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ANNOTATIONS ON THE GENERA TRISCOLIA, MEGASCOLIA AND SCOLIA (HYMENOPTERA, SCOLIIDAE)

(second part)

by

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The first part of this paper, published earlier in this year in Zool. Meded. **39**: 433-444, consists of section A, "Types of some taxa belonging to the genera *Triscolia* and *Scolia*", and section B, "Lists of the species of the genera *Triscolia* and *Megascolia*".

SECTION C. LIST OF THE SPECIES OF THE GENUS SCOLIA

Subspecies are not entered in this list unless they have a position different from that currently assigned to them.

Scolia Fabricius, 1775

1775. *Scolia* Fabricius, Syst. ent.: 355.

1928. *Scolia* Betrem, Treubia **9** (suppl.): 247 (as subgenus).

Diagnosis. — As given by Betrem, 1928: 247.

Subgenus **Scolia** Fabricius, 1775

1941. *Scolia* Betrem, Notes d'Ent. chinoise **8**: 126 (as section).

Type-species (by subsequent designation): *Scolia quadripunctata* Fabricius, 1775 (= *Scolia sexmaculata* O. F. Müller, 1766).

Unlike *Discolia*, *Scolia* is a limited section characterized by a single positive character, the presence of a dense brush of silky setae covering the base of the volsellae. It is Palearctic, penetrating the border of the Ethiopian Region.

List of species of the subgenus *Scolia* Fabricius

1a. *Scolia* (*Scolia*) *sexmaculata sexmaculata* O. F. Müller, 1766⁹).

(= *S. quadripunctata* Fabricius, 1775).

⁹) This new arrangement of the subspecies of *S. sexmaculata* was published by Betrem, 1962, Verhandl. XI. Intern. Kongr. Entom. **1**: 247.

- 1b. *Scolia* (*Scolia*) *sexmaculata violacea* Panzer, 1799.
- 1c. *Scolia* (*Scolia*) *sexmaculata biguttata* Fabricius, 1787.
(= *Scolia fabricii* Betrem, 1935; = *Scolia hispanica* Betrem, 1935).
- 1d. *Scolia* (*Scolia*) *sexmaculata consobrina* Saussure, 1854.
- 1e. *Scolia* (*Scolia*) *sexmaculata steinbergi* Betrem nov. nom.
(= *Scolia quadripunctata orientalis* Steinberg, 1961, nec Saussure, 1856).
2. *Scolia* (*Scolia*) *aenigmatica* Betrem, 1928.
3. *Scolia* (*Scolia*) *beiruthi* Betrem, 1935.
4. *Scolia* (*Scolia*) *montana* Steinberg, 1961.
5. *Scolia* (*Scolia*) *tadzhikistanica* Steinberg, 1961.
6. *Scolia* (*Scolia*) *galbula* (Pallas, 1771).
(= *Scolia moreana* Mucha, 1962, n. syn.).
7. *Scolia* (*Scolia*) *asiella* Betrem, 1935.
8. *Scolia* (*Scolia*) *leucophaea* Steinberg, 1953.
9. *Scolia* (*Scolia*) *gussakovskii* Steinberg, 1953.
10. *Scolia* (*Scolia*) *syriacola* Betrem, 1935.
11. *Scolia* (*Scolia*) *hauseri* Betrem, 1935.
12. *Scolia* (*Scolia*) *insubrica* (Scopoli, 1786).
13. *Scolia* (*Scolia*) *histrionica* (Fabricius, 1787).
(= *Scolia japonica* Smith, 1873).
14. *Scolia* (*Scolia*) *neglecta* Cyrillo, 1787.
- 15a. *Scolia* (*Scolia*) *hortorum hortorum* Fabricius, 1787.
(= *Scolia interstincta* Klug, 1810, teste Micha, 1927, and Betrem, 1964).
- 15b. *Scolia* (*Scolia*) *hortorum mendica* Klug, 1832, n. stat.
16. *Scolia* (*Scolia*) *funerea* Klug, 1832.
17. *Scolia* (*Scolia*) *persica* Betrem, 1935.
18. *Scolia* (*Scolia*) *concolor* Eversmann, 1849.
19. *Scolia* (*Scolia*) *garrula* Erichson, 1849.
(= *Scolia laeta* Eversmann, 1819; = *Scolia menestriesi* Saussure, 1859).
20. *Scolia* (*Scolia*) *albociliata* Morawitz, 1897.
21. *Scolia* (*Scolia*) *erivanensis* Radoskovsky, 1879.
22. *Scolia* (*Scolia*) *kuehlhorni* Guiglia, 1955, teste Guiglia, 1964.
23. *Scolia* (*Scolia*) *popovi* Steinberg, 1962.
- 24a. *Scolia* (*Scolia*) *erythrocephala erythrocephala* Fabricius, 1798¹⁰).
(= *Scolia erythrocephala barbariae* Betrem, 1935).
- 24b. *Scolia* (*Scolia*) *erythrocephala errans* Betrem, 1964.
(= *Scolia erythrocephala erythrocephala* Betrem, 1935, nec Fabricius).
- 24c. *Scolia* (*Scolia*) *erythrocephala tripolitana* Betrem, 1935, and its var. *krugeri* Betrem, 1935.

¹⁰) The arrangement and synonymy of the subspecies of *S. erythrocephala* has been written by Betrem. It is influenced by a study of the type of *S. erythrocephala* made

- 24d. *Scolia* (*Scolia*) *erythrocephala infusata* Klug, 1832.
- 24e. *Scolia* (*Scolia*) *erythrocephala rutila* Klug, 1832.
- 24f. *Scolia* (*Scolia*) *erythrocephala mangichlakensis* Radoskovsky, 1879.
- 24g. *Scolia* (*Scolia*) *erythrocephala cypria* Saussure, 1854, n. stat., and its varieties: *flaviceps* Eversmann, 1846, n. stat. and *tridens* Saussure, 1854, n. stat.
(= *Scolia orientalis* Saussure, 1856).
- 24h. *Scolia* (*Scolia*) *erythrocephala boeberi* Klug, 1805.
(= *Elis* (*Trielis*) *fedtschenki* Saussure, 1881, n. syn.; = *Scolia dejeani* Van der Linden, 1826).
- 24i. *Scolia* (*Scolia*) *erythrocephala nigrescens* Saussure & Sichel, 1864, and its var. *costana* Guiglia, 1934.
- 24j. *Scolia* (*Scolia*) *erythrocephala kasakhstanica* Steinberg, 1962.
- 24k. *Scolia* (*Scolia*) *erythrocephala quettaensis* Cameron, 1907, and its var. *schmidtii* Betrem, 1927.
- 24l. *Scolia* (*Scolia*) *erythrocephala kuroidai* Matsamura & Uchida, 1926, teste Tsuneki, 1962 (status doubtful).
- 25. *Scolia* (*Scolia*) *deserticola* Steinberg, 1953.
- 26. *Scolia* (*Scolia*) *pubescens* Klug, 1832.
- 27. *Scolia* (*Scolia*) *quadricincta* (Scopoli, 1786).
(= *Scolia trifasciata* Vogrin, 1954, teste Guiglia, 1955).
- 28. *Scolia* (*Scolia*) *potanini* Morawitz, 1889.

Subgenus **Discolia** Saussure

- 1863. *Scolia* (*Discolia*) Saussure, Ann. Soc. Ent. France (4) **3**: 18.
- 1934. Section *Scolioides* Guiglia & Capra, Boll. Soc. Ent. Ital. **66**: 115.
- 1941. Section *Scolioides* Betrem, Notes d'Ent. chinoise **8**: 128.

Type-species: *Scolia nobilitata* Fabricius, 1804, by present designation
= *Scolia* (*Discolia*) *nobilitata* Fabricius.

Diagnosis: As given by Betrem, 1941: 129.

List of species of the subgenus *Discolia* Saussure

The Palearctic and Oriental species are listed in sequence of their relationship and species-group, the African and American species alphabetically.

Palearctic species ¹¹⁾

- 1a. *Scolia* (*Discolia*) *hirta hirta* (Schrank, 1781).
- 1b. *Scolia* (*Discolia*) *hirta unifasciata* Cyrillo, 1787.
- 2. *Scolia* (*Discolia*) *schrenkii* Eversmann, 1846.

by both authors, which has been published in the Spolia Zool. Mus. Hauniensis **21**, 1964.

¹¹⁾ No study has been made of *propodealis* Saunders, 1901 from Algeria.

3. *Scolia* (*Discolia*) *oculata* (Matsumura, 1911).
(= *Scolia pseudounifasciata* Betrem, 1928, teste Uchida, 1933).
4. *Scolia* (*Discolia*) *rufispina* Morawitz, 1889, teste Steinberg.
5. *Scolia* (*Discolia*) *dispar* Klug, 1832.
6. *Scolia* (*Discolia*) *yayeyamensis* Matsumura & Uchida, 1926.
7. *Scolia* (*Discolia*) *miniata* Saussure, 1859.
8. *Scolia* (*Discolia*) *lateralis* Klug, 1832.
9. *Scolia* (*Discolia*) *varicolor* Lucas, 1846.
10. *Scolia* (*Discolia*) *turkestanica* Betrem, 1935.
- 11a. *Scolia* (*Discolia*) *superciliaris superciliaris* Saussure, 1864.
- 11b. *Scolia* (*Discolia*) *superciliaris sauteri* Betrem, 1928.
- 11c. *Scolia* (*Discolia*) *superciliaris staudingeri* Betrem, 1928.
12. *Scolia* (*Discolia*) *nobilis* Saussure, 1858.
- 13a. *Scolia* (*Discolia*) *clypeata clypeata* Sickmann, 1894.
- 13b. *Scolia* (*Discolia*) *clypeata grahami* Betrem, 1941.
- 13c. *Scolia* (*Discolia*) *clypeata pseudovollenhoveni* Betrem, 1933.
(= *Scolia kanoi* Yasumatsu, 1937, n. syn.).
- 13d. *Scolia* (*Discolia*) *clypeata rufohirta* Betrem, 1928.
14. *Scolia* (*Discolia*) *watanabei* (Matsumura, 1912).
15. *Scolia* (*Discolia*) *sinensis* Saussure, 1864.
16. *Scolia* (*Discolia*) *decorata* Burmeister, 1853.
17. *Scolia* (*Discolia*) *minowai* Uchida 1933.
18. *Scolia* (*Discolia*) *luteicornis* Walker, 1871.
- ?19. *Scolia* (*Discolia*) *atrata* Walker, 1871.

Indo-Australian species

20. *Scolia* (*Discolia*) *cyanipennis* Fabricius, 1804.
21. *Scolia* (*Discolia*) *laeviceps* Smith, 1855*¹²⁾.
22. *Scolia* (*Discolia*) *rubrosinuata* Betrem, 1928*.
23. *Scolia* (*Discolia*) *suratensis* Betrem, 1928*.
24. *Scolia* (*Discolia*) *coeruleomicans* Betrem, 1928*.
25. *Scolia* (*Discolia*) *javanica* Betrem, 1928*.
26. *Scolia* (*Discolia*) *huegeli* Betrem, 1928*.
27. *Scolia* (*Discolia*) *gilgitensis* Betrem, 1928*.
28. *Scolia* (*Discolia*) *dunensis* Betrem, 1928*.
29. *Scolia* (*Discolia*) *erratica* Smith, 1855.

12) The placing of some of the Indo-Australian species in the subgenus *Discolia* is presumptive, although in all probability correct. Such species, known only from the female, or else of which the genitalia have not been examined, are designated by an asterisk. New synonymy or status among these species is by Betrem.

30. *Scolia* (*Discolia*) *rugifrons* Betrem, 1928.
31. *Scolia* (*Discolia*) *felderi* Betrem, 1928.
32. *Scolia* (*Discolia*) *maidli* Betrem, 1928.
33. *Scolia* (*Discolia*) *fulvipennis* Smith, 1858.
34. *Scolia* (*Discolia*) *jurinei* Saussure, 1854.
35. *Scolia* (*Discolia*) *nigroantennata* Betrem, 1928.
36. *Scolia* (*Discolia*) *modestoidea* Betrem, 1928.
37. *Scolia* (*Discolia*) *albopubescent* Betrem, 1928*.
38. *Scolia* (*Discolia*) *sumbensis* Betrem, 1928.
39. *Scolia* (*Discolia*) *robinsoni* Bingham, 1903.
40. *Scolia* (*Discolia*) *campsomeriformis* Betrem, 1928*.
(= *Scolia monticola* Betr. 1928, nec Cameron, 1893, n.syn.).
41. *Scolia* (*Discolia*) *patara* Cameron, 1902.
42. *Scolia* (*Discolia*) *apherema* Cameron, 1902*.
43. *Scolia* (*Discolia*) *carmichaeli* Betrem, 1928*.
44. *Scolia* (*Discolia*) *dammermani* Betrem, 1928*.
45. *Scolia* (*Discolia*) *deliensis* Betrem, 1928*.
46. *Scolia* (*Discolia*) *vollenhoveni* Saussure, 1859.
47. *Scolia* (*Discolia*) *rohweri* Betrem, 1928.
48. *Scolia* (*Discolia*) *pseudosinensis* Betrem, 1928*.
49. *Scolia* (*Discolia*) *verticalis* Fabricius, 1775*.
50. *Scolia* (*Discolia*) *schlechteri* Betrem, 1928.
51. *Scolia* (*Discolia*) *bilunata* Saussure, 1958*.
52. *Scolia* (*Discolia*) *trivandrumensis* Betrem, 1928*.
53. *Scolia* (*Discolia*) *aureipenniformis* Betrem, 1928*.
54. *Scolia* (*Discolia*) *elizabethae* Bingham, 1897.
55. *Scolia* (*Discolia*) *formosicola* Betrem, 1928.
56. *Scolia* (*Discolia*) *kangraensis* Betrem, 1928*.
57. *Scolia* (*Discolia*) *obscuropunctata* Betrem, 1928*.
58. *Scolia* (*Discolia*) *kumaonensis* Betrem, 1928*.
59. *Scolia* (*Discolia*) *cruenta* Klug, 1810*.
(= *Scolia sexpustulata* Betrem, 1928, nec Klug, 1805).
60. *Scolia* (*Discolia*) *stizus* Sauss., 1864*.
(= *Scolia berlandi* Betrem, 1928, n. syn., teste Bradley).
61. *Scolia* (*Discolia*) *wagneri* Betrem, 1928*.
62. *Scolia* (*Discolia*) *paradeniyensis* Betrem, 1928*.
63. *Scolia* (*Discolia*) *fichteli* Betrem, 1928*.
64. *Scolia* (*Discolia*) *quadripustulata* Fabricius, 1781.
65. *Scolia* (*Discolia*) *kirbyi* Magretti, 1892*.
66. *Scolia* (*Discolia*) *decorata* Burmeister, 1853.

- 67. *Scolia* (*Discolia*) *sikkimensis* Bingham, 1896*.
- 68. *Scolia* (*Discolia*) *dehraensis* Betrem, 1928*.
- 69. *Scolia* (*Discolia*) *rubrobrunnea* Betrem, 1928.
- 70. *Scolia* (*Discolia*) *punjabensis*, Betrem, 1928.
- 71. *Scolia* (*Discolia*) *pila* Nurse, 1902.
- 72. *Scolia* (*Discolia*) *vivida* Smith, 1855.
- 73. *Scolia* (*Discolia*) *picteti* Saussure, 1854.
(= *Scolia histrionica* Fabricius, 1798, nec *Tiphia histrionica* Fabricius, 1787).
- 74. *Scolia* (*Discolia*) *waterstoni* Betrem, 1928.
- 75. *Scolia* (*Discolia*) *ceylonica* Betrem, 1928.

Ethiopian species ¹³⁾

- 76. *Scolia* (*Discolia*) *abyssinica* Saussure, 1858.
- 77a. *Scolia* (*Discolia*) *affinis affinis* Guérin, 1830.
(= *Scolia aureipennis* Lepeletier, 1845).
- 77b. *Scolia* (*Discolia*) *affinis polita* Saussure, 1858, n. stat.
- 78. *Scolia* (*Discolia*) *alaris* Saussure, 1858.
- 79. *Scolia* (*Discolia*) *ambidens* Saussure, 1892.
- 80. *Scolia* (*Discolia*) *apicalis* Guérin, 1830.
- 81. *Scolia* (*Discolia*) *apicicornis* Guérin, 1830.
- 82. *Scolia* (*Discolia*) *atra* Illiger, 1802.
- 83. *Scolia* (*Discolia*) *bicornis* Saussure, 1858.
- 84. *Scolia* (*Discolia*) *bipennis* Saussure, 1859.
- 85. *Scolia* (*Discolia*) *bohemanii* Saussure, 1859.
- 86. *Scolia* (*Discolia*) *caffra* Saussure & Sichel, 1864.
- 87. *Scolia* (*Discolia*) *chryseis* Kirby, 1889.
- 88. *Scolia* (*Discolia*) *chrysotricha* Burmeister, 1853.
- 89. *Scolia* (*Discolia*) *delagoensis* Gribodo, 1897.
- 90. *Scolia* (*Discolia*) *divalis* Bradley, 1946.
- 91. *Scolia* (*Discolia*) *edwardsi* Saussure, 1858.
- 92. *Scolia* (*Discolia*) *erinnys* Saussure, 1859.
- 93. *Scolia* (*Discolia*) *erythropyga* Burmeister, 1853.
- 94. *Scolia* (*Discolia*) *exilis* Saussure, 1859.
- 95. *Scolia* (*Discolia*) *fasciatopennis* Smith, 1855.
- 96. *Scolia* (*Discolia*) *feae* Guiglia, 1927.
- 97. *Scolia* (*Discolia*) *fraterna* Smith, 1855.

¹³⁾ The placing of certain species in *Discolia* is presumptive but highly probable. The new synonymy and new status noted among African species is to be attributed solely to Bradley.

98. *Scolia* (*Discolia*) *fulvofimbriata* Burmeister, 1853.
99. *Scolia* (*Discolia*) *heterotrichia* Cameron, 1910.
100. *Scolia* (*Discolia*) *heydenii* Saussure, 1891.
101. *Scolia* (*Discolia*) *hottentotta* Saussure, 1858.
102. *Scolia* (*Discolia*) *hova* Saussure, 1891.
103. *Scolia* (*Discolia*) *iridicolor* Smith, 1855.
104. *Scolia* (*Discolia*) *kirbyana* Saussure, 1891.
105. *Scolia* (*Discolia*) *madecassa* Saussure, 1858.
106. *Scolia* (*Discolia*) *megaera* Saussure, 1859.
107. *Scolia* (*Discolia*) *meridionalis* Saussure, 1859.
108. *Scolia* (*Discolia*) *micromelas* Sichel, 1864.
- 109a. *Scolia* (*Discolia*) *morio morio* Fabricius, 1781.
(= *Scolia cyanea* Lepeletier, 1845, n.syn.).
- 109b. *Scolia* (*Discolia*) *morio rufipes* Illiger, 1802, n. stat.
- 109c. *Scolia* (*Discolia*) *morio castanea* Guérin & Percheron, 1834, n. stat.
(= *Scolia longicornis* Lepeletier, 1845, n. stat.).
110. *Scolia* (*Discolia*) *oliveirii* (Radoskovsky, 1881).
111. *Scolia* (*Discolia*) *oryctophaga* Coquerel, 1855.
112. *Scolia* (*Discolia*) *pallidipilosella* Cameron, 1910.
113. *Scolia* (*Discolia*) *perpolita* Turner, 1917.
114. *Scolia* (*Discolia*) *pommeri* Dalla Torre, 1893.
115. *Scolia* (*Discolia*) *praecana* Saussure, 1892.
116. *Scolia* (*Discolia*) *praestabilis* Saussure, 1892.
117. *Scolia* (*Discolia*) *ruficornis* Fabricius, 1793.
(= *Scolia bonaspei* Cameron, 1905, n. syn.; = *Scolia melanaria* Burmeister, 1853, n. syn.).
118. *Scolia* (*Discolia*) *rufipes* Smith, 1844¹⁴), nec Illiger, 1802.
119. *Scolia* (*Discolia*) *saussurei* Sichel, 1864.
120. *Scolia* (*Discolia*) *senex* Smith, 1855.
121. *Scolia* (*Discolia*) *smithii* Saussure & Sichel, 1864.
122. *Scolia* (*Discolia*) *terminalis* Burmeister, 1854.
123. *Scolia* (*Discolia*) *terminalis* Saussure, 1858¹⁵).
124. *Scolia* (*Discolia*) *tessmanni* Turner, 1911.
125. *Scolia* (*Discolia*) *tisiphone* Saussure, 1859.
- 126a. *Scolia* (*Discolia*) *tropica tropica* Saussure, 1858.

14) Further study of the synonymy is necessary before a name may be assigned to this species.

15) Further study of the synonymy is necessary before a name may be assigned to this species.

126b. *Scolia* (*Discolia*) *tropica nigripennis* Saussure, 1859, n. stat.

127. *Scolia* (*Discolia*) *wahlbergii* Saussure, 1859.

American species ¹⁶⁾

128. *Scolia* (*Discolia*) *bicincta* Fabricius, 1775.

129. *Scolia* (*Discolia*) *binominata* Schulz, 1906.

130. *Scolia* (*Discolia*) *consors* Saussure, 1863.

131. *Scolia* (*Discolia*) *decepta* Fox, 1896.

132. *Scolia* (*Discolia*) *dubia* Say, 1837.

133. *Scolia* (*Discolia*) *fuscipennis* Bartlett, 1912.

134. *Scolia* (*Discolia*) *guttata* Burmeister, 1853 and its var. *eximia* Smith, 1855, n. stat.

(= *Scolia hecate* Kirby, 1889).

135. *Scolia* (*Discolia*) *mexicana* Saussure, 1858.

(= *Scolia monticola* Cameron, 1893, n. syn.; = *Scolia* ? *nigrescens* Bartlett, 1912, nec Fox, 1896).

136a. *Scolia* (*Discolia*) *nobilitata nobilitata* Fabricius, 1804.

136b. *Scolia* (*Discolia*) *nobilitata otomita* Saussure, 1858, n. stat.

137. *Scolia* (*Discolia*) ?*versicolor* Saussure, 1859 ¹⁷⁾, nec *Sphex versicolor* Christ, 1791.

138. *Scolia* (*Discolia*) *vintschgauii* Dalla Torre, 1893.

Bradley expects to place the following American species of *Scolia* in new taxa in a forthcoming revision. Therefore they are excluded from the subgenus *Discolia*: *Scolia anceps* Saussure, *S. drewseni* Saussure, *S. jucunda* Saussure, *S. rufiventris* Fabricius, and *S. cubensis* Bartlett.

The African and Malagasy species belonging to other subgenera of *Scolia*, most of which we now rank as genera, have also been treated by Bradley (1959).

Corrections to the first part in Zool. Meded. 39:

434, line 31, "Guiglia, 1934 ..." read: "Guiglia & Capra, 1934 ...",

434, line 32, "*Scolioides* Guiglia ..." read: *Scolioides* Guiglia & Capra ...",

444, line 3, "var. *magnifica* Saussure, 1859." transfer to page 443, under 6a, beyond line 33, "var. *democratica* Micha, 1927.",

444, line 13, "var. *plebeja* Gribodo, 1893, ♂, nec ♀." alter in: "var. *plebeja* Gribodo, 1893, ♀, nec ♂.",

444, line 18, "Gribodo, 1893, ♀ nec ♂." alter in: "Gribodo, 1893, ♂, nec ♀).".

¹⁶⁾ Bradley is responsible for new synonymy noted among American species.

¹⁷⁾ *S. versicolor* Saussure comes from either Brazil or Africa. Further study of the synonymy is necessary before a name can be assigned to it.