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ALYSSON

Alysson Panzer, 1806:169. Type species: *Pompilus spinosus* Panzer, 1801, designated by Morice and Durrant, 1915:406.

Alyson Jurine, 1807:195. Type species: *Pompilus spinosus* Panzer, 1801, by monotypy.

Keys: Handlirsch, 1895:836 (Nearctic species); Kokujev, 1906 (Russia); Tsuneki, 1968h:4 (South and East Asia); Wu and Zhou, 1987:214 (China).

Review of biology: Kazenas, 2001b:216.

1. *annulipes* Cameron

Alysson annulipes Cameron, 1897:21, "♀" = ♂. Holotype: ♂, India: Maharashtra: Pune (OXUM). – R. Turner, 1917e:184 (India; Cameron's type is a male); Tsuneki, 1968h:5 (in key to *Alysson* of southern and eastern Asia); R. Bohart and Menke, 1976:458 (listed).

2. *attenuatus* Wu and Zhou

Alysson attenuatus Wu and Zhou, 1987:218 and 221, ♂. Holotype: ♂, China: Yunnan: Xishuangbanna: Menglun (Inst. Zool. Beijing). – Wu and Zhou, 1987:215 (in key to *Alysson* of China), 1996a:132 (in revision in Economic Insect Fauna of China); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

3. *caeruleus* Wu and Zhou

Alysson caeruleus Wu and Zhou, 1987:216 and 221, ♀. Holotype: ♀, China: Yunnan: Xishuangbanna: Menglun (Inst. Zool. Beijing). – Wu and Zhou, 1987:215 (in key to *Alysson* of China), 1996a:131 (in revision in Economic Insect Fauna of China); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

4. *cameroni* Yasumatsu and Masuda

Alysson cameroni Yasumatsu and Masuda, 1932:53, ♀, ♂. Holotype: ♂, Japan, Honshu: Mt. Mitsustôge near Kai (Entomol. Lab., Kyushu Univ., Fukuoka, Japan). – Evans, 1959b:150 (description of larva by Yasumatsu and Masuda, 1932); Tsuneki, Iida, Hirai, and Sabi, 1964:60 (Japan: Aomori Prefecture: Towada); Tsuneki, 1965c:26 (in key to Bembicinae of Japan and Korea); Itami, 1968a:16 (Japan: Yamagata Prefecture: foot of Mount Iide); Tsuneki, 1968h:6 (in key to *Alysson* of South and East Asia); Evans, 1966d:29 (review of known behavioral data); Haneda, 1968a:46 (Japan); Tsuneki, 1969d:16 (nesting habits), 1969e:26 (Japan); Haneda, 1970:13 (Japan: Akita Prefecture); Tsuneki, 1970b:9 (central Japan); Suda, 1973:123 (Japan: Yamanashi Prefecture); Nambu, 1975b:71 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:458 (listed); Kazenas, 1980e:85 (Russia: Far East); Nemkov in Nemkov, Kazenas, Budrys, et Antropov, 1995:455 (in key to Sphecidae of Russian Far East); Miyatake, 1996:103 (specimens in Hiroshi Aoki collection); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:37 (Japan: Gifu Prefecture); Suda, 2004:46 (Japan: Yamanashi Prefecture); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:54 (Japan: Gifu Prefecture); Negoro, Haneda, and Tano, 2005:49 (Japan: Toyama Prefecture); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2006:29 (Japan: Toyama Prefecture); Evans and O'Neil, 2007:23 (summary of information on nesting habits); Ohkusa, 2007:35 (Japan: central Honshu: Aichi Prefecture); Nemkov, 2008b:23 (in catalog of Crabronidae of Asiatic Russia); Okusa and Tajima, 2008:75 (Japan: central Honshu: Aichi Prefecture); Nemkov, 2009b:127 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia).

5. *carinatus* Wu and Zhou

Alysson carinatus Wu and Zhou, 1987:219 and 222, ♂. Holotype: ♂, China: Yunnan: Weixi: Pantiange (Inst. Zool. Beijing). – Wu and Zhou, 1987:215 (in key to *Alysson* of China, as *Carinatus*), 1996a:135 (in revision in Economic Insect Fauna of China); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

6. *conicus* Provancher

Alysson conicus Provancher, 1889:271, ♀. Lectotype: ♂ [sic], Canada: Ontario: Ottawa (Laval Univ.), designated by Gahan and Rohwer, 1917:305. – W. Fox, 1894b:88 (in revision of North American *Alysson*); Handlirsch, 1895:832 (original description and Fox's redescription translated into German); Dalla Torre, 1897:563 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Harrington, 1902:223 (Canada: Ontario: Ottawa); Bradley, 1920:130 (New York, Ontario); Mickel, 1918b:348 (in catalog of Nebraskan Sphecidae); J.Ch. Bradley, 1928:1014 (in catalog of New York Sphecidae); Krombein *in* Muesebeck et al., 1951:981 (in catalog of North American Hymenoptera); Krombein, 1963f:276 (Maryland: Plummers Island near Washington, D.C.); R. Bohart and Menke, 1976:458 (listed); Krombein, 1979b:1685 (in catalog of North American Hymenoptera); O'Brien and Kurczewski, 1979:435 (nesting behavior); Finnamore, 1982:202 (in Sphecidae Fauna of Southern Quebec); O'Brien and Kurczewski, 1982b:225 (nesting behavior); Kurczewski and Miller, 1991:254 (Pennsylvania: Erie County); Buck, 2004:27 (in checklist of Crabronidae of Ontario, Canada); Evans and O'Neil, 2007:24 (summary of information on nesting habits).

As *Euspongia bipunctata* (now *Ceropales bipunctata* Say, Pompilidae): A. Brown, 1934:263 (Canada: Ontario: Timagami), corrected to *Alysson conicus* by Buck, 2004:77.

7. *costai* de Beaumont

As *Alysson ratzeburgi*: Costa, 1867c:77 and 1869b:93 (in revision of Italian Sphecidae: Piemonte), corrected to *Alysson costai* by de Beaumont, 1953i:8; possibly also De Stefani Perez, 1895:228 (in catalog of Sicilian Hymenoptera).

Alysson sp.?: de Beaumont, 1951g:317 (Italy: Emilia), corrected to *Alysson costai* by de Beaumont, 1953i:8.

Alysson costai de Beaumont, 1953i:8, ♀, ♂. Holotype: ♀, Italy: Piemonte: no specific locality (NAPOLI). – de Beaumont and Bytinski-Salz, 1959:108 (Israel); R. Bohart and Menke, 1976:458 (listed); Pagliano, 1990:67 (in catalog of Italian Sphecidae); Pagliano, 1992:31 (in key to Italian Nyssoninae); Negrisolino *in* Minelli, Ruffo, and La Posta, 1995b:3 (in catalog of Italian fauna); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:123 (in Sphecidae Fauna of Western Europe); Pagliano and Negrisolino, 2005:112 (in Sphecidae Fauna of Italy).

8. *erythrothorax* Cameron

Alysson erythrothorax Cameron, 1902c:291, ♀. Holotype or syntypes: ♀, India: Himachal Pradesh: Simla (BMNH). – Tsuneki, 1968h:5 (in key to *Alysson* of South and East Asia); R. Bohart and Menke, 1976:458 (listed).

9. *flavomaculatus* Cameron

Alysson flavomaculatus Cameron, 1901c:314, ♂. Holotype or syntypes: ♂, USA: New Mexico: Santa Fe Mountains (depository?). – R. Bohart and Menke, 1976:458 (listed); Krombein, 1979b:1685 (in catalog of North American Hymenoptera). – As *Solierella flavomaculata*: Krombein *in* Muesebeck et al., 1951:942 (tentative new combination, in catalog of North American Hymenoptera).

10. *guichardi* Arnold

Alysson guichardi Arnold, 1951:120, ♀, ♂. Syntypes: Ethiopia: Ghedo (BMNH). – R. Bohart and Menke, 1976:458 (listed).

11. *guignardi* Provancher

Alysson guignardi Provancher, 1887:271, ♀, ♂. Lectotype: ♀, Canada: Quebec: Bécancour (LAVAL UNIV.), designated by Gahan and Rohwer, 1917:305. – W. Fox, 1894b:88 (in revision of North American *Alysson*); Handlirsch,

1895:833 (original description translated into German); Dalla Torre, 1897:564 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Harrington, 1902:223 (Canada: Ontario: Ottawa); J.Ch. Bradley, 1926:175 (New York: Lloyd-Cornell Reservation near McLean), 1928:1014 (in catalog of New York Sphecidae); Krombein *in* Muesebeck *et al.*, 1951:981 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:458 (listed); Krombein, 1979b:1685 (in catalog of North American Hymenoptera); Finnamore, 1982:203 (in Sphecid Fauna of Southern Quebec); Ahlstrom, 1995:112 (in checklist of insects of North Carolina); Finnamore, 1997:892 (Canada: Yukon); Sugar *et al.*, 1998:16 (Canada: southern Ontario); Buck, 2004:27 (in checklist of Crabronidae of Ontario, Canada).

Alysson interstitialis Cameron, 1902e:375, ♂. Holotype or syntypes: ♂, USA; New Mexico: Santa Fé (depository?). Synonymized with *Alysson guignardi* by R. Bohart *in* Bohart and Menke, 1976:458. – Krombein *in* Muesebeck *et al.*, 1951:981 (in catalog of North American Hymenoptera).

Alysson petiolatus Cameron, 1902e:374, ♂. Holotype or syntypes: ♂, USA; New Mexico: Santa Fé (depository?). Synonymized with *Alysson guignardi* by R. Bohart *in* Bohart and Menke, 1976:458. – Krombein *in* Muesebeck *et al.*, 1951:981 (in catalog of North American Hymenoptera).

12. *guillarmodi* Arnold

Alysson guillarmodi Arnold, 1944:20, ♀ (as *Guillarmodi*, incorrect original capitalization). Holotype: ♀, Lesotho: Mamathes (SAM). – R. Bohart and Menke, 1976:458 (listed).

13. *harbinensis* Tsuneki

Alysson harbinensis Tsuneki, 1967e:7, ♀. Holotype: ♀, China: Heilongjiang: Harbin (RMNH). – Tsuneki, 1968h:5 (in key to *Alysson* of South and East Asia); R. Bohart and Menke, 1976:458 (listed); Wu and Zhou, 1987:214 (in key to *Alysson* of China), 1996a:136 (in revision in Economic Insect Fauna of China); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

14. *japonicus* Tsuneki

Alysson japonicus Tsuneki, 1977b:26, ♀, ♂. Holotype: ♂, Japan: Ishikawa Prefecture: Mt. Haku near Ichinose (originally K. Tsuneki coll., now Hyogo Mus.). – Tano, 1994a:7 (holotype in K. Tsuneki coll.); Hashimoto and Nakanishi, 1997:23 (holotype transferred to Hyogo Mus.); Suda, 2004:46 (Japan: Yamanashi Prefecture); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:54 (Japan: Gifu Prefecture), 2006:29 (Japan: Toyama Prefecture); Nambu, 2006:247 (Japan: Tokyo: Imperial Palace garden).

15. *jaroslavensis* Kokujev

Alysson fuscatus var. *jaroslavensis* Kokujev, 1906:216, ♀. Holotype: ♀, Russia: Yaroslavl' (N. Kokujev coll., lost?). – As *Alysson spinosus jaroslavensis*: R. Bohart and Menke, 1976:458 (new status, listed). – As *Alysson jaroslavensis*: Pulawski, 1978:212, 213 (new status, in key to Sphecidae of European part of former USSR); Pankevich, Belyavskaya, Molchanova, Shlyakhtenok, and Blinov, 1989:95 (Belorussia: Berezinskiy Nature Reserve); Blagoveshchenskaya, 1994:91 (Russia: Ul'yanovsk Oblast', misspelled *jaroslavensis*); Voblenko, Gorobchishin, and Nesterov, 1996:15 (Ukraine: Polesye Region). – As *Alysson spinosus jaroslavensis*: Shlyakhtenok and Skibinska, 2002:34 (new status, Belarus': no specific locality).

16. *katkovi* Kokujev

Alysson katkovi Kokujev, 1906:214, ♀. Holotype: ♀, Ukraine: Ol'gopol' District: no specific locality (N. Kokujev coll., lost?). – R. Bohart and Menke, 1976:458 (listed); Pulawski, 1978:212 (in key to Sphecidae of European part of former USSR).

17. *madecassus* Arnold

Alysson madecassus Arnold, 1945:50, ♀. Holotype: ♀, Madagascar: Behara (MNHH). – Leclercq, 1960a:100 (Madagascar); R. Bohart and Menke, 1976:458 (listed); Pulawski, 2003b:795 (in checklist of Malagasy Sphecidae).

18. maracandensis Radoszkowski

Alysson maracandensis Radoszkowski, 1877:34, ♀ (as *Maracandensis*, incorrect original capitalization). Holotype or syntypes: ♀, Uzbekistan: Samarkand (ZMMU). – Handlirsch, 1888a:252 (original description copied); Dalla Torre, 1897:564 (in catalog of world Sphecidae); Kokujev, 1906:213 (in revision of Russian Alyssontini); R. Bohart and Menke, 1976:458 (listed); Kazenas, 1978b:94 (in key to Sphecidae of Kazakhstan and Central Asia), 2001b:43 (in checklist of Sphecidae of Kazakhstan and Central Asia).

Alysson incertus Radoszkowski, 1877:34, ♂. Holotype or syntypes: ♂, Uzbekistan: Peishambe (ZMMU). Synonymized with *Alysson maracandicus* by Handlirsch, 1888a:244 (as tentative synonym of *Alysson tricolor*), 252 (as tentative synonym of *Alysson maracandensis*); Dalla Torre, 1897:564 (in catalog of world Sphecidae); Kokujev, 1906:212 (in revision of Russian Alyssontini).

19. melleus Say

Alysson melleus Say, 1837:380, ♀. Holotype or syntypes: ♀, USA: Indiana: no specific locality (lost). – F. Smith, 1856:373 (in catalog of Hymenoptera in British Museum); Le Conte, 1859b:762 (original description copied); Cresson, 1862:235 (in catalog of North American Hymenoptera); Packard, 1867:422 (revision); Cresson, 1887:280 (in catalog of North American Hymenoptera); Handlirsch, 1888a:253 (in revision of world Bembicinae); Cameron, 1890a:70 (Mexico: Huastec); W. Fox, 1894b:87 (in revision of North American *Alysson*); Handlirsch, 1895:831 (additional bibliography); Dalla Torre, 1897:564 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Bridwell, 1899:209 (Kansas: no specific locality); Harrington, 1902:223 (Canada: Ontario: Ottawa); Hartman, 1905:41 (nesting habits); H. Smith, 1908b:342 (in revision of Nebraskan Sphecidae); Rohwer, 1916b:654 (in catalog of Hymenoptera of Connecticut); Mickel, 1918b:347 (in catalog of Nebraskan Sphecidae); J.Ch. Bradley, 1920:130 (New York, Tennessee, Texas, Quebec); Rau, 1922:18 (USA: Missouri: St. Louis; nesting in the ground); Bradley, 1928:1014 (in catalog of New York Sphecidae); Brimley, 1938:446 (North Carolina: Bryson City, Lake Waccamaw, Raleigh, Tarboro); K. Cooper, 1950:105 (Massachusetts: Cape Code: Woods Hole); Krombein, 1950a:269 (North Carolina: Dare County), 1951a:143 (Virginia: Dunn Loring; visiting tulip-tree honeydew); Krombein *in* Muesebeck et al., 1951:981 (in catalog of North American Hymenoptera); Krombein, 1952a:94 (USA: Virginia: Westmoreland State Park), 1953a:333 (North Carolina: Kill Devil Hills); Krombein and Evans, 1955:233 (Florida); Evans and Lin, 1956b:41 (description of larva); Evans, 1959b:150 (additional larval characters); Krombein, 1963f:276 (Maryland: Plummers Island near Washington, D.C.); Evans, 1966d:17 (nesting habits), 1968:1344 (prey records); Kurczewski and Kurczewski, 1971b:335 (prey record); R. Bohart and Menke, 1976:458 (listed); L. Davis, 1978:216 (North Carolina: Kill Devil Hills, data from Krombein, 1953a); Krombein, 1979b:1685 (in catalog of North American Hymenoptera, nesting sites, list of prey); Finnamore, 1982:204 (in Sphecid Fauna of Southern Quebec); Kurczewski and Acciavatti, 1990:61 (New York: Cayuga County); Spofford and Kurczewski, 1992:999 (species of miltogrammine parasites listed); Ahlstrom, 1995:112 (in checklist of insects of North Carolina); Kurczewski, 1998d:250 (pine barrens in upstate New York); Amarante, 2002:7 (in catalog of Neotropical Crabronidae); Buck, 2004:27 (in checklist of Crabronidae of Ontario, Canada); Evans and O'Neil, 2007:25 (summary of information on nesting habits).

20. monticola Tsuneki

Alysson monticola Tsuneki, 1977b:29, ♂, ♀. Holotype: ♂, Japan: Saitama Prefecture: Karisaka Pass (originally K. Tsuneki coll., now Hyogo Mus.). – Tano, 1994a:7 (holotype in K. Tsuneki coll., as *monticola monticola*); Hashimoto and Nakanishi, 1997:23 (holotype transferred to Hyogo Mus.); Haneda, Nosaka, Tano, Kurokawa, and Murota, 2004:37 (Japan: Gifu Prefecture, as *monticola monticola*); Haneda, Nozaka, Tano, Kurokawa, and Murota, 2005:54 (Japan: Gifu Prefecture, as *monticola monticola*), 2006:29 (Japan: Toyama Prefecture, as *monticola monticola*); Nagase, 2006a:55 (Japan: Kanagawa Prefecture: Mount Komagatake near Hakone, as *monticola monticola*); Nemkov, 2007b:74 (first record from Russia: Kuril Islands: Kunashir Island), 2007c:997 (in Appendix to

Key to identification of Sphecidae of Far East of Russia), 2008b:24 (in catalog of Crabronidae of Asiatic Russia), 2009b:127 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia).

As *Alysson ratzeburgi*: Nemkov in Nemkov, Kazenas, Budrys, et Antropov, 1995:455 (in key to Sphecidae of Russian Far East), corrected to *Alysson monticola* by Nemkov, 2007:74.

ssp. ezoensis Tsuneki

Alysson monticola ezoensis Tsuneki, 1977b:32, ♀, ♂. Holotype: ♀, Japan: Hokkaido: Sapporo (originally K. Tsuneki coll., now Hyogo Mus.). – Tano, 1994a:7 (holotype in K. Tsuneki coll.); Hashimoto and Nakanishi, 1997:23 (holotype transferred to Hyogo Mus.).

21. nigrilabius Wu and Zhou

Alysson nigrilabius Wu and Zhou, 1987:219 and 222, ♂. Holotype: ♂: China: Sichuan: Emei (Inst. Zool. Beijing). – Wu and Zhou, 1987:215 (in key to *Alysson* of China), 1996a:134; Hua, 2006:277 (in list of Chinese insects, geographic distribution).

22. ocellatus de Beaumont

Alysson ocellatus de Beaumont, 1967a:327, ♀, ♂. Holotype: ♀, Turkey: Amasya (BMNH). – R. Bohart and Menke, 1976:458 (listed); Ljubomirov and Yildirim, 2008:62 (in catalog of Crabronidae of Turkey).

23. oppositus Say

Alysson oppositus Say, 1837:380, ♀, ♂. Syntypes: USA: Indiana: no specific locality (lost). – F. Smith, 1856:373 (in catalog of Hymenoptera in British Museum); Le Conte, 1859b:761 (reprint of Say, 1837:380); Cresson, 1862:235 (in catalog of North American Hymenoptera); Packard, 1867:421 (revision); Provancher, 1883:636 (in revision of Canadian Hymenoptera); Cresson, 1887:280 (in catalog of North American Hymenoptera); Handlirsch, 1888a:249 (in revision of world Bembicinae); Ashmead, 1890:32 (in checklist of Hymenoptera of Colorado); W. Fox, 1894b:87 (in revision of North American *Alysson*); Handlirsch, 1895:831 (additional bibliography); Dalla Torre, 1897:564 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Bridwell, 1899:209 (Kansas: no specific locality); Harrington, 1902:223 (Canada: Ontario: Ottawa); Rohwer, 1916b:654 (in catalog of Hymenoptera of Connecticut); Mickel, 1918b:348 (in catalog of Nebraskan Sphecidae); J.Ch. Bradley, 1920:130 (New York, Quebec), 1928:1015 (in catalog of New York Sphecidae); Brimley, 1938:446 (North Carolina: Raleigh, Swannanoa); Krombein in Muesebeck et al., 1951:981 (in catalog of North American Hymenoptera); Krombein, 1952a:94 (USA: Virginia: Westmoreland State Park), 1963f:276 (Maryland: Plummers Island near Washington, D.C.); Evans, 1966d:28 (habitat, prey); Bohart and Menke, 1976:458 (listed); Krombein, 1979b:1685 (in catalog of North American Hymenoptera); Finnermore, 1982:205 (in Sphecid Fauna of Southern Quebec); Ahlstrom, 1995:112 (in checklist of insects of North Carolina); Amarante, 2002:7 (in catalog of Neotropical Crabronidae); Buck, 2004:27 (in checklist of Crabronidae of Ontario, Canada); Evans and O'Neil, 2007:26 (summary of information on nesting habits).

24. pertheesi Gorski

Alysson pertheesi Gorski, 1852:178, ♀ (as *Perthéesi*, incorrect original capitalization and diacritic mark). Syntypes: Lithuania: Vilnius (lost, except one specimen in ZMHU). – Handlirsch, 1888a:251 ((in revision of world Bembicinae); Kohl, 1893a:28 (Austria: Niederösterreich: Wiener Prater and Donauauen); Dalla Torre, 1897:564 (in catalog of world Sphecidae); Mocsáry, 1897:81 (Hungary: Budapest); Kokujev, 1906:216 (in revision of Russian *Alysson*-tini); Schmiedeknecht, 1907:225 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:120 (in catalog of French Hymenoptera); Berland, 1925d:96 (in Sphecid Fauna of France); Koornneef, 1925:364 (first record from Netherlands: Gelderland: Dieren); Bouwman, 1927:94 (in revision of Sphecidae of Netherlands); Schmiedeknecht, 1930:686, 687 (in keys to Hymenoptera of North and Central Europe); Szulczewski, 1947:112 (Poland: Wielkopolski National Park 15 km S Poznań); Šnoflak in Zavadil and Šnoflak, 1948:78, 79 (in key to Sphecidae of Czechoslovakia, not yet found in Czechoslovakia); Szulczewski, 1950:107 (Poland: Wielkopolski National Park 15 km S

Poznań); Bajári, 1957a:94, 95 (in key to Hungarian Sphecidae, as *Parthéesi*); Benno, 1958b:10 (in review of Dutch Sphecidae); Noskiewicz and Puławski, 1960:83, 84 (in key to Polish Sphecidae); Tsuneki, 1965c:25 (in key to Bembicinae of Japan and Korea; first record from Asia); Benno, 1967:34 (in checklist of Sphecidae of Netherlands); Itami, 1967:4 (nesting habits), 1968B:17 (Japan); Nambu, 1968:22 (Japan); Tsuneki, 1968h:5 (in key to *Alysson* of South and East Asia); Itami, 1969:46 (Japan: Niigata Prefecture); Oehlke, 1970:705 (not recorded from Democratic Germany); Tsuneki, 1970b:9 (central Japan); Balthasar, 1972:352 (in Sphecid Fauna of Czechoslovakia: may be expected in the country); Tsuneki and Itami, 1973:13 (Japan: Niigata Prefecture; color variation); Tsuneki, 1974a:361 (Korea); Nambu, 1975b:72 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:458 (listed); Kolesnikov, 1977:318 (Russia: Bryansk Oblast'); Pulawski, 1978:212 (in key to Sphecidae of European part of former USSR); Lefeber, 1979:11 (in checklist of Sphecidae of Netherlands), 56 (Netherlands: distribution map); Kazenas, 1980e:85 (Russia: Far East); Tsuneki, 1982b:18 (known from Korea); Dollfuss, 1983a:75 (endangered in Niederösterreich, Austria), 80 (endangered in Tirol, Austria), 1983b:20 (in catalog of Sphecidae of Austria); Nemkov, 1986:106 (Russia: Irkutsk Oblast'); Tyrner, 1987:282 (Slovakia); Pádr *in* Šedivy, 1989a:167 (in checklist of Czechoslovakian Sphecidae); Jacobs and Oehlke, 1990:204 (unknown from Democratic Germany); Schwammerberger and Priesner, 1990:550 (Austria: Kärnten); Day, 1991:xii (in summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:181 (in key to Sphecidae of North and Central Europe); Tsuneki, 1991:199 (Korea); Dollfuss, 1994:97 (endangered in Austria); Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:455 (in key to Sphecidae of Russian Far East); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:124 (in Sphecid Fauna of Western Europe); Celary, 1997:60 (in checklist of Animals of Poland); Zettel, Gross, and Mazzucco, 2001:79 (Austria: Wien, not collected after 1870); Shlyakhtenok and Skibińska, 2002:34 (Belarus: no specific locality); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:354 (in catalog of Polish Crabronidae); van Achterberg and Peeters, 2004:32 (in checklist of Sphecidae of Netherlands); Wiśniowski, 2004:50 and 62 (in checklist of Polish Sphecidae); Nemkov, 2005a:158 (Russia: Sakhalin Island); Evans and O'Neil, 2007:26 (summary of information on nesting habits); Jacobs, 2007:159, 160 (in key to Crabronidae of Germany, not yet found in Germany); Nemkov, 2007b:74 (Russia: Kuril Islands: Kunashir Island), 2007c:997 (in Appendix to Key to identification of Sphecidae of Far East of Russia); Vepřek and Straka, 2007:207 (in catalog of Sphecidae of Czech Republic and Slovakia, known from Slovakia only); Nemkov, 2008b:24 (in catalog of Crabronidae of Asiatic Russia), 2009b:127 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Bitsch, 2010:108 (in supplement to vol. II of Faune de France, 1997: recent records reviewed; the only French specimen comes from Var: La Roquebrussanne).

Alysson festivus Mocsáry, 1879:129, ♀ (as *festivum*, incorrect original termination. Holotype or syntypes: ♀, Hungary: Budapest (TMB). Synonymized with *Alysson pertheesi* by Handlirsch, 1888a:250.

Alysson pertheesi forma *typica* Tsuneki and Itami, 1973:13. Not available (Article 16).

Alysson pertheesi forma *nigra* Tsuneki and Itami, 1973:13, ♀. Syntypes: ♀, Japan: Niigata Prefecture: Shidaihana (Itami coll., K. Tsuneki coll.). Not available (Article 16).

***spp. formosanus* Tsuneki**

Alysson pertheesi formosanus Tsuneki, 1968h:4, ♀. Holotype: ♀, Taiwan: Nantou Prefecture: Puli (originally K. Tsuneki coll., now USNM). – Tsuneki, 1977c:6 (Taiwan). – As *Alysson formosanus*: R. Bohart and Menke, 1976:458 (listed); Wu and Zhou, 1987:214 (in key to *Alysson* of China); Nuhn and Menke, 1994:25 (holotype transferred to USNM); Porter, Stange, and Wang, 1999:13 (in checklist of Sphecidae of Taiwan); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

25. *picteti* Handlirsch

Alysson picteti Handlirsch, 1895:830, ♂ (as *Picteti*, incorrect original capitalization). Syntypes: Algeria: Constantine Province: Col des Oliviers in El Kantour Mountains (NHMW). – Dalla Torre, 1897:564 (in catalog of world Sphecidae); Schmiedeknecht, 1900:233 (Tunisia, description of ♀); Graeffe, 1906:455 (Tunisia: Tunis area); von Schul-

thess, 1926b:216 (Tunisia); de Beaumont, 1950f:403 (Algeria: Maison Carrée); R. Bohart and Menke, 1976:458 (listed).

26. *radiatus* W. Fox

Alysson radiatus W. Fox, 1894b:87, ♀, ♂. Lectotype: ♀, USA: Nevada: no specific locality (ANSP), designated by Cresson, 1928:48. – Handlirsch, 1895:832 (original description translated into German); Dalla Torre, 1897:564 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); H. Smith, 1908b:341 (in revision of Nebraskan Sphecidae); Mickel, 1918b:348 (in catalog of Nebraskan Sphecidae); Brimley, 1938:446 (North Carolina: Raleigh, Shining Rock); Krombein *in* Muesebeck et al., 1951:981 (in catalog of North American Hymenoptera); Evans, 1970:493 (Wyoming: Jackson Hole); R. Bohart and Menke, 1976:458 (listed); Krombein, 1979b:1685 (in catalog of North American Hymenoptera); Ahlstrom, 1995:112 (in checklist of insects of North Carolina).

27. *ratzeburgi* Dahlbom

Alysson ratzeburgi Dahlbom, 1843:145, ♀, ♂ (as *Ratzeburgi*, incorrect original capitalization). Lectotype: ♂, Norway: Ostre Naess Vaerdaliae (LUND), designated by de Beaumont, 1953h:197. – Dahlbom, 1845:474 (in key to European Nyssoninae), 1847:279 (nest and prey); Erichson, 1848:137 (Dahlbom's biological observations reported); Eversmann, 1849:388 (Russia: Kazan' Province); Taschenberg, 1858:86 (in key to Sphecidae of Germany); Brischke, 1862:100 (Germany: Preussen Province, now Poland: Pomorze Region); Taschenberg, 1866:199 (in revision of Hymenoptera of Germany); nec Costa, 1867c:77 and 1869b:93 (= *Alysson costai*); Kirchner, 1867:219 (in catalog of European Hymenoptera); Thomson, 1870:249 (in revision of Swedish wasps), 1874:249 (in revision of Sphecidae of Scandinavia); nec Marquet, 1875:204 (= *Alysson spinosus*); Siebke, 1880:67 (Norway); Friese, 1883:202 (Germany: Thüringen: Rothensteiner Felsen); Brischke, 1887:87 (Germany: Seeresen near Karthaus, now Poland: near Kartuzy), 1888b:97 (Germany: Preussen Province, now Poland: Pomorze Region); Handlirsch, 1888a:242 ((in revision of world Bembicinae); F. Morawitz, 1893a:112 (Russia: Karelian Isthmus); Westerlund, 1893:26 (Russia: Karelian Republic: northern shore of Lake Ladoga); De Stefani Perez, 1895:228 (in catalog of Sicilian Hymenoptera, may actually be *Alysson costai*); Handlirsch, 1895:830 (one of Dahlbom's specimens examined); Dalla Torre, 1897:564 (in catalog of world Sphecidae); Strand, 1898b:95 (Norway); Ferton, 1901a:104 (prey in Algeria), 107 (preying on Fulgoridae); Adlerz, 1904:138 (known prey: cicadellids); Aurivillius, 1904:275 (in revision of Swedish Sphecidae); Kokujev, 1906:214 (in revision of Russian Alyssontini); Schmiedeknecht, 1907:224, 225 (in key to Hymenoptera of Central Europe); de Gaulle, 1908:120 (in catalog of French Hymenoptera); Adlerz, 1910:42 (Sweden, nesting habits); nec Dittrich, 1911b:24 (= *Alysson spinosus*); Morice, 1911:10 (Algeria: Constantine); Kohl, 1912:63 (Austria: Tirol: Innsbruck; and Südtirol: Bad Ratzes, now Italy: Trentino-AltoAdige: Razzes); Stöckhert, 1919:40 (Germany: Franken); Enslin, 1922c:246 (Germany: Bayern: Fürth); Lundblad, 1924:22 (Sweden: Lappland: Lycksele); Berland, 1925d:97 (in Sphecid Fauna of France); Bouwman, 1927:94 (in key to Sphecidae of Netherlands, not yet found in Netherland); Gaunitz, 1929:199 (Sweden: Lapland); Schmiedeknecht, 1930:686, 687 (in keys to Hymenoptera of North and Central Europe); Giordani Soika, 1932a:22 (Italy: Lido di Venezia); E. Nielsen, 1933:302 (summary of nesting habits); Jansson, 1934:290 (Sweden); Forsius *in* Forsius and Hellén, 1935:12 (in checklist of Hymenoptera of Finland); Grandi, 1935a:110 (Italy); Móczár, 1938:64 (Hungary); Móczár, 1939:5 (Hungary: Jászberény); Zavadil, 1939:129 (Czech Republic: Morava: Ubušín); Schneid, 1941:1042 (Germany: Bayern: Bamberg area); Giner Mari, 1943a:153 (in Sphecid Fauna of Spain); de Beaumont, 1945:475 (Switzerland: Valais); Szulczewski, 1947:112 (Poland: Wielkopolski National Park); Šnoflak *in* Zavadil and Šnoflak, 1948:68 (in key to Sphecidae of Czechoslovakia); Aerts, 1950a:51 (Germany: Nordrhein-Westfalen: Rheidter Wertchens near Köln); Szulczewski, 1950:107 (Poland: Wielkopolski National Park 15 km S Poznań); Leininger, 1953:18 (Germany: Baden-Württemberg: Hinterzarten); Grandi, 1954:234 (Italy); Valkeila, 1954:87 (Finland: Lappeenranta); Hellén, 1955a:125 (Finland: 16 localities); Vogrin, 1955:36 (Yugoslavia); Bajári, 1957a:94 (in key to Hungarian Sphecidae); Wolf, 1959b:29 (Germany: Nassau); Noskiewicz and Puławski,

1960:83, 84 (in key to Polish Sphecidae, not yet found in Poland); Valkeila, 1962b:67 (southwestern Finland); de Beaumont, 1964c:63 (in Sphecidae Fauna of Switzerland); Valkeila, Brander, and Käpylä, 1964:75 (Finland: Southern Finland: Forssa); Tsuneki, 1965c:25 (in key to Bembicinae of Japan and Korea; first record from Asia); Bonelli, 1966c:216 (Italy: Trentino–Alto Adige: Razzes); Evans, 1966d:28 (review of known behavioral data); Gauss, 1967:553 (Germany: Baden-Württemberg: Südlicher Schwarzwald); J. Heinrich, 1967:74 (Germany: Bayern: Kahl, Lohr, Obernau); Niedl and Deneš, 1967:83 (Czech Republic: Třeboň area); T. Iida, 1968:21 (Japan); Nambu, 1968:22 (Japan); Tano, 1968:33 (Japan); Tsuneki, 1968h:5 (in key to *Alysson* of South and East Asia); Itami, 1969:46 (Japan: Niigata Prefecture); Oehlke, 1970:705 (Democratic Germany); Tsuneki, 1970b:9 (central Japan); Balthasar, 1972:351 (in Sphecidae Fauna of Czechoslovakia); Kofler, 1972:106 (Austria: eastern Tirol); Niedl and Deneš, 1972:153 (Czech Republic: Třeboň area); Suda, 1973:123 (Japan: Yamanashi Prefecture); Lomholdt, 1975c:221 (in Sphecidae Fauna of Fennoscandia and Denmark); Nambu, 1975b:72 (Japan: Saitama Prefecture); R. Bohart and Menke, 1976:458 (listed); Eck, 1976:90 (Democratic Germany); Pulawski, 1978:212 (in key to Sphecidae of European part of former USSR); Schmidt, 1979b:308 (Germany); Casolari and Casolari Moreno, 1980:125 (specimens in M. Spinola collection); Dollfuss and Ressler, 1981:317, 324 (Austria: Niederösterreich: Scheibbs District); Axelsson, 1982:79 (Sweden); Leclercq, 1982e:100 (Norway: Nord-Trøndelag and Hedmark provinces); Tsuneki, 1982b:18 (known from Korea); Dollfuss, 1983a:76 (endangered in Niederösterreich, Austria), 78 (endangered in Oberösterreich, Austria), 80 (endangered in Tirol, Austria), 1983b:20 (in catalog of Sphecidae of Austria); Westrich and Schmidt, 1985b:110 (Germany: extinct in Baden-Württemberg); Nemkov, 1986:106 (Russia: Irkutsk Oblast'); Vikberg, 1986:78 (Finland); Dollfuss, 1987:23 (Austria); Wu and Zhou, 1987:215 (in key to *Alysson* of China, as *rozenburgii*); Nilssen, 1989:48 (Sweden); Pádr *in* Šedivý, 1989a:167 (in checklist of Czechoslovakian Sphecidae); Pankevich, Belyavskaya, Molchanova, Shlyakhtenok, and Blinov, 1989:95 (Belorussia: Berezinskiy Nature Reserve); Scobiola-Palade, 1989:88 (Romania: delta of Danube); Jacobs and Oehlke, 1990:122 and 204 (not collected in Democratic Germany after 1960); Pagliano, 1990:67 (in catalog of Italian Sphecidae); Schwammerberger and Priesner, 1990:550 (Austria: Kärnten); Day, 1991:xii (in summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:181 (in key to Sphecidae of North and Central Europe); Pagliano, 1992:31 (in key to Italian Nyssoninae); K. Weber, 1992:86 (Germany: Bayern: Bamberg District); Dollfuss, 1994:101 (endangered in Austria); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:3 (in catalog of Italian fauna); nec Nemkov *in* Nemkov, Kazenas, Budrys, et Antropov, 1995:455 (= *Alysson monticola*); Shlyakhtenok, 1995:193 (Belarus': Berezinsky Nature Reserve); Jakubzik, 1996:251 (Germany: Köln); Minoranskiy and Shkuratov, 1996:81 (Russia: Rostov Oblast'); Schmid-Egger, Schmidt, and Doczkal, 1996:376 (Germany: Baden-Württemberg: last collected in 1952); Wu and Zhou, 1996a:136 (in revision in Economic Insect Fauna of China); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:125 (in Sphecidae Fauna of Western Europe); Pagliano and Alma, 1997:179 (known prey listed); Schmidt and Schmid-Egger, 1997:5 (in checklist of German Sphecidae); Schnee, 1997:100 (Germany: Sachsen: Nature Reserve Heidewald- und Moorgebiet; first collected in Sachsen since 1919); K. Weber, 1998:133 (Germany: Bayern: Bamberg area); Mandery, 1999:104 (Germany: Bayern: Coburg area); Pauly, 1999:111 (in catalog of Belgian aculeates); M. Schwarz, 1999:88 (Austria: Oberösterreich: city of Linz area); Blösch, 2000:359 (in Sphecidae Fauna of Germany); Ohl et al., 2001:137 (distribution in Germany by provinces); Shlyakhtenok and Skibinska, 2002:34 (Belarus': no specific locality); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:63 (in catalog of wasps and bees of Bayern, Germany); Wickl, Voith, Mandery, Weber, Kraus, Bausenwein, and Blösch, 2003:195 (Germany: Bayern: no longer endangered); Esser, Jakubzik, and Sonnenburg, 2004:18 (Germany: Nordrhein-Westfalen); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:261 (in checklist of Sphecidae of Nordrhein-Westfalen State of Germany); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:354 (in catalog of Polish Crabronidae); Wiśniowski, 2004:50 and 62 (in checklist of Polish Sphecidae); Kofler, 2005:182 (Austria: Tirol: Lienz District: Tessenberg in Heinfels Common); Pagliano and Negrisolo, 2005:112 (in Sphecidae Fauna of Italy); Hua, 2006:277 (in list of Chinese insects, geographic distribution); Jacobs, 2007:159, 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, known from Bohemia and Moravia only); Nemkov, 2008b:24 (in catalog of Crabronidae of Asiatic Russia); U. Frommer, 2009a:26 (Germany: in checklist of Sphecidae of central Hessen, locality records, 30 (currently not occurring in Hessen); Nemkov, 2009b:127 (in new catalog of Sphecidae and Crabronidae of Asiatic Russia); Bitsch, 2010:108 (in supplement to vol. II of Faune de France, 1997: revue of recent records from Europe); Schmid-Egger, 2010a:13 (in red list of Aculeata of Germany: very rare).

28. *ruficollis* Cameron

Alyson [sic] *ruficollis* Cameron, 1898b :25, "♂" = ♀ (as *ruficolle*, incorrect original termination). Holotype: ♀, Sri Lanka: Kandy (OXUM). – Tsuneki, 1968h:5 (in key to *Alysson* of South and East Asia); R. Bohart and Menke, 1976:458 (listed); Krombein, 1985a:11 (Sri Lanka; redescription, description of ♂).

29. *seyrigi* Arnold

Alysson seyrigi Arnold, 1945:49, ♀ (as *Seyrigi*, incorrect original capitalization). Holotype: ♀, Madagascar: Perinet (MNHN). – R. Bohart and Menke, 1976:458 (listed); Pulawski, 2003b:795 (in checklist of Malagasy Sphecidae).

30. *sichuanensis* Wu and Zhou

Alysson sichuanensis Wu and Zhou, 1987:219 and 221, ♀. Holotype: ♀, China: Sichuan: Wenchuan Wolun (Inst. Zool. Beijing). – Wu and Zhou, 1987:215 (in key to *Alysson* of China), 1996:134 (in revision in Economic Insect Fauna of China); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

31. *spinus* (Panzer)

Sphex bimaculatus Panzer, 1798:... , junior primary homonym of *Sphex bimaculatus* Fueßlin, 1775 (a scoliid). – As *Alysson bimaculatus*: Lepeletier de Saint Fargeau and Audinet-Serville, 1825:50 (new combination, redescription); Vander Linden, 1829:90 (bibliographic references, France: Paris, Germany); Herrich-Schaeffer, 1840:292 (Germany: Bayern: Regensburg area); Dahlbom, 1843:142 (in revision of Sphecidae and Pompilidae, as *Alyson bimaculatum*), 1845:474 (in key); Lepeletier de Saint Fargeau, 1845:88 (in revision of world Hymenoptera, as *Alyson*); Eversmann, 1849:387 (Russia: Kazan' Province); Kiesenwetter, 1849:89 (Germany: Kingdom of Saxony: Dresden); Wissmann, 1849:12 (Germany: Kingdom of Hannover: Scharzfeld in Harz Mts.); Wesmael, 1852:262 (Belgium); Kirschbaum, 1853:44 (Germany: Herzogtum Nassau: Mainz-Mombach, as *bimaculatum*); F. Smith, 1856:373 (in catalog of Hymenoptera in British Museum); Ruthe and Stein, 1857:313 (Germany: Berlin area, as *bimaculatum*); Schenck, 1857:178 (in revision of fossorial wasps of Nassau Region, Germany); Taschenberg, 1858:86 (Germany); Assmus, 1859:611 (Russia: Moscow Oblast', as *bimaculatum*); A. Costa, 1859:50 (in revision of Sphecidae of Kingdom of Naples, Italy, as *bimaculatum*); Funk, 1859:59 (Germany: Bayern: Bamberg); Schenck, 1860:148 (Germany: Nassau Region); Brischke, 1862:100 (Germany: Preussen Province, now Poland: Pomorze Region); Taschenberg, 1866:198 (in revision of Hymenoptera of Germany); A. Costa, 1867c:76 (in revision of Italian Sphecidae); Kirchner, 1867:219 (in catalog of European Hymenoptera); Schenck, 1867a:355 (Germany: Nassau Region); Wierzejski, 1868:117 (Poland: Kraków; Ukraine: Podole Region; as *bimaculatum*); A. Costa, 1869b:92 (in revision of Italian Sphecidae, as *bimaculatum*); Dours, 1874:142 (in catalog of Hymenoptera of France, as *Alyson bimaculatum*); Mocsáry, 1874:120 (Siebenbürgen, now Romania: Transylvania: no specific locality); Wierzejski, 1874:259 (Poland: Kraków; Ukraine: Podole Region: Sinkov; as *bimaculatum*); Taschenberg, 1875:370 (Germany: Halle); Frivaldszky, 1876:354 (Hungary: Temes Komitat: Grebenáč, now in Timiș District in Romania); Becker, 1880:150 (Russia: Sarepta, now Krasnoarmeysk S Volgograd); Kohl, 1880:173 (Austria: Tirol, and Italy: Trentino–Alto Adige), 230 (preys on cicadellids, not a parasite), 1883e:668 (Switzerland); von Heyden, 1884:118 (Germany: Frankfurt am Main); Brischke, 1888b:97 (Germany: Preussen Province, now Poland: Pomorze Region, as *bimaculatum*); Radoszkowski, 1892:590 (male genitalia); De Stefani Perez, 1895:228 (in catalog of Sicilian Hymenoptera); Meunier, 1896:272 (Belgium: Bruxelles area); Acloque, 1897:85 (in Sphecid Fauna of France and Algeria); Borries, 1897:64 (review of nesting habits); Chyzer, 1902:34

(Hungary, as *bimaculatus*); Adlerz, 1904:138 (known prey: cicadellids); Kubes, 1905:84 (Czech Republic: Kolín); Vängel, 1905:167 (Hungary); Cavro, 1910:685 (France: Département du Nord: Roubaix); Graeffe, 1911:47 (Italy: Trieste area); de Beaumont, 1951g:316 (Italy); Nouvel and Ribaut, 1953:178 (France: recorded from Hautes-Pyrénées: Gèdre, par Berland, 1925); Grandi, 1954:234 (Turkey); Steiner, 1955:145 (France: Dordogne); Bytinski-Salz, 1956:226 (Turkey: Aydın); Nouvel and Ribaut, 1958:12 (France: Pyrénées-Orientales: Banyuls-sur-Mer); de Beaumont, 1959a:22 (Italy), 1964c:63 (in Sphecidae Fauna of Switzerland); Evans, 1966d:28 (review of known behavioral data); de Beaumont, 1967a:326 (Turkey); Gauss, 1967:553 (Germany: Baden-Württemberg); J. Heinrich, 1967:73 (Germany: Aschaffenburg, Kahl, Miltenberg); Benedek, 1968:72 (Hungary, floral records), 1969a:83 (Hungary; marshy meadow), 1969b:421 (Hungary: Csopak, collected in vicinity of aphid *Hyalopteritena pruni* (Geoffroy)); Zangheri, 1969:1703 (Italy: in catalog of flora and fauna of Romagna Region); Babiy, 1970:20 (Austria: Land Salzburg); Benedek, 1970:98 (Hungary: Tapolca); Oehlke, 1970:705 (Democratic Germany); Dathe, 1971:234 (Germany: Berlin Zoological Garden; phenology); Schmidt, 1971b:32 (Germany: Mainz area); Stritt, 1971a:104 (Germany: Baden-Württemberg: Karlsruhe); Haeseler, 1972:155 (Germany: Schleswig-Holstein; anthropogenic habitats); Kofler, 1972:106 (Austria: eastern Tirol); Diniz, 1973:49 (Portugal: Coimbra); Lefeber, 1974:77 (Belgium: Maasmechelen, Plombières); Lefeber and Petit, 1974:163 (Belgium: Plombières); Simon Thomas, 1974:57 (Netherlands: Limburg); Frilli and Pizzaghi, 1975:76 (Italy: Badagnano in Piacenza Province); R. Bohart and Menke, 1976:458 (listed); Kolesnikov, 1977:318 (Russia: Bryansk Oblast'); Marion, 1978:88 (France: Nièvre Department); Benedek, 1979:231 (Hungary: Bakony Hills); Casolari and Casolari Moreno, 1980:125 (specimens in M. Spinola collection); Donath, 1982:213 (Germany: Cottbus Bezirk); Józán, 1983:100 (Hungary); Delarze, 1992:67 (Switzerland: Valais: Les Follatères).

Pompilus spinosus Panzer, 1801:..., Synonymized with *Alyson bimaculatus* by Jurine, 1807:196. – **As *Alyson spinosus***: Jurine, 1807:196 (new combination, listed) and pl. 10, Fig. 21 (illustration of habitus); Lepeletier de Saint Fargeau and Audinet-Serville, 1825:50 (redescription); Vander Linden, 1829:91 (bibliographic references, possibly a synonym of *Alysson bimaculatus*, Belgium: Bruxelles, Germany); Lepeletier de Saint Fargeau, 1845:87 (in revision of world Hymenoptera); A. Costa, 1864b:104 (specimen from Torino, Italy, in Napoli Museum), 1869a:17 (Italy: Piemonte); Dours, 1874:142 (in catalog of Hymenoptera of France, as *spinosum*); Frei-Gessner, Kohl, and Kriechbaumer, 1882:393 (Jurine's specimens are *Alyson bimaculatus*); Acloque, 1897:84 (in Sphecidae Fauna of France and Algeria); Szczepko and Kowalczyk, 2001:189 (Poland: Kampinos National Park near Warszawa); Kowalczyk, Szczepko, and Świątek, 2002:155 (Poland: Kampinos National Park near Warszawa). – **As *Alysson spinosus***: Lomholdt, 1975c:220 (new combination, in Sphecidae Fauna of Fennoscandia and Denmark); R. Bohart and Menke, 1976:458 (listed); Haeseler, 1977a:23 (NW Germany); Leclercq, 1978b:map 1168 (distribution in Belgium); Lefeber, 1978:137 (Netherlands: Schaesberg); Petit, 1978:86 (Belgium: Vance); Pulawski, 1978:212, 213 (in key to Sphecidae of European part of former USSR); Lefeber, 1979:11 (in checklist of Sphecidae of Netherlands), 57 (Netherlands: distribution map); Schmidt, 1979b:308 (Germany); Casolari and Casolari Moreno, 1980:125 (specimens in M. Spinola collection); Dollfuss and Ressler, 1981:324 (Austria: Niederösterreich: Scheibbs District); Gayubo, 1982b:34 (Spain: Salamanca: Valdefuentes de Sangusín); Dollfuss, 1983b:20 (in catalog of Sphecidae of Austria); Gayubo, 1983e:232 (Spain: Salamanca Province); Haack, Tschardtke, and Vidal, 1984:124 (Germany: Hamburg area); Józán, 1985b:60 (Hungary S Lake Balaton), 81 (floral records), 84 (ecological and zoogeographic characteristics); Scobiola-Palade, 1985:96 (Romania: delta of Danube); Brechtel, 1986:60 (Germany: Südpfalz); Gayubo and Heras, 1986:60 (Spain: Segovia Province); Gayubo and Sanza, 1986:72 (Spain: Burgos); Józán, 1986:373 (Hungary: Kiskunság National Park); Skibińska, 1986b:154 (Poland: suburbs of Warszawa), 157 (rural and suburban parks); Riemann, 1987b:32 (Germany: Niedersachsen: Nature Reserve Dünengebiet near Neumühlen); Schmidt and Westrich, 1987:362 (Germany: Mainz area); Wu and Zhou, 1987:215 (in key to *Alysson* of China); Dollfuss, 1988:18, 29 (Austria: Bisamberg near Vienna; Niederösterreich: Oberweiden); Karsai, 1988:101 (Hungary: Kiskunság National Park); Jacobs, 1989:25 (Germany: Mecklenburg-Vorpommern); Pankevich, Belyavskaya, Molchanova, Shlyakhtenok, and Blinov, 1989:95 (Belorussia: Berezinskiy Nature Reserve);

Scobiola-Palade, 1989:88 (Romania: delta of Danube); Skibińska, 1989a:204 (Poland: Warszawa area); Gayubo, Asís, and Tormos, 1990b:77 (Spain: Toledo Province); Jacobs and Oehlke, 1990:204 (new records from Democratic Germany); Kuznetzova, 1990:20 (Russia: Voronezh Oblast': Galich'ya Gora Nature Reserve); Pagliano, 1990:67 (in catalog of Italian Sphecidae); Schwammberger and Priesner, 1990:550 (Austria: Kärnten); Barbier, Rasmont, and Wahis, 1990:32 (Belgium: Hainaut); Day, 1991:xii (in summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:181 (in key to Sphecidae of North and Central Europe); Gayubo, Borsato, and Osella, 1991:412 (Italy); Gayubo and Torres, 1991:Table I (Spain: Salamanca; effects of urban pressure); Jacobs, 1991:46 (Germany: Mecklenburg-Vorpommern: Nature Reserve Elbtaldünen); Jakubzik, 1991:75 (Germany: Köln); Józán, 1991:604 (Hungary: Bátorliget Nature Reserve); Kowalczyk, 1991a:89, 93, 97, 99, 101, 107 (Poland: Łódź), 1991b:120 (Poland: Augustów Forest); Negrisolo, 1991:322 (Italy: Treviso and Udine Provinces); Scobiola-Palade, 1991:220 (Romania: Danube delta); Józán, 1992b:175 (Hungary: Boronka-melléki Protected Area), 1992c:289 (Hungary: Zselic Hills); Pagliano, 1992:31 (in key to Italian Nyssoninae); K. Weber, 1992:86 (Germany: Bayern: Bamberg District); Kuhlmann, 1993:75 (Germany: known from Westfalen); Sorg and Wolf, 1993:59 (Germany: Rheinland-Westfalen: Nature Reserve Die Spey); Torregrosa, Gayubo, Tormos, and Asís, 1993:20 (Spain: Alicante Province); Blagoveshchenskaya, 1994:91 (Russia: Ul'yanovsk Oblast'); Kowalczyk, 1994:73 (Poland: Łagiewniki forest in Łódź); Theunert, 1994c:32 (summary of records from Niedersachsen and Bremen, Germany); Gorobchishin, 1995:18 (Ukraine: Kanev Nature Reserve); Józán, 1995:105 (Hungary: projected Duna-Dráva National Park); Krasnobayev et al., 1995:138 (Russia: Zhiguli Hills NW Samara); Negrisolo *in* Minelli, Ruffo, and La Posta, 1995b:3 (in catalog of Italian fauna); Scharrer, 1995:28 (Austria: Niederösterreich: Donau-Auen); Schmid-Egger, Risch, and Niehuis, 1995:163 (summary of records from Germany: Rheinland-Pfalz State); Gorobchishin, 1996:53 (Ukraine: Kanev Nature Reserve); Jakubzik, 1996:251 (Germany: Köln); Jakubzik and Cölln, 1996b:398 (Germany: Rheinland-Pfalz); Minoranskiy and Shkuratov, 1996:81 (Russia: Rostov Oblast'); Schmid-Egger, Schmidt, and Doczkal, 1996:376 (Germany: Baden-Württemberg: potentially endangered); Voblenko, Gorobchishin, and Nesterov, 1996:15 (Ukraine: Polesye Region); Witt, 1996:105 (Germany: Brandenburg), 106 (locality records); Woydak, 1996:89 (Germany: Westfalen: summary of distribution and nesting habits); Wu and Zhou, 1996a:136 (in revision in Economic Insect Fauna of China); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:126 (in Sphecid Fauna of Western Europe); Celary, 1997:60 (in checklist of Animals of Poland); Lauterbach, 1997b:64 (Germany: Nordrhein-Westfalen: Bielefeld); Schmidt and Schmid-Egger, 1997:5 (in checklist of German Sphecidae); Pagliano and Alma, 1997:178, 179 (prey: *Cicadella viridis* (L.)); Dollfuss, Gusenleitner, and Bregant, 1998:521 (Austria: summary of collecting records from Burgenland); Flügel, 1998:59 (Germany: Brandenburg: Unteres Odertal National Park); van der Smissen, 1998:53 (Germany: Schleswig-Holstein, Niedersachsen); K. Weber, 1998:133 (Germany: Bayern: Bamberg area); Gayubo, García, Torres, and González, 1999:91 (Spain: Soria Province); Kuhlmann, Wolf, and Woydak, 1999:569 (endangered in Nordrhein-Westfalen State of Germany); Ljubomirov, 1999a:22 (Bulgaria); Majzlan, Rychlík, and Deván, 1999:145 (Slovakia: Čenkovská Step Nature Reserve); Mandery, 1999:104 (Germany: Bayern: Coburg area); Neumayer, Schwarz, and Bregant, 1999:223 (Austria: in checklist of Sphecidae of Land Kärnten); Pauly, 1999:111 (in catalog of Belgian aculeates); M. Schwarz, 1999:88 (Austria: Oberösterreich: city of Linz area); Blösch, 2000:359 (in Sphecid Fauna of Germany); Dressler, 2000:30 (Germany: Hessen: Darmstadt area); Giachino, Grosso, Marchetti, Pagliano, Scaramozzino, and Vailati, 2000:108 (Greece); Jacobs, 2000:6 (Germany: Land Mecklenburg-Vorpommern: not endangered); Ljubomirov, 2000:12 (Bulgaria, specimens in N. Nedelkov collection); Schmid-Egger, 2000b:275 (Germany: Baden-Württemberg: shores of Rhine River); Kazenas, 2001b:43 (in checklist of Sphecidae of Kazakhstan and Central Asia); Ohl et al., 2001:137 (distribution in Germany by provinces); Skibińska, 2001:220 (Poland: Białowieża Primeval Forest); Zettel, Gross, and Mazzucco, 2001:79 (Austria: Wien); Kazenas, 2002a:113 (geographic distribution, collecting localities in Kazakhstan); Shlyakhtenok and Skibinska, 2002:34 (Belarus': no specific locality); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:63 (in catalog of wasps and bees of Bayern, Germany); von der Heide and Metscher, 2003:101 (Germany: Niedersachsen: Emsland area); Wiśniowski *in* Dylewska and Wiś-

- niowski, 2003:174 (Poland: Ojców National Park); Beron, 2004:839 (Bulgaria, eastern Rhodope Mts.: Arda Hut, citation of Ljubomirov, 1999:22); Esser, Jakubzik, Sonnenburg, and Woydak, 2004:261 (in checklist of Sphecidae of Nordrhein-Westfalen State of Germany); Skibińska *in* Bogdanowicz, Chudzicka, Pilipiuk, and Skibińska, 2004:354 (in catalog of Polish Crabronidae); Szczepko and Kowalczyk, 2004:127 (Poland: Kampinos National Park near Warszawa); van Achterberg and Peeters, 2004:32 (in checklist of Sphecidae of Netherlands); Wiśniowski, 2004:50 and 62 (in checklist of Polish Sphecidae); Dubitzky, Blank, and Schönitzer, 2005:271 (Germany: Bayern: area north of Dachau); Jacobs, 2005a:438 (Bulgaria); Kofler, 2005:183 (Austria: Tirol: Lienz District: Lesach in Kals Common, Lavant, Tschule Alm in Thurn Common); Mandery, 2005:173 (Germany: Bayern: Heinberg Nature Reserve near Nürnberg); Pagliano and Negrisola, 2005:113 (in Sphecid Fauna of Italy); Riemann and Hohmann, 2005:543 (Germany: Niedersachsen: city of Bremen and adjacent area); Theunert, 2005a:16 (Germany: in checklist of Sphecidae of Niedersachsen and Bremen); Hua, 2006:277 (in list of Chinese insects, geographic distribution); Evans and O'Neil, 2007:23 (summary of information on nesting habits); Guldemond, Pijfers, and den Belder, 2007:202 (Netherlands: Gelderland: dairy farm in de Graafschap); Jacobs, 2007:159, 160 (in key to Crabronidae of Germany); Saure, 2007:81 (in checklist of Aculeata of Brandenburg Land, Germany); Venne, Bleidorn, and Lauterbach, 2007:300 (Germany: Nordrhein-Westfalen: Bielefeld); Vepřek and Straka, 2007:207 (in catalog of Sphecidae of Czech Republic and Slovakia); Kazenas, 2008a:104 (Southeastern Kazakhstan: 5 km E Chemolgan); Ljubomirov and Ban-Calefariu, 2008:203 (Romania: Maramureş District: Repedea, Vişeu Valley); Ljubomirov and Yildirim, 2008:62 (in catalog of Crabronidae of Turkey); U. Frommer, 2009a:26 (Germany: in checklist of Sphecidae of central Hessen); Bitsch, 2010:108 (in supplement to vol. II of Faune de France, 1997: prey record of Pagliano and Alma reported); Schmid-Egger, 2010a:13 (in red list of Aculeata of Germany: relatively common).
- As *Sphex fuscatus* Fabricius (misidentification): Panzer, 1798:.... – **As *Alysson fuscatus***: Lepeletier de Saint Fargeau, 1845:88 (new combination, in revision of world Hymenoptera, as *Alysson*); Handlirsch, 1888a:246 ((in revision of world Bembicinae); Kohl, 1893a:28 (Austria: Niederösterreich); Krieger, 1894:9 (Germany: Kingdom of Saxony); Handlirsch, 1895:8831 (additional bibliography); Dalla Torre, 1897:563 (in catalog of world Sphecidae); Mocsáry, 1897:81 (Kingdom of Hungary, some localities are in today's Croatia and Romania); de Cobelli, 1903:114 (Italy: Province of Trentino); Antiga and Bofill, 1904:14 (Spain: Cataluña Province); W. Schulz, 1904b:97 (Czechoslovakia); Kokujev, 1906:216 (in revision of Russian Alyssontini); Schmiedeknecht, 1907:224, 225 (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); Birula, 1912:540 (Ukraine: Zhytomyr Oblast': Radomyshl'); Schirmer, 1912:167 (Germany: Berlin area); Szilády, 1913:89 (Hungary: Nagyenyed); Birula, 1914:386 (Belarus': Luskinopol' near Vitebsk); 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); Dubois, 1921c:204, 205 (in key to Belgian Sphecidae); Fahringer, 1922:181 (Turkey); Hedicke, 1922:271 (Germany: Brandenburg: Gross Machnower Weinberg); Berland, 1925d:96 (in Sphecid Fauna of France); Bischoff, 1925:300 (Latvia: Wezkukkul; Lithuania: Dolny near Vilnius; Poland: Grajewo area); Coulon, 1925:120 (France: Oise); Friese, 1926:161 (in key to Sphecidae of Central Europe, short morphological and biological characteristics); Bouwman, 1927:94 (in revision of Sphecidae of Netherlands); F. Werner, 1927:66 (Austria: Niederösterreich: River Kamp valley); Crèvecoeur and Maréchal, 1928:172 (Belgium: Uccle); Schmiedeknecht, 1930:686, 687 (in keys to Hymenoptera of North and Central Europe); Bondroit, 1932:32 (Belgium: Solbosch); Giordani Soika, 1932a:22 (Italy: Lido di Venezia); Bondroit, 1934:59 (Belgium: Watermael); Bernard, 1935:64 (France: Var: Fréjus area); Crèvecoeur and Maréchal, 1936:253 (in catalog of Belgian Hymenoptera); Zavadil, Šusterka, and Bat'a, 1937:195 (in catalog of Sphecidae of Czechoslovakia); Móczár, 1938c:81 (Hungary: Kőszeg Hills); A. Wagner, 1938a:121 (northwestern Germany); Móczár, 1939:5 (Hungary: Jászberény); Balthasar, 1941b:112 (Czech Republic: eastern Moravia); Schneid, 1941:1042 (Germany: Bayern: Bamberg area); Giner Mari, 1943a:152 (in Sphecid Fauna of Spain); Bat'a, 1944a:26 (Czech Republic), 1944b:92 (Czech Republic: Veselí); Guiglia, 1944a:147 (Cyprus: Limassol), 1944b:22 (Italy); Šnoflak *in* Zavadil and Šnoflak, 1948:78, 79 (in

key to Sphecidae of Czechoslovakia); Ceballos, 1949:100 (Spain); de Andrade, 1949:17 (Portugal); Sala de Castellarnau, 1949:89 (Spain: Teruel: Bronchales, as *fuscatum*); Cavro, 1950:36 (France: Département du Nord); Pittioni, 1950:24 (Cyprus); Szulczewski, 1950:107 (Poland: Wielkopolski National Park 15 km S Poznań, as *fasciatus*); Caruel, 1951:100 (France: Marne Department); Leininger, 1951:117 (Germany: Baden-Württemberg); Baťa, 1952:167 (Czech Republic); Głowacki, 1953:520 (Poland: Podkowa Leśna near Warszawa); Móczár, 1953:310 (Hungary); Bischoff and Stadler, 1954:126 (Germany: Bayern: Romberg); Puławski, 1954:106 (Poland: Błędów); Aerts, 1955:62 (Germany: Rheinland); Vergne, 1955:4 (France: Auvergne); Vogrin, 1955:36 (Yugoslavia); Ceballos, 1956:379 (in catalog of Hymenoptera of Spain); Bajári, 1957a:94, 95 (in key to Hungarian Sphecidae); Zirngiebl, 1957:182 (Germany: Rheinland-Pfalz: Birkenheide, Frankenthal, Leistadt); Benno, 1958b:10 (in review of Dutch Sphecidae); Diniz, 1959:29 (Portugal: Pao de Rei); Wolf, 1959b:29 (Germany: Nassau); Noskiewicz and Puławski, 1960:82, 83 (in key to Polish Sphecidae); Hoop, 1963a:73 (Germany: Schleswig-Holstein: Reher Kratt), 1963b:7 (Germany: Schleswig-Holstein: Lauenburg, Reher Kratt); Lehrer and Scutaru, 1963:283 (Romania: Moldova Pașcani and Mircești in Iași District, Baia in Suceava District); Babiş, 1964:116 (Austria: Land Salzburg); Benno, 1967:34 (in checklist of Sphecidae of Netherlands); Balthasar, Hrubant, and Hrubant, 1967:174 (Bulgaria: Slanchev Bryag near Nessebyr); Niedl and Deneš, 1967:84 (Czech Republic: Třeboň area); Scobiola-Palade, 1967b:47 (Romania), 1968b:142 (Romania: Island of Letea in delta of Danube), 1968c:384 (Romania: Budești, Dărăști, Giurgiu, Tigănești); Dathe, 1969:439 (Germany: Berlin Zoological Garden); Lefebvre, 1969a:78 (Netherlands: Bergen op Zoom); Romanova, 1969:134 (Russia: North Caucasus); Balthasar, 1972:350 (in Sphecidae Fauna of Czechoslovakia); Niedl and Deneš, 1972:153 (Czechoslovakia); Scobiola-Palade, 1972a:150 (Romania: delta of Danube: Caraorman), 1972b:253 (Romania), 1974:144 (Romania: Sărăturile sandbank in Danube delta); Georghiou, 1977:188 (Cyprus); Casolari and Casolari Moreno, 1980:125 (specimens in M. Spinola collection); Józán, 1981:305 (Hungary: Hortobágy National Park); Skibińska, 1981:357 (Poland: Warszawa-Białoleka), 1982:123 (Poland: Warszawa area); Holtappels, 1987:26 (Germany: Nordrhein Westfalen: Offender Waldsee); Kowalczyk, 1988b:64 (Poland: environs of Łódź); Pádr *in* Šedivý, 1989a:167 (in checklist of Czechoslovakian Sphecidae); Pádr, 1990:73 (Czech Republic: Praha area); Kowalczyk, 1990:291 (Poland: Góry Świętokrzyskie); Skibińska, 1995:424, 425 (Poland: pine forest in Białowieża Primeval Forest); Pawlikowski and Kruszyński, 1996:86 (Poland: Toruń Basin).

As *Alysson pertheesi*: Nedelkov, 1914:197 (Bulgaria), corrected to *Alysson spinosus* by Ljubomirov, 1999a:22.

As *Alysson ratzeburgi*: Marquet, 1875:204 (France: Hérault: Montpellier), corrected to *Alysson bimaculatus* by Marquet, 1881:181; Dittrich, 1911b:24 (Germany: Niederschlesien: Mirkau, now Poland: Dolny Śląsk: Mirków near Wrocław), corrected to *Alysson fuscatum* by Noskiewicz and Chudoba, 1949:409; Nedelkov, 1914:197 (Bulgaria), corrected to *Alysson spinosus* by Ljubomirov, 1999a:22.

As *Alysson tricolor*: Dittrich, 1911b:23 (Germany: Niederschlesien: Mirkau, now Poland: Dolny Śląsk: Mirków near Wrocław), corrected to *Alysson fuscatum* by Noskiewicz and Chudoba, 1949:409.

32. *striatus* W. Fox

Alysson striatus W. Fox, 1894b:88, ♂. Lectotype: ♂, USA: District of Columbia (ANSP), designated by Cresson, 1928:48. – Handlirsch, 1895:834 (original description translated into German); Dalla Torre, 1897:565 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Bradley, 1928:1015 (in catalog of New York Sphecidae); Krombein *in* Muesebeck et al., 1951:981 (in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:458 (listed); Krombein, 1979b:1685 (in catalog of North American Hymenoptera).

33. *taiwanus* Sonan

Alysson taiwana Sonan, 1940:14, ♀, incorrect original termination. Holotype: ♀, Taiwan: Shinchiku (depository?) – Tsuneki, 1968h:5 (in key to *Alysson* of South and East Asia); R. Bohart and Menke, 1976:458 (listed); Wu and

Zhou, 1987:215 (in key to *Alysson* of China); Porter, Stange, and Wang, 1999:13 (in checklist of Sphecidae of Taiwan); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

34. *takasago* Tsuneki

Alysson takasago Tsuneki, 1977j:266, ♂. Holotype: ♂, Taiwan: Fuhosho (TMB). – Hua, 2006:277 (in list of Chinese insects, geographic distribution).

35. *testaceitarsis* Cameron

Alysson testaceitarsis Cameron, 1902c:290, ♀. Holotype or syntypes: ♀, India: Himachal Pradesh: Simla (BMNH). – Tsuneki, 1968h:5 (in key to *Alysson* of South and East Asia); R. Bohart and Menke, 1976:458 (listed).

36. *tomentosus* McLeay

Alysson tomentosus McLeay, 1828:457, sex not indicated. Holotype or syntypes: Australia: no specific locality (depository unknown). – Not listed by Bohart and Menke, 1976; Cardale, 1985:303 (in catalog of Australian Sphecidae).

37. *triangularis* Krombein

Alysson triangularis Krombein, 1985a:13, ♀, ♂. Holotype: ♀, Sri Lanka: Central Province: Kandy District: Kandy - Udawattakele Sanctuary (USNM). – Evans and O'Neil, 2007:27 (summary of information on nesting habits).

38. *triangulifer* Provancher

Alysson triangulifer Provancher, 1887:272, ... Lectotype: ♂, Canada: ... (Laval Univ.), designated by Gahan and Rohwer, 1917:305. – W. Fox, 1894b:88 (in revision of North American *Alysson*, description of ♀, as *itrianguliferus*); Handlirsch, 1895:835 (original description translated into German); Dalla Torre, 1897:565 (in catalog of world Sphecidae); Ashmead, 1899d:329 (in checklist of North American Crabronidae); Harrington, 1902:223 (Canada: Ontario: Ottawa); H. Smith, 1908b:341 (in revision of Nebraskan Sphecidae); Mickel, 1918b:347 (in catalog of Nebraskan Sphecidae); J.Ch. Bradley, 1920:131 (New York, as *trianguliferus*), 1928:1015 (in catalog of New York Sphecidae); Hendrickson, 1930:158 (Iowa); Brimley, 1938:446 (North Carolina: Hendersonville); Krombein *in* Muesebeck et al., 1951:981 (in catalog of North American Hymenoptera); Krombein, 1963f:276 (Maryland: Plummers Island near Washington, D.C., as *triangulifer triangulifer*); R. Bohart and Menke, 1976:458 (listed); Krombein, 1979b:1685 (in catalog of North American Hymenoptera); Finnamore, 1982:206 (in Sphecid Fauna of Southern Quebec); Ahlstrom, 1995:112 (in checklist of insects of North Carolina); Finnamore, 1997:892 (Canada: Yukon, as *triangulifer triangulifer*); Buck, 2004:27 (in checklist of Crabronidae of Ontario, Canada).

ssp. shawi Bradley

Alysson shawi Bradley, 1920:130, ♀, ♂. Holotype: ♂, Canada: British Columbia: Carbonate on Columbia River (Cornell Univ.). – As *Alysson triangulifer shawi*: Krombein *in* Muesebeck et al., 1951:981 (new status, in catalog of North American Hymenoptera); R. Bohart and Menke, 1976:458 (listed); Krombein, 1979b:1685 (in catalog of North American Hymenoptera).

39. *tricolor* Lepeletier de Saint Fargeau and Audinet-Serville

Alysson tricolor Lepeletier de Saint Fargeau and Audinet-Serville, 1825:50, ♀. Syntypes: ♀, France: Normandie: Luc, and Paris area (lost). – Vander Linden, 1829:92 (bibliographic references, Belgium: Bruxelles); Lepeletier de Saint Fargeau, 1845:89 (in revision of world Hymenoptera); Wesmael, 1852:261 (Belgium); F. Smith, 1856:373 (in catalog of Hymenoptera in British Museum); A. Costa, 1864b:98 (two specimens from France in Napoli Museum), 1867c:151 (in revision of Italian Sphecidae); Kirchner, 1867:19 (in catalog of European Hymenoptera); A. Costa, 1871b:82 (in revision of Italian Sphecidae); Dours, 1874:142 (in catalog of Hymenoptera of France); Wüstnei, 1886:9 (known from Germany, but not from Nassau); Handlirsch, 1888a:244 ((in revision of world Bembicinae); Kohl, 1893a:28 (Austria: Niederösterreich: Wien); Handlirsch, 1895:831 (Switzerland: Grono); Acloque, 1897:85 (in Sphecid Fauna of France and Algeria); Dalla Torre, 1897:565 (in catalog of world Sphecidae); Mocsáry,

1897:81 (Hungary: Budapest); Adlerz, 1904:138 (known prey: cicadellids); W. Schulz, 1906:201 (correct authorship is Lepeletier de Saint Fargeau and Serville); Schmiedeknecht, 1907:224, 225 (in key to Hymenoptera of Central Europe); Ferton, 1908:558 (prey); de Gaulle, 1908:120 (in catalog of French Hymenoptera); nec Dittrich, 1911b:23 (= *Alysson spinosus*); Steck, 1920:77 (Switzerland: Grono, Novaggio); Dubois, 1921c:204, 205 (in key to Belgian Sphecidae); Berland, 1925d:96 (in Sphecidae Fauna of France); Bouwman, 1927:93, 94 (in key to Sphecidae of Netherlands, not yet found in Netherlands); Schmiedeknecht, 1930:686, 687 (in keys to Hymenoptera of North and Central Europe); Bondroit, 1932:32 (Belgium: recorded from Bruxelles area by Wesmael); Dusmet y Alonso, 1935:53 (Spain: Madrid: El Pardo); Vergne, 1935:118 (France: Auvergne: Lezoux); Crèvecoeur and Maréchal, 1936:253 (in catalog of Belgian Hymenoptera); Móczár, 1939:5 (Hungary: Jászberény); Zavadil, 1939:120 (Czech Republic: Morava: Kobylí); Giner Mari, 1943a:152 (in Sphecidae Fauna of Spain); Šnoflak *in* Zavadil and Šnoflak, 1948:78, 79 (in key to Sphecidae of Czechoslovakia); Vogrin, 1955:36 (Yugoslavia); Ceballos, 1956:379 (in catalog of Hymenoptera of Spain); Bajári, 1957a:94, 95 (in key to Hungarian Sphecidae); Noskiewicz and Puławski, 1960:83, 84 (in key to Polish Sphecidae, not yet found in Poland); de Beaumont, 1964c:63 (in Sphecidae Fauna of Switzerland), 1967a:326 (Turkey); Leclercq, 1968:map 1169 (Belgium: distribution); Scobiola-Palade, 1968c:384 (Romania: Pusnicu); Stritt, 1968:110 (Germany: Baden-Württemberg), 1969:131 (first record from Germany: Baden-Württemberg: Karlsruhe); Stritt, 1971a:104 (first record from Germany: Baden-Württemberg: Karlsruhe), 1971b:155 (first record from Germany: Karlsruhe area); Balthasar, 1972:351 (in Sphecidae Fauna of Czechoslovakia); R. Bohart and Menke, 1976:458 (listed); Kazenas, 1978b:94 (in key to Sphecidae of Kazakhstan and Central Asia); Leclercq, 1978b:map 1169 (distribution in Belgium); Pulawski, 1978:212 (in key to Sphecidae of European part of former USSR); Schmidt, 1979b:332 (Germany); Casolari and Casolari Moreno, 1980:125 (specimens in M. Spinola collection); Dollfuss, 1983a:75 (endangered in Niederösterreich, Austria), 1983b:20 (in catalog of Sphecidae of Austria: Wien; last finding 1866); Westrich and Schmidt, 1985b:110 (Germany: endangered in Baden-Württemberg); Pádr in Šedivy, 1989a:167 (in checklist of Czechoslovakian Sphecidae); Pagliano, 1990:67 (in catalog of Italian Sphecidae); Day, 1991:xii (in summary of European Endangered Hymenoptera Lists); Dollfuss, 1991:182 (in key to Sphecidae of North and Central Europe); Pagliano, 1992:31 (in key to Italian Nyssoninae); Dollfuss, 1994:97 (endangered in Austria); Negrisoló *in* Minelli, Ruffo, and La Posta, 1995b:3 (in catalog of Italian fauna); Gusenleitner, 1996a:8 (Austria: Burgenland); Schmid-Egger, Schmidt, and Doczkal, 1996:376 (Germany: Baden-Württemberg: endangered); Bitsch, Barbier, Gayubo, Schmidt, and Ohl, 1997:128 (in Sphecidae Fauna of Western Europe); Pagliano and Alma, 1997:179 (known prey listed); Schmidt and Schmid-Egger, 1997:5 (in checklist of German Sphecidae); Dollfuss, Gusenleitner, and Bregant, 1998:521 (Austria: Burgenland: Schützgraben E Minihof-Liebau); Ljubomirov, 1999a:22 (Bulgaria), 1999b:56 (Bulgaria: Mt. Vitosha near Sofia); Pauly, 1999:111 (in catalog of Belgian aculeates); Blösch, 2000:360 (in Sphecidae Fauna of Germany); Gayubo, González, and Torres, 2000:187 (Spain: Salamanca Province); Kazenas, 2001b:43 (tentatively in checklist of Sphecidae of Kazakhstan and Central Asia); Ohl et al., 2001:137 (distribution in Germany by provinces); Zettel, Gross, and Mazzucco, 2001:79 (Austria: Wien, not collected in XXth century); Mandery, Kraus, Voith, Wickl, Scheuchl, Schubert, and Warncke, 2003:63 (in catalog of wasps and bees of Bayern, Germany); Pagliano and Negrisoló, 2005:113 (in Sphecidae Fauna of Italy); Jacobs, 2007:159, 160 (in key to Crabronidae of Germany); Vepřek and Straka, 2007:207 (in catalog of Sphecidae of Czech Republic and Slovakia, known from Moravia and Slovakia only); Ljubomirov and Yildirim, 2008:63 (in catalog of Crabronidae of Turkey); Pagliano, 2009:177 (Italy: Lazio: Morlupo); Bitsch, 2010:108 (in supplement to vol. II of Faune de France, 1997: revue of recent records from Europe); Schmid-Egger, 2010a:13 (in red list of Aculeata of Germany: very rare).

40. *tridentatus* Wu and Zhou

Alysson tridentatus Wu and Zhou, 1987:218 and 221, ♀. Holotype: ♀, China: Jiangsi: Guli (Inst. Zool. Beijing). – Wu and Zhou, 1987:215 (in key to *Alysson* of China), 1996:133 (in revision in Economic Insect Fauna of China); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

41. *verhoeffi* Tsuneki

Alysson verhoeffi Tsuneki, 1967e:8, ♀. Holotype: ♀, China: Manchuria: Harbin (RMNH). – Tsuneki, 1968h:6 (in key to *Alysson* of South and East Asia); R. Bohart and Menke, 1976:458 (listed); Wu and Zhou, 1987:215 (in key); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

42. *yunnanensis* Wu and Zhou

Alysson yunnanensis Wu and Zhou, 1987:215 and 221, ♀. Holotype: ♀, China: Yunnan: Xishuangbanna: Menglun (Inst. Zool. Beijing). – Wu and Zhou, 1987:214 (in key), 1996:131 (in revision in Economic Insect Fauna of China); Hua, 2006:277 (in list of Chinese insects, geographic distribution).

NOMEN NUDUM IN ALYSSON

Alysson triangularis Fox: Ashmead, 1899d:329 (in checklist of North American Crabronidae).

SPECIES DESCRIBED IN ALYSSON AND TRANSFERED TO OTHER GENERA

*aculeata*us Cresson, 1865 = *Didineis*

ater Spinola, 1808 = *Pison*

barbieri de Beaumont, 1968 = *Didineis*

latro de Beaumont, 1967 = *Didineis*

nipponicus Tsuneki, 1968 = *Didineis*

texanus Cresson, 1872 = *Didineis*