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THE DISTRIBUTION AND PHENOLOGY OF THE *SPHECOIDEA* (*HYMENOPTERA, ACULEATA*) SPECIES IN ESTONIA I. THE FAMILIES *AMPULICIDAE, SPHECIDAE, PEMPHREDONIDAE, ASTATIDAE*, AND *LARRIDAE*

Abstract. The distribution and phenology of 58 species of the superfamily *Sphecoidea* in Estonia are presented. Five families — *Ampulicidae* (1 species), *Sphecidae* (5 species), *Pemphredonidae* (33 species), *Astatidae* (5 species), *Larridae* (14 species) are treated. Forty nine species are recorded in Estonia for the first time. New collections and all available historical materials have been revised and checked.

The superfamily *Sphecoidea* has been hitherto poorly investigated in Estonia. According to the literature, only one species — *Bembix rostrata* (L.) has been recorded in Estonia up to the present, with the data as to the collecting time and locality (Sintenis, 1896). Although H. Kawall (1857) mentioned some *Sphecoidea* species occurring in the province of Livonia (whose northern regions make up a part of Estonia today), his work should be regarded as not really Estonian, whereas the materials on which the investigation has been based were probably all collected on the territory of the present-day Latvia. In the list of insects of Ruhnu Island (Luig, Talvi, in press) 21 species of *Sphecoidea* are mentioned, of which nine species belong to the families in question.

The aim of the authors' study is to give detailed information on the distribution and phenology of Estonian *Sphecoidea*. In the present paper (the first in the series) 58 species from five families are considered.

Material and mapping

All available Estonian specimens (a total of 1360) from 116 localities (Fig. 1) were examined. The materials originate from the following collections: Estonian Natural Museum (Tallinn), the Institute of Zoology and Botany (Tartu), Zoological Museum of Tartu University (Tartu), the collections of M. Heidemaa, T. Kesküla, J. Luig, V. Nagirnõi, R. Pedmanson, I. Süda, H. Õunap (all in Tartu), and the collection of P. Tarlap (Saue).

The records of rare species and of all the old material up to 1950 are given in the text. The data taken from the literature and museum catalogues and not indicated on labels, are given in brackets. The collectors' names are given after the number of specimens in parentheses. Forty nine species mentioned as new for Estonia are marked by an asterisk before the species' name. For 25 species the phenograms are produced, separately by males and females. The locality records of 37 more common species have been plotted on the maps of the UTM grid system (squares 50×50 km), marking old records with circles and new records with dots. The radius of a dot corresponds to 10 km and each dot represents one or more localities close to each other.

* Tartu Ülikooli Zooloogiamuuseum (Zoological Museum of Tartu University). Vanemuise 46, EE-2400 Tartu, Estonia.

*1. **Dolichurus corniculus** (Spinola, 1808) (Fig. 2)

Only new material: Viidumäe State Nature Reserve, 7. 8. 1990, 1 ♀ (J. Luig); Palmse, 1. 9. 1991, 1 ♀ (J. Luig); Karula, 28. 7. 1991, 1 ♂ 1 ♀ (J. Luig); Obinitsa, 3. 8. 1990, 1 ♂ (J. Luig).

SPHECIDAE

*2. **Podalonia hirsuta** (Scopoli, 1763) (Fig. 3)

Old material: Livl. (Livland) [the first half of the last century, probably Estonia] 2 ♂ ♂ 2 ♀ ♀ (leg.?); D. (Dorpat = Tartu) 7. 1880, 1 ♂ (F. Sintenis); [Audru] 6,—24. 8. 1896, 5 ♀ ♀ (F. Sintenis); Liiwa (Liiva, in Tallinn) 1 ♂ 1 ♀ (P. Wasmuth); Nõmme, 12. 9. 1912, 1 ♀ (P. Wasmuth); Keila, 20. 7. 1946, 1 ♂ (G. Reindorff).

New material from 35 localities. 67 ♂ ♂ 65 ♀ ♀; phenology (Fig. 39).

3. **Podalonia affinis** (Kirby, 1798) (Fig. 4)

Old material: Livl. (Livland) [the first half of the last century, probably Estonia] 1 ♀; Dorpat (= Tartu) [1875—82] 1 ♂ 3 ♀ ♀ (M. Sagemehl); [Kasaritsa] 27. 7. 1881, 1 ♂, 20. 6. 1882, 1 ♂, 2. 7. 1883, 1 ♀, 22. 6. 1884, 1 ♂ (F. Sintenis); [Audru] 25. 6. 1887, 1 ♀ (F. Sintenis); Estland, 1917, 1 ♂ (leg.?); Puhtu, 16. 8. 1948, 1 ♂ (V. Maavara).

New material from 8 localities. 3 ♂ ♂ 11 ♀ ♀; phenology (Fig. 40).

4. **Podalonia luffii** (Saunders, 1903)

Only new material from Ruhnu Island (Luig, Talvi in press). 1 ♂ (15. 6.), 2 ♀ ♀ (16. 6.—8. 7.).

5. **Ammophila sabulosa** (Linnaeus, 1758) (Fig. 5)

Old material: Livl. (Livland) [the first half of the last century, probably Estonia] 1 ♂ 3 ♀ ♀ (leg.?); Livonia [the second half of the last century, probably Estonia] 4 ♀ ♀ (leg.?); Dorpat (= Tartu) [1875—82] 1 ♂ 1 ♀ (M. Sagemehl); [Mereküla] 1. 9. 1874, 1 ♀, 31. 8. 1875, 1 ♀, 12. 8. 1876, 1 ♀, 7. 7. 1877, 1 ♂, 14.8.—5. 9. 1877, 2 ♀ ♀, 12. 8. 1880, 1 ♀ (B. von Schrenk); [Tartu] 7. 1880, 1 ♀, 18. 6. 1883, 1 ♂ 1 ♀, 10. 6. 1897, 1 ♂ (F. Sintenis); [Kasaritsa] 24. 7.—6. 8. 1881, 4 ♀ ♀, 29. 7. 1882, 1 ♀, 20.—28. 6. 1883, 3 ♂ ♂, 23.—28. 6. 1883, 3 ♀ ♀ (F. Sintenis); [Audru] 17. 7. 1887, 1 ♀ (F. Sintenis); Rappin (= Räpina) [the second half of the last century] 1 ♀ (leg.?); Nõmme [at the beginning of the century] 1 ♂ 1 ♀ (P. Wasmuth); Estland, 1917, 1 ♂ (leg.?); Rutja, 19. 7. 1930, 1 ♀ (G. Sumakov); Klooga, 15. 9. 1935, 1 ♀ (N. Nifontoff); Nehatu, 12. 8. 1948, 1 ♀ (V. Maavara); Valgesoo, 9. 8. 1949, 1 ♀ (V. Maavara); Vääna-Jõesuu, 21. 6. 1950, 1 ♀ (G. Reindorff).

New material from 57 localities. 87 ♂ ♂ 108 ♀ ♀; phenology (Fig. 40).

*6. **Ammophila pubescens** Curtis, 1836 (Fig. 6)

Old material: Livl. (Livland) [the first half of the last century, probably Estonia] 1 ♂ 4 ♀ ♀ (leg.?); Kiddijerw (= Kiidjärve) [1848] 1 ♀ (A. E. Grube); Livonia [the second half of the last century, probably Estonia] 1 ♀ (leg.?); Reval (= Tallinn) [the second half of the last century] 1 ♂ (leg.?); Dorpat (= Tartu) [1875—82] 2 ♂ ♂ (M. Sagemehl); [Kasaritsa] 25.—29. 7. 1881, 6 ♀ ♀, 28.—30. 7. 1882, 3 ♀ ♀, 28. 6. 1883, 3 ♂ ♂ 1 ♀ (F. Sintenis); Nõmme, 19. 6. 1905, 1 ♀ (P. Wasmuth); Kuus-

nõmme, 10. 8. [1924] 1 ♀ (E. Reinwald); Keila, 27. 7. 1946, 2 ♀ ♀ (G. Reindorff); Tartu, 8. 7. 1948, 1 ♀ (V. Maavara); Valgesoo, 9. 8. 1949, 3 ♀ ♀ (V. Maavara, J. Vilbaste).

New material from 35 localities. 48 ♂ ♂ 67 ♀ ♀; phenology (Fig. 40).

PEMPHREDONIDAE

7. **Mimesa equestris** (Fabricius, 1804) (Fig. 7)

Old material: [1803—09, probably Estonia] 1 ♀ (G. A. Germann); Dorpat (= Tartu) [1975—82] 6 ♂ ♂ 3 ♀ ♀ (M. Sagemehl); [Audru] 4. 7. 1887, 1 ♂, 3. 8. 1896, 1 ♀ (F. Sintenis); Ins. Runo (= Ruhnu) 20. 7. 1932, 1 ♂ (G. Sumakov).

New material from 8 localities. 13 ♀ ♀; phenology (Fig. 40).

8. **Mimesa lutaria** (Fabricius, 1787) (Fig. 8)

Only new material from 9 localities, firstly from Ruhnu Island in 1987 (Luig, Talvi in press). 2 ♂ ♂ 24 ♀ ♀; phenology (Fig. 40).

*9. **Mimesa bruxellensis** Bondroit, 1934 (Fig. 9)

Only new material: Variku, 29. 8. 1985, 1 ♀ (J. Luig); Tõravere, 5. 9. 1987, 5 ♀ ♀ (J. Luig); Vaabina, 18. 7. 1988, 2 ♀ ♀ (J. Luig).

*10. **Mimesa bicolor** (Jurine, 1807) (Fig. 10).

Only new material: Viidumäe State Nature Reserve, 14. 7. 1976, 1 ♂ (U. Siitan), 4. 7. 1988, 1 ♂ (K. Elberg); Rõuge, 9. 8. 1957, 1 ♂, 11. 8. 1957, 1 ♀ (G. Reindorff); Piusa, 3. 8. 1990, 1 ♀ (J. Luig).

*11. **Mimumesa unicolor** (van der Linden, 1829)

Old material: [southern part of Estonia] 15. 7. 1885, 1 ♂ (F. Sintenis).

New material: Elva, 28. 7. 1990, 1 ♀ (J. Luig).

*12. **Mimumesa atratina** (F. Morawitz, 1891) (Fig. 11)

Only new material from 8 localities. 2 ♂ ♂ 10 ♀ ♀; phenology (Fig. 40). First record: Poanse, 29. 6. 1986, 1 ♀ (J. Luig).

*13. **Mimumesa dahlbomi** (Wesmael, 1852) (Fig. 12)

Old material: Dorpat (= Tartu) [1875—82] 7 ♂ ♂ 2 ♀ ♀ (M. Sagemehl).

New material from 5 localities. 5 ♂ ♂ 3 ♀ ♀; phenology (Fig. 40).

[*14. **Mimumesa beaumonti** (van Lith, 1949)

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♀ (G. A. Germann).

New material: Tipu, 8. 7. 1985, 1 ♀ (J. Luig).

*15. **Psenulus concolor** (Dahlbom, 1843) (Fig. 13)

Old material: [? Audru] 25. 6. 1899, 1 ♂ (F. Sintenis).

New material Poanse, 13. 6. 1986, 2 ♀ ♀ (J. Luig); Tartu, 21. 6. 1990, 1 ♂ (J. Luig).

16. **Psenulus fuscipennis** (Dahlbom, 1843) (Fig. 14)

Old material: [1803—09, probably Estonia] 1 ♀ (G. A. Germann).

New material from 5 localities. 1 ♂ 12 ♀ ♀; phenology (Fig. 40).

*17. **Psenulus pallipes** (Panzer, 1798) (Fig. 15).

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♀ (G. A. Germann); Dorpat (= Tartu) [1875—82] 9 ♂ ♂ 2 ♀ ♀ (M. Sagemehl); K. (Kasaritsa) 7. 1882, 1 ♀ (F. Sintenis); Tallinn, 25. 6.—5. 7. 1946, 2 ♀ ♀ (G. Reindorff).

New material: Viidumäe State Nature Reserve, 7. 8. 1990, 1 ♀ (J. Luig); Tallinn, 12. 8. 1988, 1 ♀ (J. Luig).

*18. **Psenulus laevigatus** (Schenck, 1857)

Only old material: Dorpat (= Tartu) [1875—82] 1 ♂ 1 ♀ (M. Sagemehl).

*19. **Pemphredon lugubris** (Fabricius, 1793) (Fig. 16)

Old material: Dorpat (= Tartu) [1875—82] 3 ♂ ♂ 1 ♀ (M. Sagemehl); [Audru] 29. 7. 1896, 1 ♀ (F. Sintenis); Vääna-Jõesuu, 25. 7. 1950, 1 ♀ (G. Reindorff).

New material from 9 localities: 2 ♂ ♂ 11 ♀ ♀; phenology (Fig. 40).

*20. **Pemphredon montanus** Dahlbom, 1845 (Fig. 17)

Old material: [Mereküla] 8. 7. 1876, 1 ♀ (B. von Schrenck).

New material from 11 localities. 5 ♂ ♂ 13 ♀ ♀; phenology (Fig. 40).

*21. **Pemphredon lugens** Dahlbom, 1842 (Fig. 18)

Old material: Dorpat (= Tartu) [1875—82] 3 ♂ ♂ 2 ♀ ♀ (M. Sagemehl).

New material from 12 localities. 4 ♂ ♂ 16 ♀ ♀; phenology (Fig. 40).

*22. **Pemphredon beaumonti** Hellén, 1955

Only new material: Lohusalu, 26. 6. 1960, 1 ♀ (G. Reindorff).

*23. **Pemphredon wesmaeli** (A. Morawitz, 1864) (Fig. 19)

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♀ (G. A. Germann); Dorpat (= Tartu) [1875—82] 1 ♀ (M. Sagemehl); Koogi, 13. 6. 1937, 1 ♀ (K. Krausp).

New material from 8 localities. 6 ♂ ♂ 5 ♀ ♀; phenology (Fig. 40).

24. **Pemphredon inornatus** Say, 1824 (Fig. 20)

Old material: [Mereküla] 8. 9. 1875, 1 ♀ (B. von Schrenck); Dorpat (= Tartu) [1875—82] 5 ♂ ♂ 3 ♀ ♀ (M. Sagemehl); [Tartu] 11. 6. 1882, 1 ♂ (F. Sintenis).

New material from 15 localities. 12 ♂ ♂ 8 ♀ ♀; phenology (Fig. 41).

*25. **Pemphredon lethifer** (Shuckard, 1837) (Fig. 21)

Old material: Dorpat (= Tartu) [1875—82] 4 ♂ ♂ 4 ♀ ♀ (M. Sagemehl).

New material from 7 localities. 8 ♂ ♂ 3 ♀ ♀; phenology (Fig. 41).

*26. **Pemphredon clypealis** Thomson, 1870

Old material: Dorpat (= Tartu) [1875—82] 1 ♂ 1 ♀ (M. Sagemehl).

*27. **Diodontus minutus** (Fabricius, 1793) (Fig. 22)

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♀ (G. A. Germann); Dorpat (= Tartu) [1875—82] 7 ♂ ♂ 7 ♀ ♀ (M. Sagemehl).

New material from 10 localities. 29 ♂ ♂ 18 ♀ ♀; phenology (Fig. 41).

*28. **Diodontus tristis** (van der Linden, 1829) (Fig. 23)

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♀ (G. A. Germann); Dorpat (= Tartu) [1875—82] 10 ♀ ♀ (M. Sagemehl).

New material from 8 localities. 27 ♂ ♂ 6 ♀ ♀; phenology (Fig. 41).

29. **Diodontus medius** Dahlbom, 1845 (Fig. 24)

Old material: Dorpat (= Tartu) [1875—82] 2 ♀ ♀ (M. Sagemehl).

New material from 13 localities. 36 ♂ ♂ 71 ♀ ♀; phenology (Fig. 41).

*30. **Passaloecus gracilis** (Curtis, 1834) (Fig. 25)

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♀ (G. A. Germann); Dorpat (= Tartu) [1875—82] 1 ♂ 1 ♀ (M. Sagemehl).

New material from 8 localities. 2 ♂ ♂ 7 ♀ ♀; phenology (Fig. 41).

*31. **Passaloecus eremita** Kohl, 1893

Only new material: Kaika, 8. 7. 1991, 1 ♀ (J. Luig).

*32. **Passaloecus corniger** Shuckard, 1837 (Fig. 26)

Only new material: Vilsandi, 2. 7. 1990, 1 ♀ (M. Heidemaa); Viidumäe State Nature Reserve, 8. 8. 1990, 1 ♀ (J. Luig); Läätsa, 30. 6. 1990, 3 ♂♂ (J. Luig); Palmse, 3. 9. 1991, 1 ♀ (J. Luig); Lüllemäe, 28. 6.—19. 7. 1991, 2 ♂♂ (J. Luig).

*33. **Passaloecus insignis** (van der Linden, 1829)

Only new material: Tartu, 22. 7. 1987, 1 ♀ (M. Heidemaa).

34. **Passaloecus monilicornis** Dahlbom, 1842 (Fig. 27)

Old material: Dorpat (= Tartu) [1875—82] 16 ♂♂ 3 ♀♀ (M. Sagemehl); D. (Dorpat = Tartu) 7. 1880, 1 ♀ (F. Sintenis).

New material from five localities. 1 ♂ 5 ♀♀; phenology (Fig. 41).

*35. **Passaloecus singularis** Dahlbom, 1844 (Fig. 28)

Old material: Dorpat (= Tartu) [1875—82] 3 ♂♂ 1 ♀ (M. Sagemehl).

New material from 13 localities. 10 ♂♂ 14 ♀♀; phenology (Fig. 41).

*36. **Passaloecus clypealis** Faester, 1947

Only new material: Salme, 27. 6. 1990, 1 ♂ (J. Luig); Vahase Islet, 5. 7. 1990, 1 ♀ (K. Elberg).

*37. **Stigmus solskyi** A. Morawitz, 1864

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♂ (G. A. Germann); Dorpat (= Tartu) [1875—82] 3 ♂♂ 10 ♀♀ (M. Sagemehl).

New material: Viidume LK, 8. 8. 1990, 1 ♀ (J. Luig); Tartu, 14. 9. 1989, 1 ♀, 22. 7. 1990, 5 ♂♂ 2 ♀♀, 22. 8. 1991, 3 ♀♀ (J. Luig).

*38. **Spilomena differens** Blüthgen, 1953

Only new material: Viidumäe State Nature Reserve, 8. 8. 1990, 1 ♀ (J. Luig).

*39. **Spilomena vagans** Blüthgen, 1953

Only old material: Dorpat (= Tartu) [1875—82] 2 ♂♂ 4 ♀♀ (M. Sagemehl); [Kasaritsa] 12. 7. 1883, 2 ♀♀ (F. Sintenis).

ASTATIDAE

*40. **Astata boops** (Schrank, 1781)

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♂ (G. A. Germann).

New material: Sulbi, 22. 7. 1973, 1 ♀ (H. Remm).

*41. **Astata minor** Kohl, 1885

Only new material: Sviby, 15. 8. 1991, 1 ♀ (A. and J. Luig).

*42. **Dryudella stigma** (Panzer, 1809) (Fig. 29)

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♀ (G. A. Germann).

New material: Ruhnu, 15. 6. 1990, 1 ♂ (A. Tamm); Lohusalu, 3. 7. 1960, 1 ♂ (G. Reindorff); Kauksi, 5. 8. 1990, 1 ♂ (V. Nagirnõi).

*43. **Drydella pinguis** (Dahlbom, 1832) (Fig. 30)

Old material: Dorpat (= Tartu) [1875—82] 1 ♀ (M. Sagemehl).

New material: Läätsa, 30. 6.—6. 7. 1990, 2 ♀♀ (J. Luig); Vatla, 26. 6. 1987, 1 ♂ (J. Luig); Vääna-Jõesuu, 30. 6. 1957, 1 ♂ (G. Reindorff); L. Aheru, Kantsi, 2. 7. 1991, 1 ♂ 1 ♀ (J. Luig).

*44. **Dinetus pictus** (Fabricius, 1793)

Old material: [1803—09, probably Estonia] 1 ♀ (G. A. Germann); Dorpat (= Tartu) [1875—82] 12 ♂♂ 6 ♀♀ (M. Sagemehl).

New material: Vellavere, 22. 7. 1989, 1 ♀ (J. Luig).

LARRIDAE

*45. **Tachysphex obscuripennis** (Schenck, 1857) (Fig. 31)

Old material: [Kasaritsa] 30. 7. 1883, 1 ♀ (F. Sintenis).

New material from 8 localities. 17 ♂♂ 6 ♀♀; phenology (Fig. 41).

*46. **Tachysphex pompiliformis** (Panzer, 1804) (Fig. 32)

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♂ 1 ♀ (G. A. Germann); Dorpat (= Tartu) [1875—82] 4 ♂♂ 6 ♀♀ (M. Sagemehl); [Kasaritsa] 28. 6. 1883, 1 ♀ (F. Sintenis); [Tartu] 11. 6. 1886, 1 ♂ (F. Sintenis).

New material from 9 localities. 9 ♂♂ 21 ♀♀; phenology (Fig. 41).

*47. **Tachysphex nitidus** (Spinola, 1805)

Only new material: Vääna-Jõesuu, 21. 6. 1953, 1 ♀ (G. Reindorff); Lohusalu, 29. 5. 1960, 1 ♀ (G. Reindorff).

*48. **Tachysphex helveticus** Kohl, 1885

Only new material: Läätsa, 30. 6. 1990, 1 ♂ 1 ♀ (J. Luig); Vääna-Jõesuu, 6. 8. 1951, 1 ♀ (G. Reindorff).

*49. **Tachysphex psammobius** (Kohl, 1880)

Only new material: Salme, 29. 6. 1990, 1 ♀ (leg.?); Läätsa, 30. 6. 1990, 1 ♀ (J. Luig).

*50. **Miscophus ater** Lepeletier, 1845 (Fig. 33)

Only new material: Viidumäe State Nature Reserve, 8. 8. 1990, 3 ♀♀ (J. Luig); Läätsa, 30. 6.—6. 7. 1990, 2 ♀♀ (J. Luig); Vääna-Jõesuu, 29. 8. 1956, 1 ♀ (G. Reindorff); Kauksi, 5. 8. 1990, 2 ♀♀ (V. Nagirnõi); Tartu, 1. 7. 1990, 1 ♀ (V. Nagirnõi); Veski railway station, 2. 8. 1990, 1 ♀ (J. Luig);

*51. **Miscophus concolor** Dahlbom, 1844

Only old material: Dorpat (= Tartu) [1875—82] 1 ♀ (M. Sagemehl).

*52. **Nitela borealis** Valkeila, 1974

Only old material: Dorpat (= Tartu) [1875—82] 1 ♂ (M. Sagemehl).

*53. **Trypoxylon figulus** (Linnaeus, 1758) (Fig. 34)

Old material: Livl. (Livland) [the first half of the last century, probably Estonia] 3 ♀♀ (leg.?); Dorpat (= Tartu) [1875—82] 6 ♂♂ 1 ♀ (M. Sagemehl); D. (Dorpat = Tartu) 5. 1882, 1 ♀, 25. 5. 1886, 1 ♂ (F. Sintenis).

New material from 11 localities. 22 ♂♂ 12 ♀♀; phenology (Fig. 41).

*54. **Trypoxylon minus** de Beaumont, 1945 (Fig. 35)

Old material: Dorpat (= Tartu) [1875—82] 2 ♂♂ (M. Sagemehl).

New material: Viidumäe State Nature Reserve, 14. 7. 1990, 1 ♂, 8. 8. 1990, 1 ♀ (J. Luig); Vintri, 1. 7. 1990, 1 ♂ (J. Luig); Kübassaare, 23. 6. 1976, 1 ♂ (U. Siitan); Karisöödi, 12. 6. 1989, 2 ♂♂ (J. Luig).

*55. **Trypoxylon medium** de Beaumont, 1945 (Fig. 36)

Only new material: Salme, 2. 7. 1990, 1 ♀ (J. Luig); Häädemeeste, 4. 6. 1990, 1 ♂ (K. Elberg); Tõravere, 22. 6. 1990, 1 ♀ (J. Luig); Piusa, 3. 8. 1990, 1 ♀ (J. Luig).

*56. **Trypoxylon clavicerum** Lepeletier et Serville, 1828 (Fig. 37)

Old material: Dorpat (= Tartu) [1875—82] 3 ♂ ♂ (M. Sagemehl); [Audru] 10. 7. 1886, 1 ♀ (F. Sintenis).

New material from 6 localities. 12 ♀ ♀; phenology (Fig. 41).

*57. **Trypoxylon attenuatum** Smith, 1851

Only new material: Veski railway station, 2. 8. 1990, 1 ♀ (J. Luig).

*58. **Trypoxylon deceptorium** Antropov, 1991 (Fig. 38)

Old material: Dorp. (Dorpat = Tartu) [1803—09] 1 ♀ (G. A. Germann); [Kasaritsa] 20. 6. 1883, 1 ♂ (F. Sintenis); [Audru] 27. 6. 1886, 1 ♀, 28. 6. 1887, 1 ♂, 8.—30. 7. 1886, 2 ♂, 25. 7. 1886, 1 ♀ (F. Sintenis).

New material: Ruhve, 17. 7. 1986, 1 ♀ (K. Elberg); Sõmerpalu, 28. 7. 1960, 1 ♀ (H. Kopvillem).

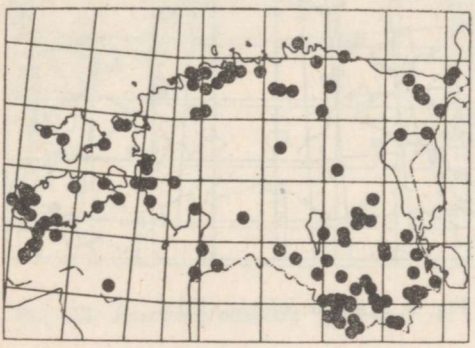

Fig. 1. The distribution of collecting localities.

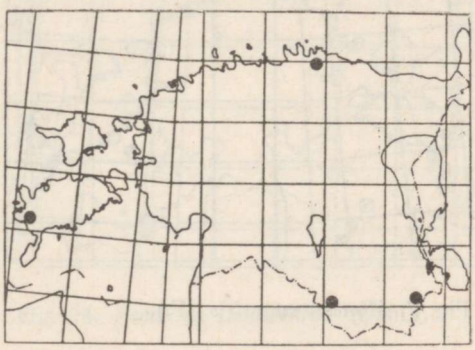

Fig. 2. *Dolichurus corniculus* (Spin.).

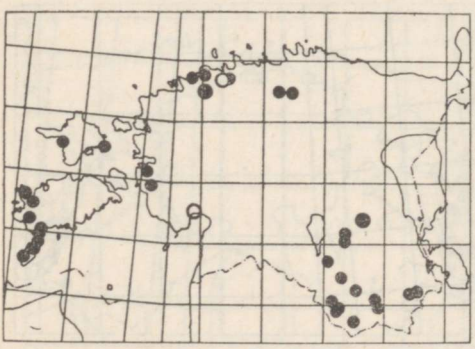

Fig. 3. *Podalonia hirsuta* (Scop.).

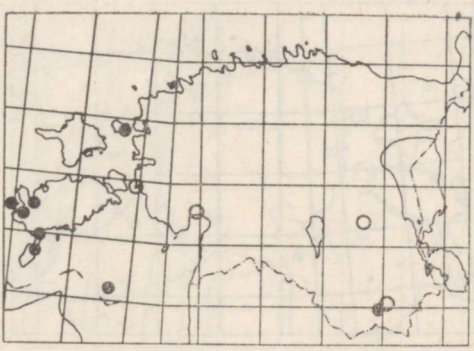

Fig. 4. *Podalonia affinis* (Kirby).

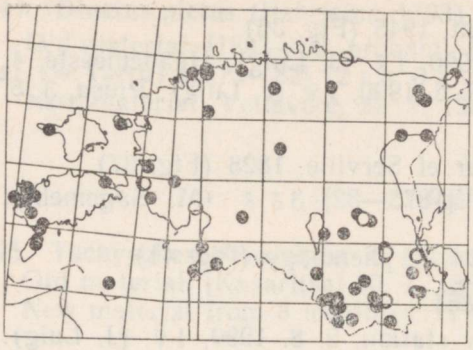

Fig. 5. *Ammophila sabulosa* (L.)

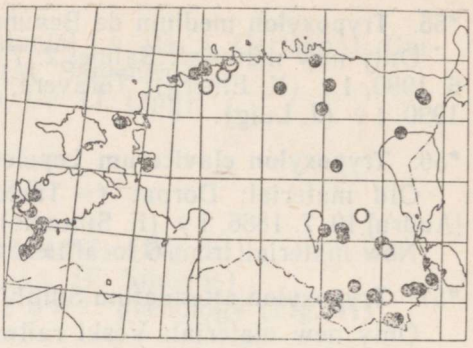

Fig. 6. *Ammophila pubescens* Curt.

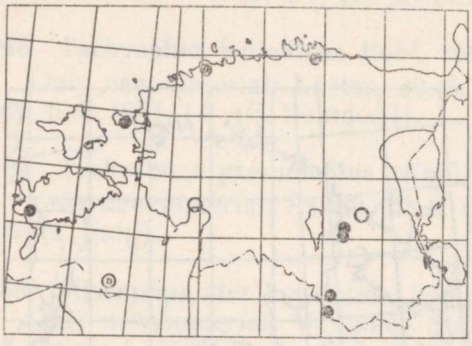

Fig. 7. *Mimesa equestris* (F.)

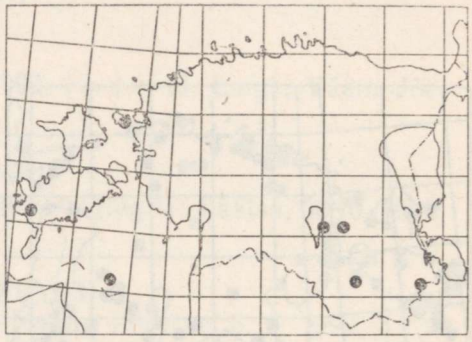

Fig. 8. *Mimesa lutaria* (F.)

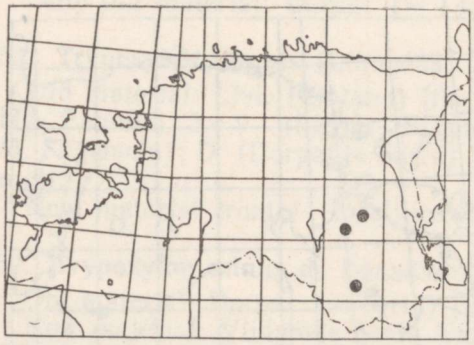

Fig. 9. *Mimesa bruxellensis* Bondr.

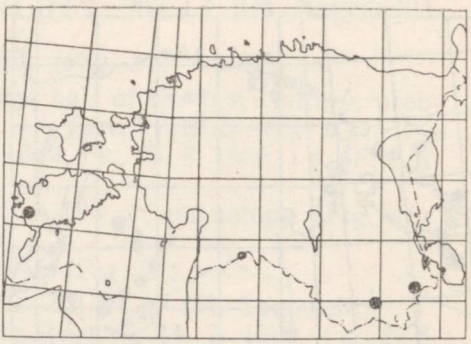

Fig. 10. *Mimesa bicolor* (Jur.).

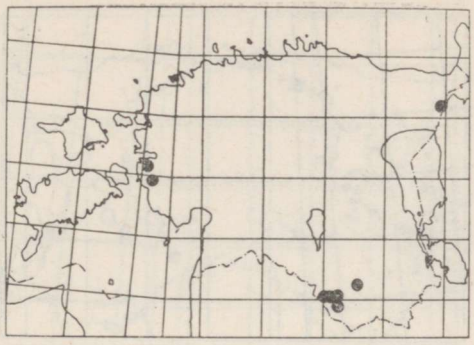

Fig. 11. *Mimumesa atratina* (F. Mor.).

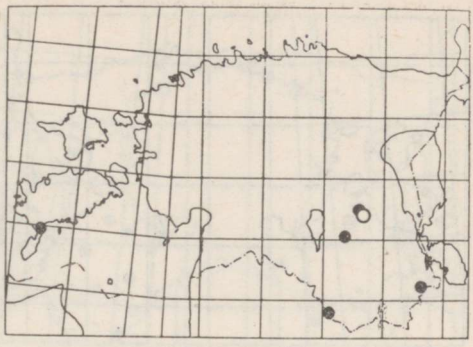

Fig. 12. *Mimumesa dahlbomi* (Wesm.).

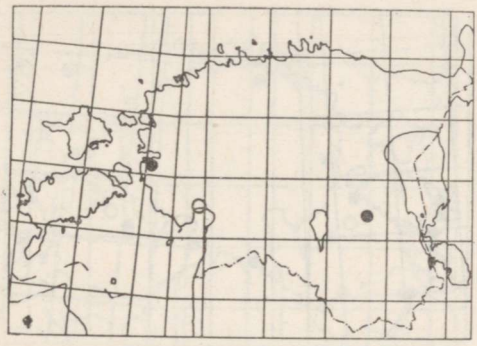

Fig. 13. *Psenulus concolor* (Dahl.).

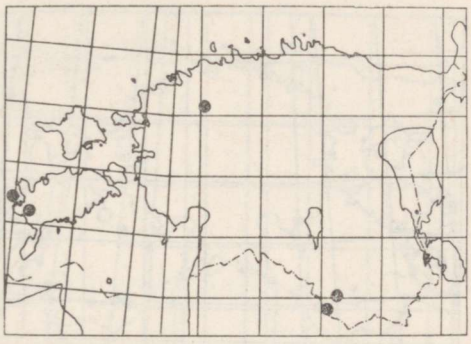

Fig. 14. *Psenulus fuscipennis* (Dahl.).

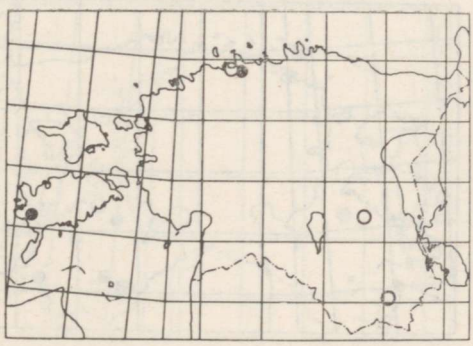

Fig. 15. *Psenulus pallipes* (Pz.).

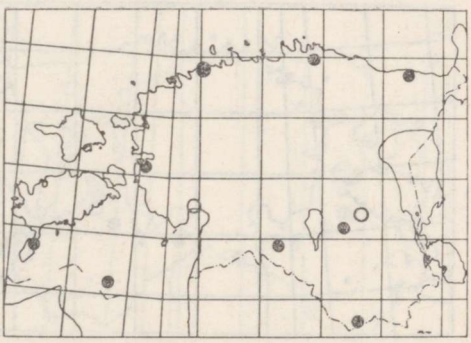

Fig. 16. *Pemphredon lugubris* (F.).

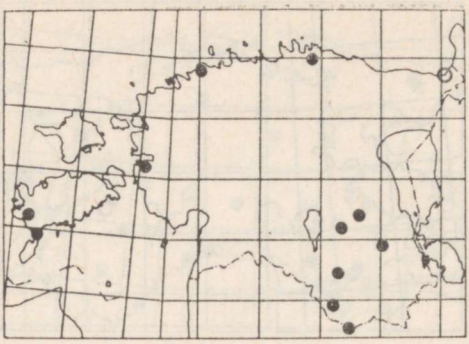

Fig. 17. *Pemphredon montanus* Dahl.

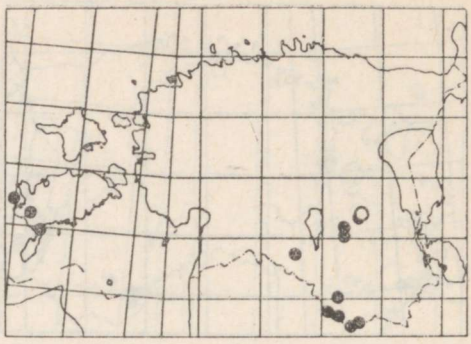

Fig. 18. *Pemphredon lugens* Dahl.

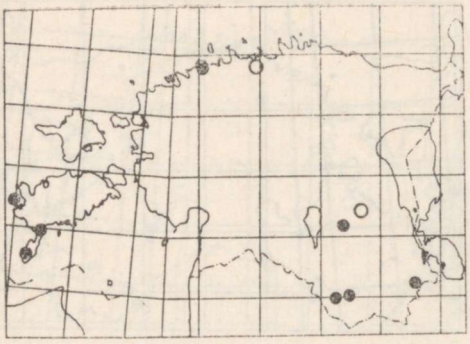

Fig. 19. *Pemphredon wesmaeli* (A. Mor.).

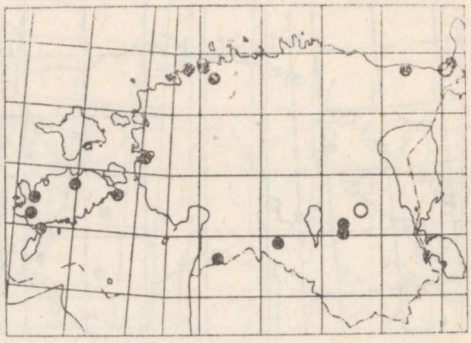

Fig. 20. *Pemphredon inornatus* Say.

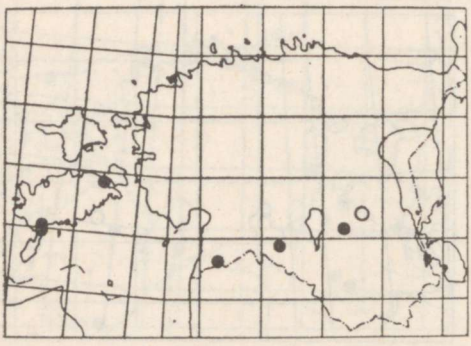

Fig. 21. *Pemphredon lethifer* (Shuck.).

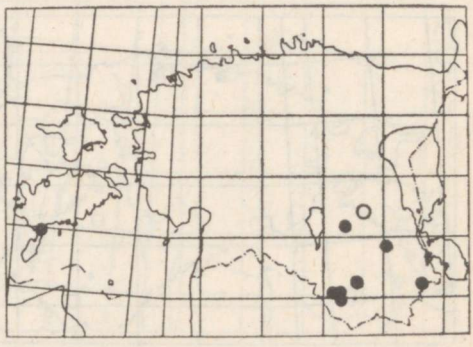

Fig. 22. *Diodontus minutus* (F.).

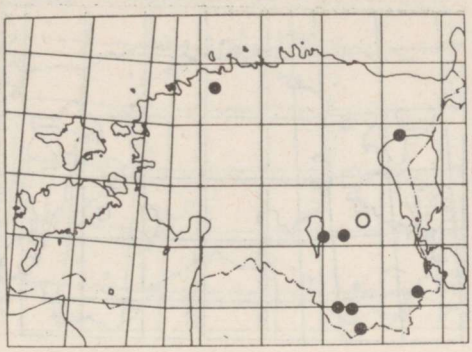

Fig. 23. *Diodontus tristis* (van der Linden).

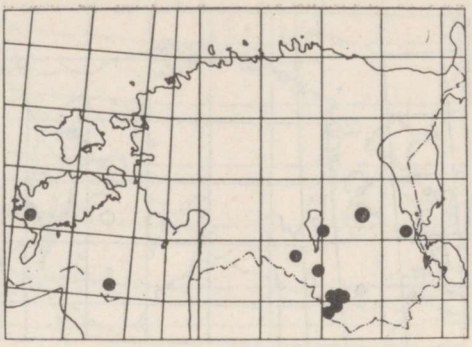

Fig. 24. *Diodontus medius* Dahl.

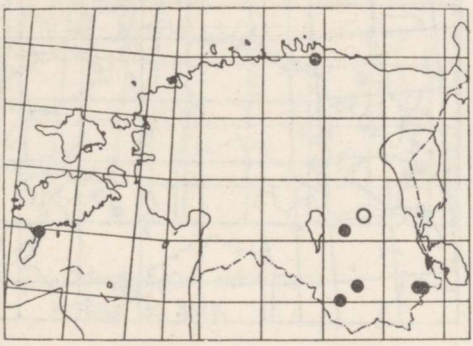

Fig. 25. *Passaloecus gracilis* (Curt.).

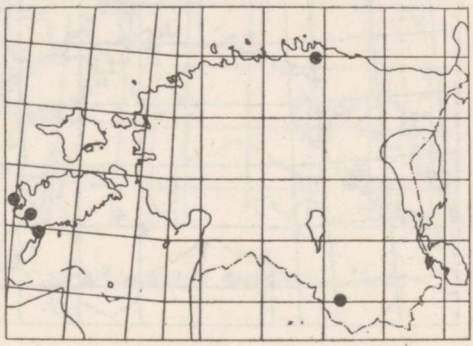

Fig. 26. *Passaloecus corniger* Shuck.

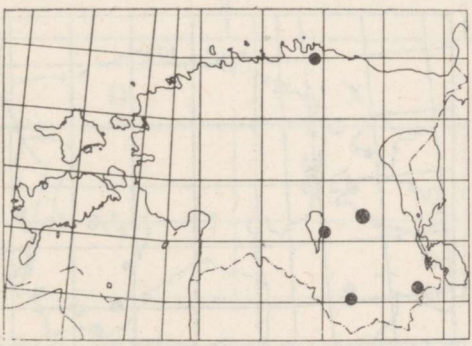

Fig. 27. *Passaloecus monilicornis* Dahl.

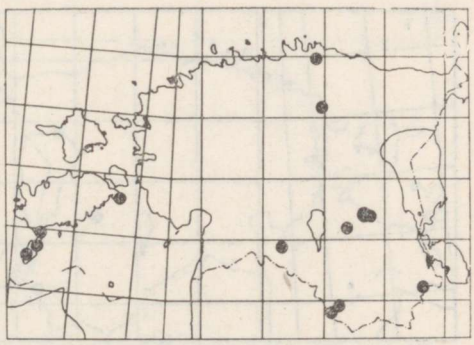

Fig. 28. *Passaloecus singularis* Dahl.

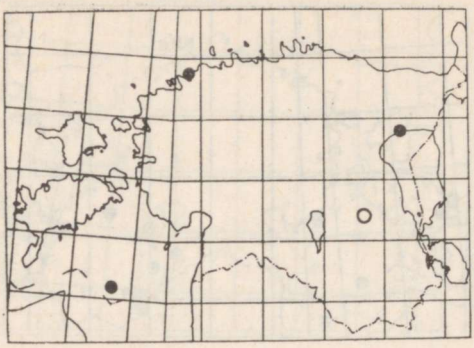

Fig. 29. *Dryudella stigma* (Pz.).

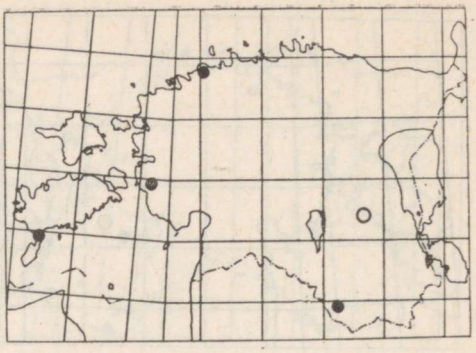

Fig. 30. *Dryudella pinguis* (Dahl.).

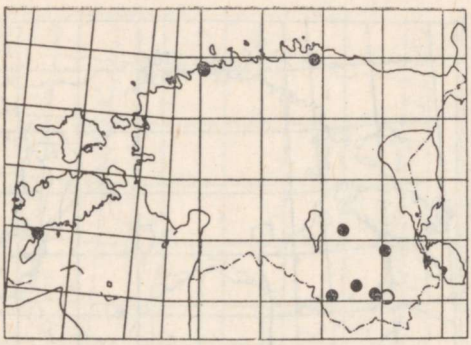

Fig. 31. *Tachysphex obscuripennis* (Schenck).

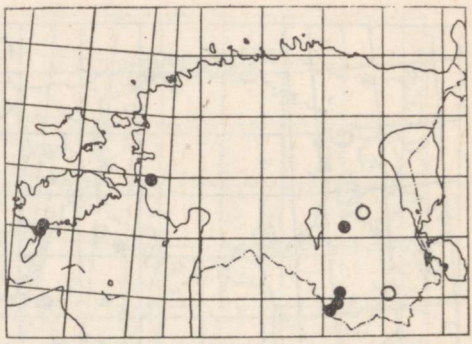

Fig. 32. *Tachysphex pompiliformis* (Pz.).

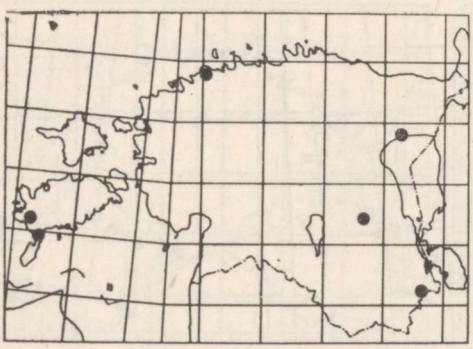

Fig. 33. *Miscophus ater* Lep.

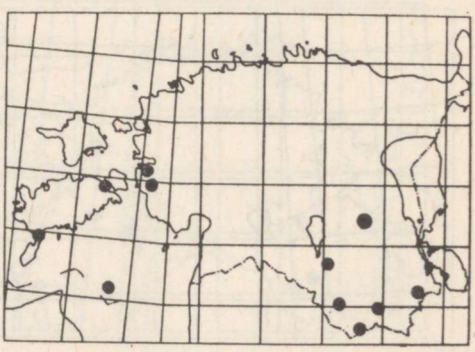

Fig. 34. *Trypoxylon figulus* (L.).

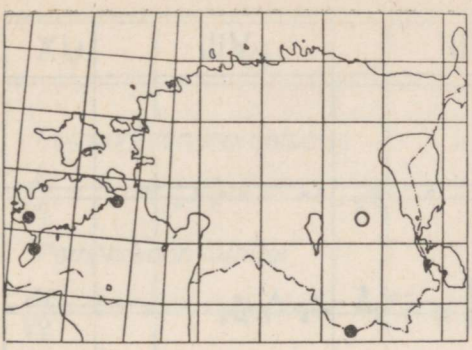

Fig. 35. *Trypoxylon minus* de Beaumont.

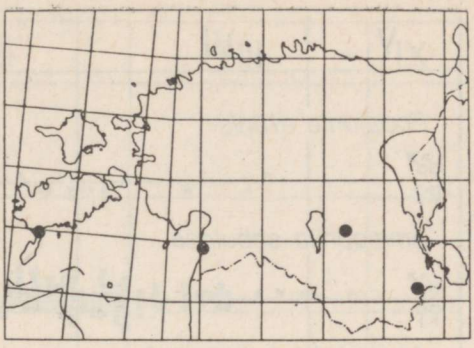

Fig. 36. *Trypoxylon medium* de Beaumont.

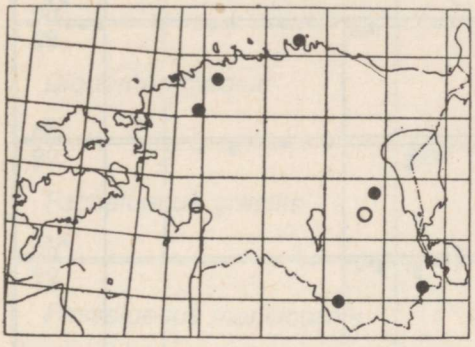

Fig. 37. *Trypoxylon clavicerum* Lep. et Serv.

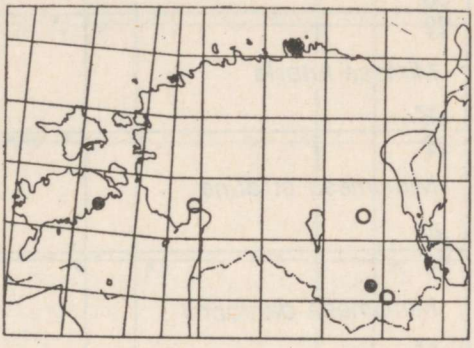

Fig. 38. *Trypoxylon deceptorium* Antr.

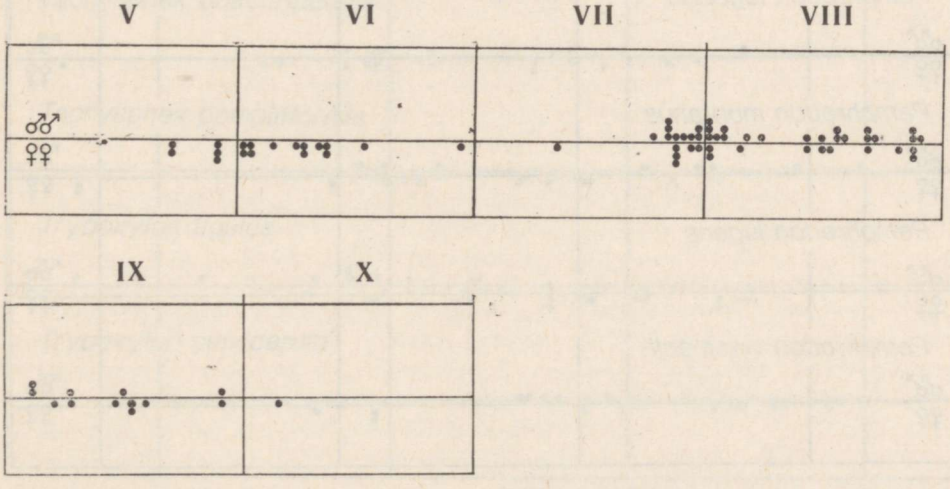

Fig. 39. Collecting dates of *Podalonia hirsuta* (Scop.) in Estonia from the last four decades. One dot designates one or more specimens collected in one locality.

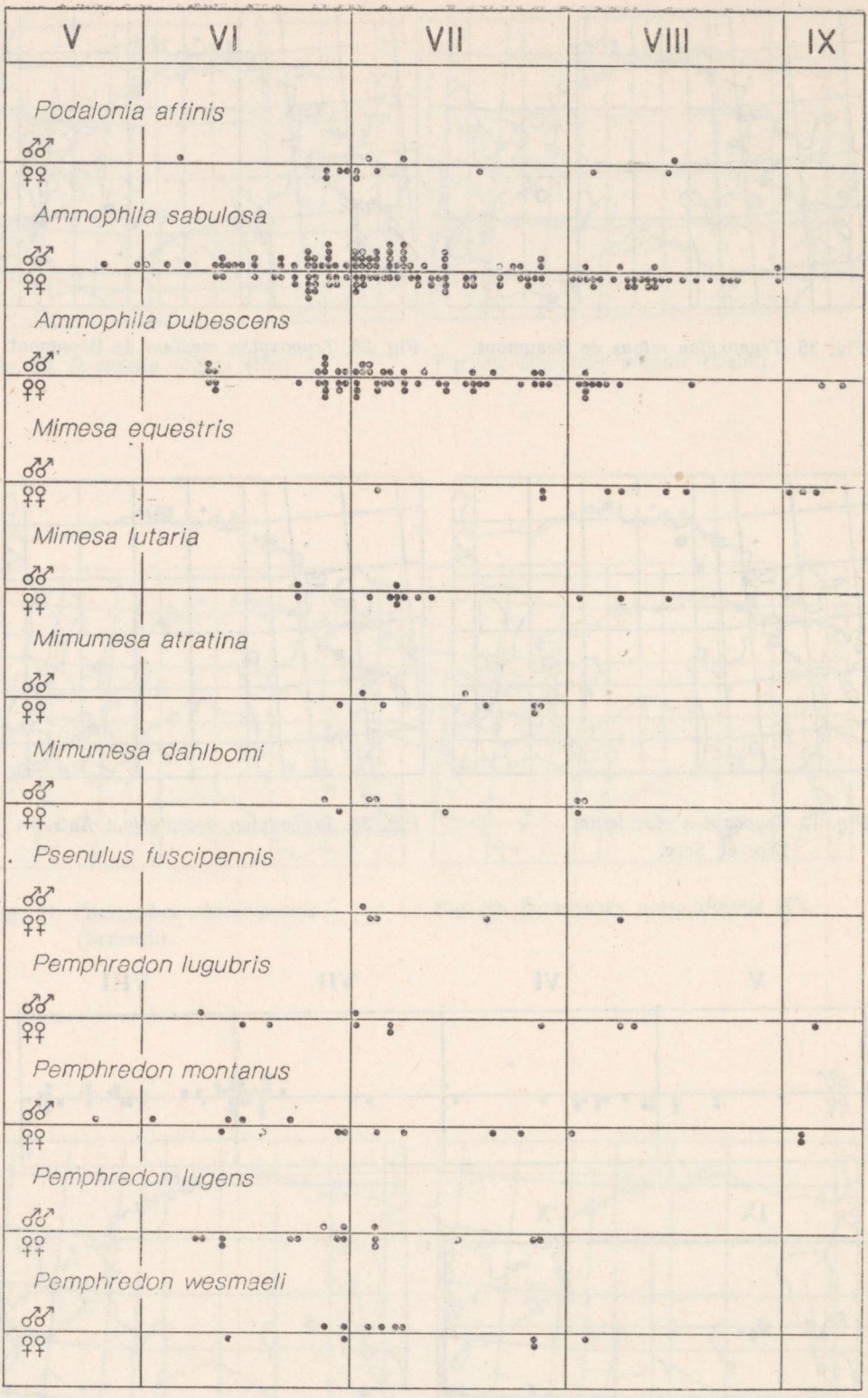

Fig. 40. Collecting dates for *Sphecoidea* species in Estonia from the last four decades. One dot in the column designates one or more specimens collected in one locality.

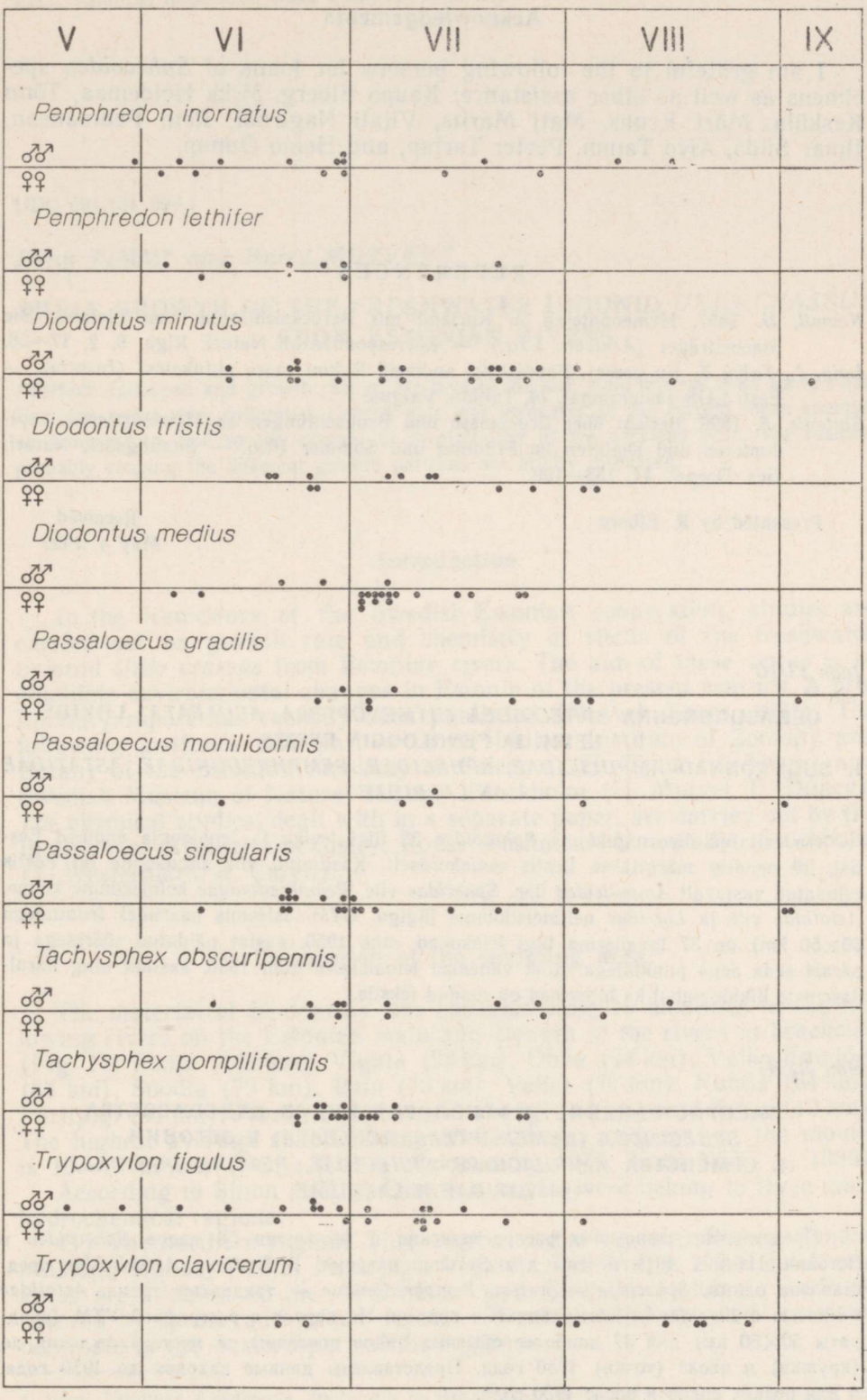

Fig. 41. Dates for *Sphecoidea* species collected in Estonia during the last four decades. One dot in the column designates one or more specimens collected in one locality.

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I am grateful to the following persons for loans of *Sphecoidea* specimens as well as other assistance: Kaupo Elberg, Mikk Heidemaa, Tõnu Kesküla, Märt Kruus, Mati Marits, Vitali Nagirnõi, Rein Pedmanson, Ilmar Süda, Aivo Tamm, Peeter Tarlap, and Heino Õunap.

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Received
May 4, 1992

Jaan LUIG

ÜLEMSUGUKONNA *SPHECOIDEA (HYMENOPTERA, ACULEATA)* LIIKIDE LEVIK JA FENOLOOGIA EESTIS

1. SUGUKONNAD *AMPULICIDAE, SPHECIDAE, PEMPHREDONIDAE, ASTATIDAE* JA *LARRIDAE*

On esitatud ülemsugukonna *Sphecoidea* 58 liigi leviku ja fenoloogia andmed Eestist, 49 nendest märgitakse Eestis esmakordselt. Käsitletud viis sugukonda on Eestis esindatud vastavalt *Ampulicidae* ühe, *Sphecidae* viie, *Pemphredonidae* kolmekümne kolme, *Astatidae* viie ja *Larridae* neljateistkümne liigiga. UTM-süsteemis kaartidel (ruutudega 50×50 km) on 37 tavalisema liigi leiukohad enne 1950. aastat näidatud sõõridega ja pärast seda aega punktidega. Kõik vanemad leiuandmed kuni 1950. aastani ning haruldasemate liikide puhul ka hilisemad on toodud tekstis.

Яан ЛУЙГ

РАСПРОСТРАНЕНИЕ И ФЕНОЛОГИЯ ВИДОВ НАДСЕМЕЙСТВА *SPHECOIDEA (HYMENOPTERA, ACULEATA)* В ЭСТОНИИ

I. СЕМЕЙСТВА *AMPULICIDAE, SPHECIDAE, PEMPHREDONIDAE, ASTATIDAE* И *LARRIDAE*

Представлены данные о распространении и фенологии 58 видов *Sphecoidea* в Эстонии. Из них 49 отмечены для Эстонии впервые. В Эстонии *Ampulicidae* представлена одним, *Sphecidae* — пятью, *Pemphredonidae* — тридцатью тремя, *Astatidae* — пятью и *Larridae* — четырнадцатью видами. На картах с разграфкой УТМ (квадраты 50×50 км) для 37 наиболее обычных видов показаны их местонахождения до (кружки) и после (точки) 1950 года. Представлены данные находок до 1950 года, а для редких видов и после 1950 года.