Haupt, 1913:50 (Germany: Sachsen-Anhalt: Erdeborn in Halle area); Alfken, 1914:280 (NW Germany); Dubois, 1919:96 (Belgium: Bruxelles: Uccle); O. Meyer, 1919:154 (Germany: Posen Province, now Poland: Poznań Region); A. Wagner, 1920:36 (Germany: Lower Elbe region, not found but can be expected); Berland, 1921:533 (Greece); Dubois, 1921c:205 (in key to Belgian Sphecidae); Henriksen, 1921:343 (first record from Denmark: Bredshave); Hedicke, 1922:271 (Germany: Brandenburg: Gross Machnower Weinberg); Berland, 1925d:98 (in Sphecid Fauna of France); Bouwman, 1927:92 (in revision of Sphecidae of Netherlands); Crèvecoeur and Maréchal, 1927:139 (Belgium: Uccle); Hamm and Richards, 1930:104 (summary of nesting habits); Schmiedeknecht, 1930:687 (in keys to Hymenoptera of North and Central Europe); Spooner, 1931:14 (Great Britain: Cambridgeshire); Bondroit, 1932:32 (Belgium: Solbosch, Stockel, Uccle); Crèvecoeur and Maréchal, 1932:70 (in catalog of Belgian Hymenoptera: Méry); E. Nielsen, 1933:302 (summary of nesting habits); Balles, 1934:20 (Germany: Baden-Württemberg: Marienhöhe); Bondroit, 1934:59 (Belgium: Boendael); Bernard, 1935:64 (France: Var: Fréjus area); Grandi, 1935a:110 (Italy); Vergne, 1935:118 (France: Auvergne: Lezoux); Crèvecoeur and Maréchal, 1936:253 (in catalog of Belgian Hymenoptera); Blüthgen, 1937:235 (Germany: Saale River valley: Mertendorf); Gussakovskij, 1937:608 (in revision of Palearctic *Didineis*); Zavadil, Šusterka, and Bat'a, 1937:195 (in catalog of Sphecidae of Czechoslovakia); A. Wagner, 1938a:122 (northwestern Germany); Teunissen, 1939:170 (first record from Netherlands: 10 km from Weert toward Roermond); Dovnar-Zapolskiy, 1940:304 (Russia: Kursk Oblast'); Schneid, 1941:1043 (Germany: Bayern: Bamberg area); Yasumatsu, 1942c:111 (China: Nei Mongol: Apaka at 44°N 114.96°E); Móczár, 1943b:85 (Hungary: Kéthalmón); Spooner, 1943:74 (Great Britain: Isle of Wight); Guiglia, 1944b:23 (Italy: Lombardia); T. Fletcher, 1945:54 (Great Britain: Gloucestershire: Bristol); Šnoflak in Zavadil and Šnoflak, 1948:80 (in key to Sphecidae of Czechoslovakia); Szulczewski, 1950:107 (Poland: Wielkopolski National Park 15 km S Poznań); Aerts, 1950a:51 (Germany: Nordrhein-Westfalen: Rheidter Wertchens near Köln); Abrahamsen, 1951:115 (recorded from Denmark after J.C. Nielsen, 1907); de Beaumont, 1951g:317 (Italy); Caruel, 1953:101 (France: Marne Department); Aerts, 1955:62 (Germany: Rheinland); Vogrin, 1955:36 (Yugoslavia); Zirngiebl, 1957:182 (Germany: Rheinland-Pfalz: Bamberg, Dannstadt Nature Reserve); Benno, 1958b:10 (in review of Dutch Sphecidae); Wolf, 1959b:29 (Germany: Nassau); de Beaumont, 1962b:24 (Spain); Ceballos, 1964:91 (in supplement to catalog of Spanish Sphecidae); Roberti, Frilli, and Pizzaghi, 1965:110 (Italy: Emilia-Romagna: Ziano in Piacenza Province, Casalpusterlengo in Milano Province); Evans, 1966d:30 (review of known behavioral data); Benno, 1967:34 (in checklist of Sphecidae of Netherlands); J. Heinrich, 1967:74 (Germany: Bayern: near Aschaffenburg); Romanova, 1969:134 (Russia: North Caucasus); Balthasar, 1972:354 (in Sphecid Fauna of Czechoslovakia); Felton, 1973:15 (England: Kent County); Lomholdt, 1975c:216 (in Sphecid Fauna of Fennoscandia and Denmark); R. Bohart and Menke, 1976:459 (listed); Lefeber, 1976:151 (Netherlands: Echt, Kruisdorp-Hontenisse, Weert); Leclercq, 1978b:map 1170 (distribution in Belgium); Petit, 1978:86 (Belgium: Kruisdorp-Hontenisse); Lefeber, 1979:11 (in checklist of Sphecidae of Netherlands), 55 (Netherlands: distribution); Schmidt, 1979b:333 (Germany); Pagliano, 1980:113 (Italy: Piemonte); Petit, 1980:42 (Belgium: Paal); Dollfuss

and Ressler, 1981:324 (Austria: Niederösterreich: Scheibbs District); Dollfuss, 1983b:20 (in catalog of Sphecidae of Austria); Józán, 1985b:60 (Hungary S Lake Balaton), 81 (floral records), 84 (ecological and zoogeographic characteristics); Westrich and Schmidt, 1985b:110 (Germany: endangered in Baden-Württemberg); Wolf, 1985a:6 (Germany: Frankfurt area); Skibińska, 1986b:154 (Poland: suburbs of Warszawa); Schmidt and Westrich, 1987:362 (Germany: Mainz area); Dollfuss, 1988:18 (Austria: Bisamberg); Wolf, 1988b:141 (Germany: Rheinland-Westfalen); Jacobs, 1989:25 (Germany: Mecklenburg-Vorpommern); Pádr *in* Šedivy, 1989a:167 (in checklist of Czechoslovakian Sphecidae); Jacobs and Oehlke, 1990:122 and 205 (not collected in Democratic Germany after 1960); Pádr, 1990:73 (Czech Republic: Praha area); Pagliano, 1990:67 (in catalog of Italian Sphecidae); Schwammberger and Priesner, 1990:550 (Austria: Kärnten); Day, 1991:xiv (summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:182 (in key to Sphecidae of North and Central Europe); Gayubo, Borsato, and Osella, 1991:412 (Italy: Emilia: Ronzano); Kowalczyk, 1991a:99, 101 (Poland: Łódź); Sorg and Wolf, 1991:195 (Germany: Koppelstein Reserve SE Koblenz); Józán, 1992a:229 (Hungary: Béda-Karapanca Protected Area), 1992c:289 (Hungary: Zselic Hills); Pagliano, 1992:31 (in key to Italian Bembicinae); K. Weber, 1992:87 (Germany: Bayern: Bamberg District); Kuhlmann, 1993:76 (Germany: known from Westfalen); van der Smitten, 1993:128 (nw. Germany); Schmid-Egger, 1994a:688 and 694 (Germany: Rheinland-Pfalz: Höllenberg near Grünstadt); Theunert, 1994c:38 (summary of records from Niedersachsen and Bremen, Germany); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:4 (in catalog of Italian fauna); Papp and Józán, 1995:145 (Hungary: Síkfőföt oak forest); Schmid-Egger, Risch, and Niehuis, 1995:176 (summary of records from Germany: Rheinland-Pfalz State); Arens, 1996:442 (Germany: Bayern: Bayreuth area); Jakubzik, 1996:252 (Germany: Köln); Jakubzik and Cölln, 1996b:399 (Germany: Rheinland-Pfalz); Schmid-Egger, Schmidt, and Doczkal, 1996:376 (Germany: Baden-Württemberg: probably endangered); Woydak, 1996:89 (Germany: Westfalen: summary of distribution and nesting habits); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:132 (in Sphecid Fauna of Western Europe); Celary, 1997:60 (in checklist of Animals of Poland); Pagliano and Alma, 1997:179 (known prey listed); Schmidt and Schmid-Egger, 1997:12 (in checklist of German Sphecidae); Dollfuss, Gusenleitner, and Bregant, 1998:522 (Austria: summary of collecting records from Burgenland); Elligsen, 1998:70 (Ukraine: Sambir area); Flügel, 1998:59 (Germany: Brandenburg: Unteres Odertal National Park); Lefeber, 1998:182 (Netherlands: Limburg: Sint-Pietersberg near Maastricht at 50°50'N 5°41'E); van der Smitten, 1998:57 (Germany: Niedersachsen: Brünken-dorf); K. Weber, 1998:137 (Germany: Bayern: Bamberg area); Cölln and Jakubzik, 1999:28 (Germany: Rheinland-Pfalz: Keuper-Scharren SW Hungerburg); Gayubo, García, Torres, and González, 1999:91 (Spain: Soria Province); Kuhlmann, Wolf, and Woydak, 1999:568 (endangered because of low population level in Nordrhein-Westfalen State of Germany); Ljubomirov, 1999a:22 (Bulgaria); Pauly, 1999:111 (in catalog of Belgian aculeates); Petit, 1999:111 (Netherlands: Paal); M. Schwarz, 1999:88 (Austria: Oberösterreich: city of Linz area); Theunert, 1999:138 (Germany: Niedersachsen); Blösch, 2000:360 (in Sphecid Fauna of Germany); Jacobs, 2000:7, 16 (Germany: Land Mecklenburg-Vorpommern: extinct); Kuhlmann, 2000:64 (Germany: Hessen: Diemel River valley); Ljubomirov, 2000:12 (Bulgaria, specimens in N. Nedelkov collection), 2001b:52 (Bulgaria: Mount Vitoshka near Sofia); Merz and Krebs, 2001:150 (Switzerland); Ohl et al., 2001:138 (distribution in Germany by provinces); Zettel, Gross, and Mazzucco, 2001:79 (Austria: Wien); Shkuratov, 2002b:140 (Russia: Rostov Oblast': Rostovskiy Nature Reserve at 46°27'N 42°41'E); Wiśniowski, 2002:73 (Poland: Ojców National Park); Drewes, 2003:136 (Hungary: Harkany); Feitz, Schneider, and Pauly, 2003:81 (first record from Luxemburg: Bettembourg, Canach, Godbrange, Koedange); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:65 (in catalog of wasps and bees of Bayern, Germany); Wickl, Voith, Mandery, Weber, Kraus, Bausenwein, and Blösch, 2003:196 (Germany: Bayern: strongly endangered); Wiśniowski *in* Dylewska and Wiśniowski, 2003:174 (Poland: Ojców National Park); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:262 (in checklist of Sphecidae of Nordrhein-Westfalen State of Germany); Schneider and Carrières, 2004:98 (Luxemburg: Bon-Pays Region); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:355 (in catalog of Polish Crabronidae); Stolle et al., 2004:371 (Germany: Sachsen-Anhalt: in red list of Sphecidae); van Achterberg and Peeters, 2004:32 (in checklist

of Sphecidae of Netherlands); Wiśniowski, 2004:50 and 62 (in checklist of Polish Sphecidae); Mandery, 2005:173 (Germany: Bayern: Hainberg Nature Reserve near Nürnberg); Pagliano and Negrisolò, 2005:115 (in Sphecidae Fauna of Italy); Riemann and Hohmann, 2005:554 (Germany: Niedersachsen: city of Bremen and adjacent area); Theunert, 2005a:16 (Germany: in checklist of Sphecidae of Niedersachsen and Bremen); Vepřek, 2006:509 (Czech Republic: Kokořínsko area); Evans and O'Neil, 2007:27 (summary of information on nesting habits); Jacobs, 2007:160 (in key to Crabronidae of Germany); Saure, 2007:81 (in checklist of Aculeata of Brandenburg Land, Germany); Vepřek and Straka, 2007:207 (in catalog of Sphecidae of Czech Republic and Slovakia); Shcherbakov, 2008:211 (Russia: Bashkiria: 25 km ESE Kumertau); U. Frommer, 2009a:27 (Germany: in checklist of Sphecidae of Hessen), 32 (Germany: Hessen: locality records); Bitsch, 2010:108 (in supplement to vol. II of Faune de France, 1997: revue of recent records from Germany and Luxemburg; new record from Portugal: Algarve); Schmid-Egger, 2010a:15 (in red list of Aculeata of Germany: rare).

Alyson kennedii Curtis, 1836:pl. 584, ♀ (as *Kennedii*, incorrect original capitalization). Holotype or syntypes: ♀, Great Britain: no specific locality (BMNH?). Synonymized with *Didineis lunicornis* by F. Smith, 1856:374.

14. *massaica* Pulawski

Didineis massaica Pulawski, 2000:347, ♀, ♂. Holotype: ♂, Kenya: Rift Valley Province: 27 km SSE Naivasha at 0°54.6'S 36°31.0'E (CAS).

15. *nigricans* Morice

Didineis nigricans Morice, 1911:111, ♂. Holotype: ♂, Algeria: Biskra (OXUM). – Gussakovskij, 1937: 616 (original description copied, discussion of characters); R. Bohart and Menke, 1976:459 (listed); Pulawski, 2000:349 (redescription).

16. *nodosa* W. Fox

Didineis nodosa W. Fox, 1894d:127, ♂. Lectotype: ♂, USA: Washington: no specific locality (ANSP), designated by Cresson, 1928:45. – Handlirsch, 1895:838 (original description translated into German); Dalla Torre, 1897:566 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Bradley, 1920:129 (California); Malloch and Rohwer, 1930: 6 (locality records); Krombein *in* Muesebeck et al., 1951:981 (in catalog of North American Hymenoptera); Evans, 1970:494 (Wyoming: Yellowstone National Park); R. Bohart and Menke, 1976:459 (listed); Krombein, 1979b:1686 (in catalog of North American Hymenoptera); Rust, Menke, and Miller, 1985:47 (California: Channel Islands); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:666 (in checklist of Mexican Sphecidae).

Didineis sanctacrucae Bradley, 1920:129, ♀. Holotype: ♀, USA: California: Santa Cruz County: Santa Cruz beach (Cornell Univ.). Synonymized with *Didineis nodosa* by Krombein *in* Muesebeck et al., 1951:981. – Malloch and Rohwer, 1930:4 (may be the female of *Didineis nodosa*).

Didineis clypeata var. *clypeata* Malloch and Rohwer, 1930:6, ♂. Holotype: ♂, USA: Colorado: no specific locality (USNM). Synonymized with *Didineis nodosa* by R. Bohart and Menke, 1976:459. – Krombein *in* Muesebeck et al., 1951:982 (in catalog of North American Hymenoptera).

17. *ogloblini* Gussakovskij

Didineis ogloblini Gussakovskij, 1937:615, ♀. Holotype: ♀, Russia: Ulan-nor Lake near NE shore of Caspian Sea (ZIN). – R. Bohart and Menke, 1976:459 (listed). – **As** *Alysson zimini*: Pulawski, 1978:213 (new combination, in key to Sphecidae of European part of former USSR).

18. *orientalis* Cameron

Didineis orientalis Cameron, 1897c:20, ♂. Holotype or syntypes: ♂, India: Bengal: Barrackpore 20 km N Calcutta (OXUM). – Ramakrishna Aiyar, 1916:560 (in catalog of Indian aculeates described after Bingham, 1897); R. Bohart and Menke, 1976:459 (listed).

19. *pannonica* Handlirsch

Didineis pannonica Handlirsch, 1888a:264, ♀ (as *Pannonica*, incorrect original capitalization). Holotype: ♀, s. Hungary: no specific locality (TMB), actually Romania: Oradea (Mocsáry, 1897:81). – Dalla Torre, 1897:566 (in catalog of world Sphecidae); Mocsáry, 1897:81 (Hungary: Nagyvárad, now Romania: Oradea); Kokujev, 1906:217 (in key to Palearctic *Didineis*); Schmiedeknecht, 1907:225 (in keys to Hymenoptera of Central Europe), 1930:687 (in keys to Hymenoptera of North and Central Europe); Gussakovskij, 1937:611 (in revision of Palearctic *Didineis*); Šnoflak in Zavadil and Šnoflak, 1948:79 (in key to Sphecidae of Czechoslovakia, not yet found in Czechoslovakia); Vogrin, 1955:36 (Yugoslavia); Balthasar, 1972:355 (in Sphecid Fauna of Czechoslovakia: may be expected in the country); R. Bohart and Menke, 1976:459 (listed); Dollfuss, 1991:183 (in key to Sphecidae of North and Central Europe); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:133 (in Sphecid Fauna of Western Europe); Yildirim and Ljubomirov, 2005:1789 (Turkey: Erzurum: Oltu); Ljubomirov and Yildirim, 2008:63 (in catalog of Crabronidae of Turkey); Bitsch, 2010:108 (in supplement to vol. II of Faune de France, 1997: record from Croatia reported, new record from Greece: Peloponnesus: no specific locality). – As *Alysson pannonicum*: Bajári, 1957a:96 (new combination, in key to Hungarian Sphecidae, not yet found in Hungary, as *pannonica*); de Beaumont, 1969:89 (Turkey); Pulawski, 1978:213 (in key to Sphecidae of European part of former USSR).

20. *peculiaris* W. Fox

Didineis peculiaris W. Fox, 1894d:128, ♀, ♂ Lectotype: ♀, USA: Montana: no specific locality (ANSP), designated by Cresson, 1928:45. – Handlirsch, 1895:838 (original description translated into German); Dalla Torre, 1897:566 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Malloch and Rohwer, 1930:2 (diagnostic characters); Krombein in Muesebeck et al., 1951:982 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:459 (listed); Krombein, 1979b:1686 (in catalog of North American Hymenoptera); Ruíz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:666 (in checklist of Mexican Sphecidae).

21. *ruthenica* Gussakovskij

Didineis ruthenica Gussakovskij, 1937:611, ♂. Syntypes: Ukraine: “Sv. Gory” and Khar'kov Oblast': Kuryazh (ZIN). – Balthasar, 1972:356 (in Sphecid Fauna of Czechoslovakia); R. Bohart and Menke, 1976:459 (listed). – As *Alysson ruthenicus*: Pulawski, 1978:213 (new combination, in key to Sphecidae of European part of former USSR).

22. *sibirica* Gussakovskij

Didineis sibirica Gussakovskij, 1937:607, ♀. Holotype: ♀, Russia: Irkutsk Oblast': Ol'zony (ZIN). – R. Bohart and Menke, 1976:459 (listed); Nemkov, 1986:106 (Russia: Irkutsk Oblast'), 1990c:81 (Russia: Buryat Republic, Chita Oblast'); Nemkov in Nemkov, Kazenas, Budrys, et Antropov, 1995:455 (in key to Sphecidae of Russian Far East); Nemkov, 2008b:24 (in catalog of Crabronidae of Asiatic Russia), 2009b:128 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia).

Alysson sibiricus nipponicus Tsuneki, 1968a:5, ♂. Holotype: ♂: Japan: Saitama Prefecture: Konosu (K. Tsuneki coll.). Synonymized with *Didineis sibirica* by Nemkov, 1990c:81. – Tsuneki, 1968o:66 (recognition characters); Nambu, 1975b:72 (Japan: Saitama Prefecture). – As *Didineis sibirica nipponica*: R. Bohart and Menke, 1976:459 (new combination, listed); Tano, 1994a:8 (holotype in K. Tsuneki coll., as *sibiricus nipponius*).

23. *stevensi* Rohwer

Didineis stevensi Rohwer, 1923a:98, ♀. Holotype: ♀, USA: North Dakota: Sheldon (USNM). – Malloch and Rohwer, 1930:2 (known from single female); Krombein in Muesebeck et al., 1951:982 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:459 (listed); Krombein, 1979b:1686 (in catalog of North American Hymenoptera).

24. *texana* (Cresson)

Alyson texanus Cresson, 1873:226, ♂. Holotype: ♂, USA: Texas: Bosque County: no specific locality (USNM). – Cresson, 1887:280 (in catalog of North American Hymenoptera); Handlirsch, 1888a:267 (in revision of world Bembicinae, description of ♀); Cresson, 1916:99 (holotype in USNM). – As *Didineis texana*: W. Fox, 1894d:127 (new combination, Canada: Ottawa); Handlirsch, 1895:838 (reference to W. Fox, 1894); Dalla Torre, 1897:566 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); nec Harrington, 1902:223 (= *Didineis latimana*); H. Smith, 1908b:342 (in revision of Nebraskan Sphecidae); Mickel, 1918:30 (in catalog of Nebraskan Sphecidae); J.Ch. Bradley, 1920:129 (USA: Georgia); Rau, 1922:22 (USA: Missouri: St. Louis); J. Ch. Bradley, 1928:1015 (in catalog of New York Sphecidae); Hendrickson, 1930:159 (Iowa); Malloch and Rohwer, 1930:4 (locality records); Brimley, 1938:446 (North Carolina: Raleigh, Swannanoa); Strandtmann, 1945a:312 (prey: *Cixius stigmatus* Say, a fulgorid); Krombein in Muesebeck et al., 1951:982 (in catalog of North American Hymenoptera); Krombein and Evans, 1954:234 (Florida), 1955:233 (Florida); Krombein, 1963f:276 (Maryland: Plummers Island near Washington, D.C.); Evans, 1966d:30 (review of known behavioral data); R. Bohart and Menke, 1976:459 (listed); Krombein, 1979b:1686 (in catalog of North American Hymenoptera); nec Finnamore, 1982:207 (= *Didineis latimana*); Ahlstrom, 1995:112 (in checklist of insects of North Carolina); Amarante, 2002:7 (in catalog of Neotropical Crabronidae); Ruiz Cancino, Coronado Blanco, Varela Fuente, and Horta Vega, 2002:666 (in checklist of Mexican Sphecidae); Buck, 2004:27 (in checklist of Crabronidae of Ontario, Canada), 31 (distribution within Ontario), 61 (first records from Canada: Ontario: Dunnville, Harrow, 6 km NNW St. Williams, Windsor); Horta Vega, Pinson Domínguez, Barrientos Lozano, and Correa Sandoval, 2007: 45 (Mexico: Tamaulipas).

25. *turanica* Gussakovskij

Didineis turanica Gussakovskij, 1937:606, ♂. Syntypes: Uzbekistan: Golodnaya Step': no specific locality (ZIN). – R. Bohart and Menke, 1976:459 (listed); Kazenas, 2001b:44 (in checklist of Sphecidae of Kazakhstan and Central Asia). – As *Alyson turanica* [sic]: Kazenas, 1978b:95 (new combination, in key to Sphecidae of Kazakhstan and Central Asia).

26. *vierecki* Rohwer

Didineis crassicornis Viereck, 1906:204, ♂. Holotype: ♂, USA: Kansas: Morton County: no specific locality (KU). Junior primary homonym of *Didineis crassicornis* Handlirsch, 1888. – LaBerge, 1956:526 (holotype in Snow Entomological Museum).
Didineis vierecki Rohwer, 1911:4. Substitute name for *Didineis crassicornis* Viereck, 1906. – Malloch and Rohwer, 1930:6 (original description incomplete); Krombein in Muesebeck et al., 1951:982 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:459 (listed); Krombein, 1979b:1686 (in catalog of North American Hymenoptera).

27. *wuestneii* Handlirsch

Didineis wuestneii Handlirsch, 1888a:263, ♀ (as *Wüstneii*, incorrect original capitalization and diacritic mark). Syntypes: ♀, Dalmatia (now Croatia) and Hungary: no specific localities (NHMW, TMB). – Gasperini, 1889:70 (Dalmatia, now Croatia, as *Wüstnei*); Dalla Torre, 1897:566 (in catalog of world Sphecidae, as *wüstneii*); Mocsáry, 1897:81 (Hungary: Budapest); Kokujev, 1906:218 (in key to Palearctic *Didineis*); Schmiedeknecht, 1907:226 (in keys to Hymenoptera of Central Europe, as *Wüstneii*), 1930:687 (in keys to Hymenoptera of North and Central Europe, as *Wüstneii*); Gussakovskij, 1937:610 (in revision of Palearctic *Didineis*, description of ♂); Šnoflak in Zavadil and Šnoflak, 1948:80 (in key to Sphecidae of Czechoslovakia, not yet found in Czechoslovakia); Vogrin, 1955:36 (Yugoslavia: Krapina, as *Wustnei*); Balthasar, 1972:355 (in Sphecid Fauna of Czechoslovakia: may be expected in the country); R. Bohart and Menke, 1976:461 (listed); Józán, 1985b:60 (recorded from Simontornya area by Bajári, 1957), 71 (map of distribution in Hungary), 84 (ecological and zoogeographic characteristics); Pádr in Šedivý, 1989a:167 (in checklist of Czechoslovakian Sphecidae); Pagliano, 1990:67 (in catalog of Italian Spheci-

dae); Dollfuss, 1991:183 (in key to Sphecidae of North and Central Europe); Pagliano, 1992:33 (in key to Italian Bembicinae); Voblenko, Gorobchishin, and Nesterov, 1996:15 (Ukraine: Polesye Region); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:133 (in Sphecid Fauna of Western Europe); Ljubomirov, 1999a:22 (Bulgaria), 1999b:56 (Bulgaria: Mt. Vitosha near Sofia); Beron, 2004:840 (Bulgaria, eastern Rhodope Mts.: Arda Hut, citation of Ljubomirov, 1999:22); Vepřek, 2000:233 (records from Czech Republic by Pádr, 1989, 1995, reported; Moravia: Dunajovické kopce at 48°49' 59"N 16°34'E); Pagliano and Negrisola, 2005:120 (in Sphecid Fauna of Italy); Vepřek and Straka, 2007:207 (in catalog of Sphecidae of Czech Republic and Slovakia, known from Moravia only), 232 (first reliable records from Moravia were published by Vepřek, 2000); Ljubomirov and Yildirim, 2008:65 (in catalog of Crabronidae of Turkey); Pagliano, 2009:177 (Italy: Toscana: Fauglia, as *westneii*); Bitsch, 2010:108 (in supplement to vol. II of Faune de France, 1997: recent records from Bulgaria, Italy, and Ukraine reported). – **As *Alysson wuestneii***: Bajári, 1957a:96 (new combination, in key to Hungarian Sphecidae, as *Wüstnei*); de Beaumont, 1967a:328 (Turkey, as *wustneyi*); Pulawski, 1978:213 (in key to Sphecidae of European part of former USSR); Shkuratov, 1998:97 (Russia: Rostov Oblast').

28. *zimini* Gussakovskij

Didineis zimini Gussakovskij, 1937:616, ♀. Holotype: ♀, Russia: Orenburg Oblast': Verkhnyaya Dneprovka railroad station (ZIN). – R. Bohart and Menke, 1976:461 (listed). – **As *Alysson zimini***: Kazenas, 1978b:94 (new combination, in key to Sphecidae of Kazakhstan and Central Asia); Pulawski, 1978:213 (in key to Sphecidae of European part of former USSR).

sp.

González, Gayubo, and Torres, 1999:355 (Spain: Valladolid: Viana de Cega, near *crassicornis*); Kazenas, 2002a:113 (Kazakhstan: Lavar area near Chilik).

EXCLUDED FROM *DIDINEIS*

solidescens Scudder

Didineis solidescens Scudder, 1890:620. Holotype: USA: Wyoming: Green River (MCZ). Age: Eocene. – Dalla Torre, 1897:566 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Evans, 1966d:393 (study of holotype, transferred to Eumeninae near *Alastor*); R. Bohart and Menke, 1976:31 (listed, reference to Evans's 1966).