

Faunistics of the Tephritidae (Diptera) of the Iberian Peninsula and the Balears

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Faunistics of the Tephritidae (Diptera) of the Iberian Peninsula and the Balears

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An updated checklist of the Tephritidae fauna of the Iberian Peninsula (Andorra, Portugal, Spain), including the Balears, is given. Based on the examination of almost 1000 specimens, new distribution records are presented for these regions. Literature references are listed for all previously reported species. Currently, 104 species are known from mainland Spain, 25 species from the Balears, 22 species from mainland Portugal, and 35 species from Andorra.

Keywords: Diptera, Tephritidae, Fauna, Spain, Portugal, Andorra

INTRODUCTION

The Tephritidae is a large family of acalyprate Diptera with over 4300 species known worldwide. Some species are economically important because of the high damage they may cause in fruit plantations. Other species are important agents in programs of biological control against weed (WHITE & ELSON-HARRIS 1992). Their pretty appearance and remarkable behaviour have attracted the attention of many scientists (ALUJA & NORRBOM 2000). Despite their economical and ecological interest, taxonomic and faunistic studies are still rather scarce. As for many other families of flies, the Tephritids are best known in the Western Palaearctic region, but this is only true for the Central and Northern parts of Europe. The fauna of many Mediterranean countries is still rudimentarily studied. In the following paper, our knowledge of the Tephritidae of the Iberian Peninsula (Andorra, Portugal, Spain), including the Balears, is updated. In addition to all reliable literature records, the list presents new distribution data for many species. The fauna of the Macaronesian islands is not included here because it was treated by MERZ (1992) for the Canary Islands and by DIRLBEK & OHM (1982) for Madeira and the Azores.

MATERIALS

The material from the following collections was studied: cBVA, collection Bob VAN AARTSEN, t'Harde (Netherlands); cJS = collection John SMIT, Arnhem (Netherlands); cMCT = collection Miguel CARLES-TOLRÀ, Barcelona (Spain); MHNG = Muséum d'Histoire Naturelle Genève (Switzerland); SMNS = Staatliches Museum für Naturkunde, Stuttgart (Germany); ZMAN = Zoological Museum, Amsterdam (Netherlands).

FAUNISTIC DATA

The species are arranged in alphabetical order within the two subfamilies known from Europe. The nomenclature generally follows NORRBOM et al. (1998).

Exceptions are that *Goniglossum* RONDANI is considered as a valid genus, not as a synonym of *Carpomya* COSTA; *Inuromaesa* KORNEYEV & WHITE is treated as a distinct genus, and *Myopites stylatus* (FABRICIUS) is a junior homonym replaced by *M. limbardae* SCHINER (FREIDBERG & NORRBOM 2000); and *Urelliosoma* HENDEL is a synonym of *Trupanea* SCHRANK (MERZ 2000a).

Subfamily Trypetinae

1. *Anomoia purmunda* (HARRIS, 1780) - SPAIN (CARLES-TOLRÀ 1997).
2. *Bactrocera oleae* (GMELIN, 1790) - SPAIN (MIHALYI 1969, CARLES-TOLRÀ 1997). BALEARES: Mallorca, Palma Nova, 7.-20.II.1972, Gravestein, 1 ♀ (cBVA). **New to the Balears.** PORTUGAL (WHITE & ELSON-HARRIS 1992).
3. *Carpomya schineri* (LOEW 1856) - SPAIN: Barcelona, Vilassar de Dalt, 30.VII.-5.VIII.1995, Jara, 1 ♀ (cMCT). **New to Spain.**
4. *Ceratitis capitata* (WIEDEMANN, 1824) - SPAIN (MIHALYI 1969, CARLES-TOLRÀ 1997). BALEARES: Mallorca, Alcudia, 12.X.1967, Gravestein, 1 ♂, 1 ♀; Puerto de Pollensa, 30.X.1968, Gravestein, 3 ♂; 29.IX.-5.X.1974, Gravestein, 1 ♀; 1.X.1967, Gravestein, 1 ♂ (cBVA). **New to the Balears.** PORTUGAL (WHITE & ELSON-HARRIS 1992).
5. *Chetostoma curvinerve* RONDANI, 1856 - SPAIN (CARLES-TOLRÀ 1997, Merz 1997).
6. *Chetostoma stackelbergi* (ROHDENDORF, 1955) - SPAIN: Molina, Clot de l'Hospital, sobre la nieve, 1860m, 14.II.1998, CARLES-TOLRÀ, 3 ♂, 1 ♀ (cMCT, MHNG). **New to Spain.**
7. *Euleia heraclei* (LINNAEUS, 1758) - SPAIN (HERING 1934, SÉGUY 1934, MIHALYI 1969, CARLES-TOLRÀ 1997).
8. *Goniglossum wiedemanni* (MEIGEN, 1826) - SPAIN: Hoyos de Collado, Sierra de Gredos, 6.VI.1983, Teunissen, 1 ♀ (cBVA). **New to Spain.**
9. *Hemilea dimidiata* (O. COSTA, 1844) - SPAIN (NORRBOM et al. 1998).
10. *Myoleia lucida* (FALLÉN, 1826) - ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1 ♀ (cBVA). **New to Andorra.**
11. *Philophylla caesio* (HARRIS, 1780) - SPAIN (CARLES-TOLRÀ 1997). ANDORRA: Santa Coloma, IX.1992, Pujade, 1 ♀ (cMCT). **New to Andorra.**
12. *Rhagoletis alternata* (FALLÉN, 1814) - ANDORRA: Santa Coloma, VIII.1992, Pujade, 1 ♀ (cMCT). **New to Andorra.**
13. *Rhagoletis batava* HERING, 1958 - SPAIN: Teruel, Sierra Alta, 1000-1800m, 26.VII.1965, van der Goot, 1 ♀; Teruel, Aguas Amaguas, 1620m, 29.VII.1965, Lucas, 1 ♀ (cBVA). **New to Spain.**
14. *Rhagoletis cerasi* (LINNAEUS, 1758) - SPAIN (WHITE & ELSON-HARRIS 1992). PORTUGAL (WHITE & ELSON-HARRIS 1992). ANDORRA: without further data, 1 ♀ (cMCT). **New to Andorra.**
15. *Rhagoletis meigenii* (LOEW, 1844) - SPAIN: Granada, Emb. de Quentos, 23.V.1986, Gijswijt, 3 ♀ (cBVA, ZMAN). **New to Spain.**
16. *Rhagoletis zernyi* HENDEL, 1927 - SPAIN (MERZ & BLASCO-ZUMETA 1995).
17. *Trypeta artemisiae* (FABRICIUS, 1794) - SPAIN: Catal. Pyr., Puigcerda, Cerdanya, 1200m, 16.VII.1996, Smit, 1 ♀ (cJS). **New to Spain.**
18. *Trypeta zoe* MEIGEN, 1826 - SPAIN: Alicante, La Marina, 30.V.1993, Wolschrijn, 1 ♀ (cBVA). **New to Spain.**

Subfamily Tephritinae

19. *Acanthiophilus helianthi* (ROSSI, 1794) - SPAIN (HERING 1934, SÉGUY 1934, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997). BALEARES: Ibiza, Punta Arabi, 30.VI.1988 & 28.VI.1989, CARLES-TOLRÀ, 1 ♂, 2 ♀ (cMCT); Monasterio de Lluch, 500m, 19.VIII.1969, Ellis, 5 ♂, 8 ♀ (ZMAN). **New to the Balears.** PORTUGAL (NORRBOM et al., 1998). ANDORRA: Santa Coloma, VIII.1992, Pujade, 1 ♀ (cMCT). **New to Andorra.**
20. *Aciura coryli* (ROSSI, 1794) - SPAIN (HERING 1934, MIHALYI 1969, CARLES-TOLRÀ 1997). ANDORRA: Santa Coloma, 16.VI.-31.VIII.1993, Pujade, 3 ♀ (cMCT); San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1 ♀ (cBVA). **New to Andorra.**
21. *Actinoptera espinensis* HERING, 1934 - SPAIN (HERING 1934).
22. *Actinoptera filiginis* LOEW, 1862 - SPAIN (MIHALYI 1969).
23. *Actinoptea meigeni* HENDEL, 1927 - SPAIN: Almeria, Gergal, gall on *Helichrysum serotinum*, 6.V.1990, 1 ♀ (cBVA); Andalucia, Cabo Trafalger, 19.IV.1989, Merz, 3 ♂, 1 ♀ (MHNG). **New to Spain.** PORTUGAL: Algarve, Alcaria, 13km N Castro Marim, 25.IV.1999, Gijswijt, 1 ♀ (cBVA). **New to Portugal.**

24. *Asimoneura stroblii* CZERNY, 1909 - SPAIN (WHITE & KORNEYEV 1989).
25. *Campiglossa freidbergi* MERZ, 2000 - SPAIN (MERZ 2000b).
26. *Campiglossa irrorata* (FALLÉN, 1814) - ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1 ♂ (cBVA). **New to Andorra.**
27. *Campiglossa martii* (BECKER, 1908) - SPAIN (MERZ 1992).
28. *Campiglossa misella* (LOEW, 1869) - SPAIN (HERING 1934, MIHALYI 1969, CARLES-TOLRÀ 1997). ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 2 ♂, 1 ♀ (cBVA). **New to Andorra.**
29. *Campiglossa producta* (LOEW, 1844) - SPAIN (HERING 1934, MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995). BALEARES: Mallorca, Puerto de Pollensa, 27.IV.-5.V.1977, Gravestein, 1 ♀ (cBVA). **New to the Balears.** PORTUGAL: Lissabon, 27.V.1966, Gravestein, 1 ♀ (cBVA). **New to Portugal.**
30. *Capitites ramulosa* (LOEW, 1844) - SPAIN (MIHALYI 1969). BALEARES: Ibiza, Talamanca, 10.X.1969, Gravestein, 2 ♀; Mallorca, Puerto de Pollensa, 4.V.1979, Gravestein, 1 ♂ (ZMAN). **New to the Balears.** PORTUGAL (NORRBOM et al. 1998).
31. *Chaetorellia acrolophi* WHITE & MARCQUART, 1989 - SPAIN (WHITE & MARCQUART 1989).
32. *Chaetorellia hestia* HERING, 1937 - SPAIN (WHITE & MARCQUART 1989).
33. *Chaetorellia jaceae* (ROBINEAU-DESVOIDY, 1830) - SPAIN (MIHALYI 1969). ANDORRA: Santa Coloma, 1-15.VIII.1993, Pujade, 1 ♀ (cMCT); Escaldes, 27.VI.1978, 1 ♀; San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1 ♀ (cBVA). **New to Andorra.**
34. *Chaetorellia loricata* (RONDANI, 1870) - SPAIN: Andalucía, Sileras, 11.IV.1989, Merz, 1 ♂ (MHNG); Malaga, 5km S Ronda, 29.V.1967, Duffels, 1 ♂ (cBVA). **New to Spain.** ANDORRA: St. Joan de Caselles, 2.VII.1974, 1 ♀; Escaldes, 27.VI.1978, 1 ♂. (cBVA). **New to Andorra.**
35. *Chaetostomella cylindrica* (ROBINEAU-DESVOIDY, 1830) - Spain: Barcelona, Cabrils, 16.VII.1998, Carles-Tolrà, 1 ♀ (cMCT); Teruel, 12km E Albarracín, 10.VII.1978, Duffels, 1 ♀ (cBVA); Salamanca, 6-8 km N Villar de Ciervo, 28.V.1999, Tschorsnig, 1 ♂ (SMNS); Andalucía, Lobres, 5.IV.1989, Merz, 1 ♂ (MHNG); Soria, Abejas, 1100m, 4.VII.1990, Gijswijt, 1 ♂ (ZMAN). **New to Spain.**
36. *Dioxya bidentis* (ROBINEAU-DESVOIDY, 1830) - SPAIN (MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997).
37. *Dioxya sororcula* (WIEDEMANN, 1830) - SPAIN (MIHALYI 1969).
38. *Dithryca guttularis* (MEIGEN, 1826) - SPAIN (CARLES-TOLRÀ 1997). ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1 ♂ (cBVA). **New to Andorra.**
39. *Dithryca guttulosa* (LOEW, 1869) - SPAIN (NORRBOM et al. 1998); PORTUGAL (NORRBOM et al. 1998).
40. *Ensina sonchi* (LINNAEUS, 1767) - SPAIN (MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997). BALEARES: Menorca, Ciutadella, 11.VII.1996, Pujade, 1 ♂; Llucmajor, 12.VII.1996, Pujade, 1 ♀ (cMCT). **New to the Balears.** PORTUGAL: Regua, 1.VIII.1995, Pujade, 2 ♀; Lamego 1.VIII.1995, Pujade, 1 ♂ (cMCT). **New to Portugal.** ANDORRA: Santa Coloma, 1.VII.-15.IX.1993, Pujade, 13 ♂, 13 ♀ (cMCT). **New to Andorra.**
41. *Euaesta bullans* (WIEDEMANN, 1830) - SPAIN (HERING 1934). BALEARES: Mallorca, Puerto de Pollensa, 11.X.1967, Gravestein (ZMAN). **New to the Balears.**
42. *Hypenidium graecum* LOEW, 1862 - SPAIN (NORRBOM et al. 1998); PORTUGAL (NORRBOM et al. 1998).
43. *Inuromaesa maura* (FRAUENFELD, 1857) - SPAIN: Soria, 10km S Abejar, 11.VI.1995, Gijswijt, 1 ♀ (cBVA). **New to Spain.**
44. *Myopites inulaedyssentericae* BLOT, 1827 - Spain (NORRBOM et al. 1998).
45. *Myopites lelea* DIRLBK, 1973 - SPAIN: Andalucía, Punta del Rio, 7.IV.1989, Merz, 1 ♀; Andalucía, Punta de Torrox, 3.IV.1989, Merz, 1 ♂ (MHNG). **New to Spain.** PORTUGAL: Algarve, Tavira, 2.-5.IV.1999, Gijswijt, 5 ♂, 4 ♀ (cBVA). **New to Portugal.**
46. *Myopites limbardae* SCHINER, 1863 - BALEARES: Menorca, Binibeya, 14.IX.1973, Gravestein, 1 ♂; Fornels, 15.IX.1973, Gravestein, 1 ♀; El Grau, 26.IX.1973, Gravestein, 1 ♀ (cBVA). **New to the Balears.**
47. *Myopites longirostris* (LOEW, 1846) - BALEARES: Menorca, El Grau, 26.IX.1973, Gravestein, 1 ♂, 2 ♀ (cBVA, cJS); Mahon, Torr. d'el Gorg, 6.X.1993, de Jong, 2 ♂, 4 ♀ (ZMAN); Mallorca, Alcudia, 5.X.1975, Gravestein, 1 ♀ (cBVA); Puerto de Pollensa, 29.IX.-5.X.1974, Gravestein, 2 ♂, 2 ♀ (cBVA, cJS); Puerto de Pollensa, 3.X.1975, Gravestein, 1 ♂ (cBVA). **New to the Balears.** Comment: The status of this species is not entirely resolved. Pending a comprehensive revision of the genus the specimens are tentatively assigned to *M. longirostris*.
48. *Noeeta hemiradiata* DIRLBK & DIRLBK, 1991 - SPAIN (NORRBOM et al. 1998).
49. *Noeeta pupillata* (FALLÉN, 1814) - ANDORRA: Santa Coloma, 16.VI.-31.VIII.1993, Pujade, 5 ♀ (cMCT). **New to Andorra.**

50. *Oedaspis fissa* LOEW, 1862 - SPAIN (MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995).
51. *Oedaspis multifasciata* (LOEW, 1850) - SPAIN (HERING 1934, CARLES-TOLRÀ 1997).
52. *Orellia falcata* (SCOPOLI, 1763) - SPAIN: Malaga, Ronda, 21.-28.V.1994, Gijswijt, 4♂, 2♀ (cBVA, ZMAN); Pirheos, Sallent de Gallego, 1600m, 12.VI.1983, Duffels, 1♀ (cBVA). **New to Spain.** ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1♀ (cBVA). **New to Andorra.**
53. *Oxyaciura tibialis* (ROBINEAU-DESVOIDY, 1830) - SPAIN (MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995). BALEARES: Ibiza, Ibiza, 8.X.1969, Gravestein, 7♂, 2♀ (cBVA, ZMAN); Jesus, 7.X.1969, Gravestein, 1♀; Mallorca, Formentor, 25.IX.1968, Gravestein, 1♀ (cBVA). **New to the Balears.**
54. *Oxyaciura flavipennis* (LOEW, 1844) - SPAIN (SÉGUY 1934). Additional specimens: Huesca, Bon-sana, nr. Pont de Suert, 1100m, 29.VII.1981, 1♂, 2♀ (cBVA). ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 8♂, 1♀ (cBVA). **New to Andorra.**
55. *Oxyyna nebulosa* (WIEDEMANN, 1817) - SPAIN: Murcia, Canton, 8.IV.1994, Gijswijt, 1♂, 2♀ (cBVA). **New to Spain.** PORTUGAL: Almoreira, 5.VIII.1995, Pujade, 1♂ (cMCT). **New to Portugal.**
 Comment: This species was reported from Spain by SÉGUY (1934), but without giving localities. Probably he referred to old literature records which are unreliable. Therefore, the present record is regarded as the first safe identification of the species from Spain.
56. *Oxyyna obesa* LOEW, 1862 - SPAIN (NORRBOM et al. 1998).
57. *Ptiloedaspis tavaresiana* BEZZI, 1920 - SPAIN (MERZ & BLASCO-ZUMETA 1995).
58. *Spathulina sicula* RONDANI, 1856 - SPAIN (HERING 1934, MIHALYI 1969). BALEARES: Mallorca, Cala de S. Vicente, 4.V.1979, Gravestein, 1♂; Calvia Capdella, 1.-5.V.1979, Gravestein, 3♂; Capdella, 1.-5.V.1979, Gravestein, 10.-15.III.1980; Puerto de Pollensa, 29.IX.-5.X.1974, Gravestein, 1♀; Capdella, 15km W Palma, 9.-13.VI.1975, Gravestein, 1♂, 1♀ (cBVA, ZMAN). **New to the Balears.** PORTUGAL (NORRBOM et al. 1998).
59. *Sphaeniscus filiulus* (LOEW, 1869) - SPAIN (MIHALYI 1969).
60. *Sphenella marginata* (FALLÉN, 1814) - SPAIN (HERING 1934, CARLES-TOLRÀ 1997). BALEARES: Mallorca, Puerto de Pollensa, 20.VIII.1969, Ellis, 1♀ (cBVA); Ibiza, Jesus, 2.X.1969, Gravestein, 1♀ (ZMAN). **New to the Balears.** PORTUGAL: A. Alentejo, Portalegre, 700m, 22.V.1990, Gijswijt, 1♂ (cBVA). **New to Portugal.**
61. *Tephritis arnicae* (LINNAEUS, 1758) - SPAIN (CARLES-TOLRÀ 1997). ANDORRA: Santa Coloma, 1.-15.V.1993, Pujade, 1♀ (cMCT). **New to Andorra.**
62. *Tephritis bardanae* (SCHRANK, 1803) - SPAIN: Molina, Clot de l'Hospital, sobre la nieve, 1860m, 14.II.1998, M. Carles-Tolrà, 1♀ (cMCT); Huesca, Torla, 1035m, 8.-26.VII.1974, Wolschrijn, 1♀ (cBVA). **New to Spain.** ANDORRA: Santa Coloma, 16.VI.-15.VII.1993, Pujade, 5♂, 6♀ (cMCT); San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 2♂, 5♀; Soldeu, 2000m, 4.-23.VII.1979, Wolschrijn, 1♀ (cBVA). **New to Andorra.**
63. *Tephritis carmen* HERING, 1937 - SPAIN (NORRBOM et al. 1998).
64. *Tephritis cometa* (LOEW, 1840) - SPAIN (SÉGUY 1934, CARLES-TOLRÀ 1997).
65. *Tephritis conura* (LOEW, 1844) - ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1♂, 1♀ (cBVA). **New to Andorra.**
66. *Tephritis crepidis* HENDEL, 1927 - SPAIN (NORRBOM et al. 1998).
67. *Tephritis dioscorea* (LOEW, 1856) - SPAIN: Valencia, Moraira, 16.-30.V.1981, van Aartsen, 1♀ (cBVA). **New to Spain.** ANDORRA: Santa Coloma, 1.-15.VII.1993, Pujade, 2♀ (cMCT); San Julia de Loria, 1000m, 10.-20.VII.1979, 1♀ (cBVA). **New to Andorra.**
68. *Tephritis divisa* RONDANI, 1871 - SPAIN (NORRBOM et al. 1998). BALEARES: Mallorca, Puerto de Pollensa, 8.-9.VI.1969, Gravestein, 2♂; 11.VIII.1969, Gravestein, 1♀; 14.VIII.1969, Ellis, 1♀; Palma Nova, 7.-20.II.1972, Gravestein, 1♂ (cBVA, ZMAN). **New to the Balears.**
69. *Tephritis fallax* (LOEW, 1844) - SPAIN: Huesca, Torla, 1035m, 8.-26.VII.1974, Wolschrijn, 1♀ (cBVA). **New to Spain.** ANDORRA: 7km van Canillo, 27.VI.1976, 1♀ (cBVA). **New to Andorra.**
70. *Tephritis formosa* (LOEW, 1844) - SPAIN (HERING 1934, SÉGUY 1934, MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997). BALEARES: Mallorca, Capdella, 15km W Palma, 9.-13.VI.1975, Gravestein, 1♂, 1♀ (cBVA, ZMAN); Puerto de Pollensa, 8.VI.1969, Gravestein, 1♂; Palma Nova, 7.-20.II.1972, Gravestein, 1♂ (ZMAN). **New to the Balears.** ANDORRA: Santa Coloma, 16.VI.-15.XI.1993, Pujade, 2♂, 2♀ (cMCT); San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1♂ (ZMAN). **New to Andorra.**
- *Tephritis frauenfeldi* HENDEL, 1927 - This species belongs to a difficult species-group and was reported from Spain by SÉGUY (1934). Its only known host plant is *Jurina mollis*, which is an eastern European species not known from the Iberian Peninsula. Because of the frequent misidentifications, *T. frauenfeldi* is deleted here from the list of Spanish Diptera.

71. *Tephritis heliophila* HENDEL, 1927 - SPAIN: Madrid, Manzanares, El Real, 14.VI.1990, Gijswijt, 1 ♀ (cBVA). **New to Spain.**
72. *Tephritis hendeliana* HERING, 1944 - SPAIN (NORRBOM et al. 1998). ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1 ♀ (ZMAN). **New to Andorra.**
73. *Tephritis hyoscyami* (LINNAEUS, 1758) - PORTUGAL: Beira alta, 8.5km S Manteigas, 1500m, 16.VI.1999, Gijswijt, 1 ♀ (cBVA). **New to Portugal.**
74. *Tephritis leontodontis* (DE GEER, 1776) - ANDORRA: Encamp, 1.VII.1974, 1 ♂ (cBVA). **New to Andorra.**
75. *Tephritis matricariae* (LOEW, 1844) - SPAIN (HERING 1934, MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997). PORTUGAL: Beira alta, 8.5km S Manteigas, 1500m, 16.VI.1999, Gijswijt, 1 ♀ (cBVA). **New to Portugal.** ANDORRA: Santa Coloma, 15.-30.XI.1993, Pujade, 1 ♂ (cMCT); San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1 ♀ (cBVA). **New to Andorra.**
76. *Tephritis neesii* (MEIGEN, 1830) - SPAIN: Görliz-Vizc. 1.-16.V.1986, Wolschrijn, 1 ♂ (cBVA). **New to Spain.** ANDORRA, Santa Coloma, 1-15.II.1993, Pujade, 1 ♀ (cMCT). **New to Andorra.**
77. *Tephritis nigricauda* (LOEW, 1856) - SPAIN (HERING 1934, MIHALYI 1969). BALEARES: Mallorca, Capdella, 15km W Palma, 9.-13.VI.1975, Gravestein, 1 ♂, 2 ♀ (ZMAN). **New to the Balears.** PORTUGAL: Algarve, Cacela, 11km ENE Tavira, 2.IV.1999, Gijswijt, 1 ♀ (cBVA). **New to Portugal.**
78. *Tephritis postica* (LOEW, 1844) - SPAIN (HERING 1934, SÉGUY 1934, MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997). BALEARES: Mallorca, Capdella, 15km W Palma, 9.-13.VI.1975, Gravestein, 1 ♀ (cBVA). **New to the Balears.**
79. *Tephritis praecox* (LOEW, 1844) - SPAIN (SÉGUY 1934, MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997). BALEARES: Mallorca, Alcudia, 8.-10.X.1972, Gravestein, 1 ♀; Puerto de Pollensa, 6.-11.X.1982, Gravestein, 1 ♀; Palma Nova, 7.-20.II.1972, Gravestein, 1 ♀ (cBVA). **New to the Balears.** PORTUGAL: Algarve, Cacela, 11km ENE Tavira, 2.IV.1999, Gijswijt, 1 ♂, 1 ♀; Alcaria, 13km N Castro Marim, 25.IX.1999, Gijswijt, 1 ♀ (cBVA). **New to Portugal.**
80. *Tephritis pulchra* (LOEW, 1844) - SPAIN (SÉGUY 1934, MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995).
 Comment: The species was recorded from the Balears by SÉGUY (1934). However, the status of this record is uncertain because of the difficult taxonomy in the *T. pulchra* species-group. The species is therefore deleted from the list of the Tephritidae of the Balears.
81. *Tephritis recurrens* LOEW, 1869 - SPAIN: Bayu Bas, on *Scorzonera*, 22.VII.1990, Gijswijt, 1 ♂, 1 ♀ (cBVA); Andalucia, Fuente Tojar, 11.IV.1989, Merz, 1 ♀ (MHNG). **New to Spain.**
82. *Tephritis ruralis* (LOEW, 1844) - SPAIN (HERING 1934).
83. *Tephritis santolinae* HERING, 1934 - SPAIN (HERING 1934).
84. *Tephritis scorzonerae* MERZ, 1993 - SPAIN: Abejor, 29.VI.1990, Gijswijt, 1 ♂; Teruel, Aguas Amargas, 1620m, 29.VII.1965, van der Goot, 1 ♂ (cBVA). **New to Spain.**
85. *Tephritis separata* RONDANI, 1871 - SPAIN (MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997). ANDORRA (MERZ 1994).
86. *Tephritis simplex* (LOEW, 1844) - SPAIN (MIHALYI 1969). BALEARES: Mallorca, Palma Nova, 7.-20.II.1972, Gravestein, 1 ♂, 1 ♀ (cBVA). **New to the Balears.** PORTUGAL: Mira (Beira Iltr), 17.VI.1964, Gravestein, 1 ♂ (cBVA). **New to Portugal.**
 Comment: This species was first mentioned from the Balears by SÉGUY (1934), but most probably based on a misidentification. He considered this species to be a synonym of *Oxyna elongatula*, which is a synonym of *Dioxya bidentis*. Therefore, I am giving here the first authentic record of the Balears.
87. *Tephritis stictica* LOEW, 1862 - SPAIN (SÉGUY 1934, NORRBOM et al. 1998).
88. *Tephritis vespertina* (LOEW, 1844) - SPAIN (SÉGUY 1934, CARLES-TOLRÀ 1997). BALEARES: Mallorca, Puerto de Pollensa, 27.IV.-5.V.1977, Gravestein, 1 ♀; 14.-16.VI.1975, Gravestein, 1 ♀; 7.-13.V.1977, Gravestein, 1 ♀; Cala de S. Vicente, 4.V.1979, Gravestein, 1 ♂; Menorca, Arenal d'en Catell, 23.IX.1973, Gravestein, 1 ♀ (cBVA, ZMAN). **New to the Balears.** PORTUGAL: Beira alta, 8.5km S Manteigas, 1500m, 16.VI.1999, Gijswijt (1 ♂ (cBVA)). **New to Portugal.** ANDORRA: Santa Coloma, 16.V.-31.XII.1993, Pujade, 1 ♂, 1 ♀ (cMCT). **New to Andorra.**
89. *Tephritis zernyi* HENDEL, 1927 - SPAIN (NORRBOM et al. 1998). ANDORRA: Santa Coloma, 1.-15.VII.1993, Pujade, 2 ♂ (cMCT). **New to Andorra.**
90. *Terellia (Cerajocera) ceratocera* (HENDEL, 1913) - ANDORRA: Ordino, 1600m, 16.VII.1981, de Leeuw, 1 ♂; San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1 ♂, 1 ♀ (cBVA). **New to Andorra.**
91. *Terellia (Cerajocera) lappae* (CEDERHJELM, 1798) - SPAIN (HERING 1934).
92. *Terellia (Cerajocera) tussilagnis* (FABRICIUS, 1775) - SPAIN: Teruel, Santa Croche, 1150m,

- 22.VII.1965, van der Goot, 20♂, 7♀; Guipuzcoa, Mondragon, 300m, 11.VII.1973, Lucas & van der Goot, 4♂, 2♀; Gerona, Ribes de Freser, 900m, 30.VII.1970, van der Goot, 1♀ (cBVA, ZMAN). **New to Spain.**
93. *Terellia* (s.str.) *colon* (MEIGEN, 1826) - SPAIN: Soria, El Burgode, 1.-6.VII.1990, 1♂; Bajubas de Abajo, 18.-20.VII.1990, Gijswijt, 1♂, 3♀; El Burgo de Osmá, 21.VI.1994, Gijswijt, 3♀ (cBVA, cJS); Salamanca, Aldea del Obispo, 28.VI.1995, Tschorsnig, 1♀ (SMNS). **New to Spain.**
94. *Terellia* (s.str.) *fuscicornis* (LOEW, 1844) - SPAIN: Almeria, Darrical, on *C. arbor.*, 16.V.1986, Gijswijt, 1♂ (cBVA). **New to Spain.**
95. *Terellia* (s.str.) *longicauda* (MEIGEN, 1838) - SPAIN (MIHALYI 1969): This record from Southern Spain is probably a misidentification. An unidentified species from Southern Spain and the Canary Islands, which may be new to science, was found in several collections (MERZ 1992). The true *T. longicauda* occurs in the Pyrenees: Catal. Pyr. Nuria, Ripolles, 2000m, on *Carlina*, 25.VII.1996, Smit, 1♂, 1♀ (cJS).
96. *Terellia* (s.str.) *luteola* (WIEDEMANN, 1830) - SPAIN (MERZ & BLASCO-ZUMETA 1995).
97. *Terellia* (s.str.) *ruficauda* (FABRICIUS, 1794) - SPAIN: Catal. Pyr., Puigcerda, Cerdanya, 1200m, 15.VII.1996, Smit, 1♀ (CJS). **New to Spain.**
98. *Terellia* (s.str.) *serratulae* (LINNAEUS, 1758) - SPAIN (MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995). BALEARES: Mallorca, Capicorp, 12km S Lluçmanyó, 17.VI.1976, Gravestain, 2♂ (ZMAN). **New to the Balears.** PORTUGAL: Algarve, N of Quarteira, 28.IV.1985, Lucas, 1♀ (ZMAN). **New to Portugal.** ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1♂ (ZMAN). **New to Andorra.**
99. *Terellia* (s.str.) *vectensis* (COLLIN, 1937) - SPAIN (MERZ & BLASCO-ZUMETA 1995).
100. *Terellia* (s.str.) *virens* (LOEW, 1846) - SPAIN (HERING 1934).
101. *Terellia* (s.str.) *winthemi* (MEIGEN, 1826) - SPAIN: Palencia, Camasobres, 8.VIII.1968, Kruseman, 2♂, 4♀ (cBVA). **New to Spain.**
102. *Trupanea amoena* (FRAUENFELD, 1857) - SPAIN (MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995). BALEARES: Menorca, Cala en Porter, 25.IX.1973, Gravestain, 1♂ (cBVA); Mallorca, Torrente S. Jordi, 15.VIII.1969, Ellis, 1♀ (ZMAN). **New to the Balears.** PORTUGAL: Bejar, 7.VIII.1995, Pujade, 1♂ (cMCT); Algarve, Estor, 25.IV.1985, Teunissen, 1♀; Alenkjo, Sines, 31.V.1966, Gravestain, 1♀ (ZMAN). **New to Portugal.** ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 1♂, 1♀ (cBVA). **New to Andorra.**
103. *Trupanea guimari* (BECKER, 1908) - SPAIN (MERZ 1992).
104. *Trupanea stellata* (FUESSLIN, 1775) - SPAIN (HERING 1934, SÉGUY 1934, MIHALYI 1969, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997). BALEARES: Mallorca, Formentor, 4.X.1967, Gravestain, 1♀; Puerto de Pollensa, 21.VIII.1969, Ellis, 1♂ (ZMAN). **New to the Balears.** ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 2♀ (cBVA, ZMAN). **New to Andorra.**
105. *Trupanea tubulata* MUNRO, 1964 - BALEARES: Mallorca, Puerto de Pollensa, 21.VI.1969, Gravestain, 1♀ (cBVA). **New to the Balears.**
106. *Urophora affinis* (FRAUENFELD, 1857) - SPAIN (MIHALYI 1969).
107. *Urophora cuspidata* (MEIGEN, 1826) - SPAIN: Soria, El Burgo de Osmá, 6.VII.1990, Gijswijt, 2♀; Huesca, Torla, 1035m, 8.-26.VII.1974, Wolschrijn, 1♀; Teruel, Albarracin, 1200m, 10.VII.1978, Duffels, 1♀ (cBVA). **New to Spain.** ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 4♀ (cBVA). **New to Andorra.**
108. *Urophora hispanica* STROBL, 1905 - SPAIN (WHITE & KORNEYEV 1989, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997).
109. *Urophora jaceana* (HERING, 1935) - SPAIN: Huesca, Torla, 1035m, 8.-26.VII.1974, Wolschrijn, 1♀; Gerona, La Molina, 1500m, 23.VII.1970, Lucas & van der Goot, 1♀ (cBVA); Catal. Pyr., Puigcerda, Cerdanya, 1500m, 19.VII.1996, Smit, 1♀; La Molina, Cerdanya, 1500m, 19.-20.VII.1996, Smit, 5♀; Sant. Antoni, Ripolles, Ribes de Freser, 1200m, 21.VII.1996, Smit, 3♀ (cJS). **New to Spain.** ANDORRA: San Julia de Loria, 1000m, 10.-20.VII.1979, Wolschrijn, 2♀ (cBVA). **New to Andorra.**
110. *Urophora mauritanica* MACQUART, 1851 - SPAIN (MERZ & BLASCO-ZUMETA 1995). BALEARES: Mallorca, Puerto de Pollensa, 14.-16.VI.1975, Gravestain, 1♀ (cBVA). **New to the Balears.**
111. *Urophora pontica* (HERING, 1937) - SPAIN: Teruel, 12km E Albarracin, 1200m, 10.VII.1978, Duffels, 1♂ (cBVA). **New to Spain.**
112. *Urophora quadrifasciata algerica* (HERING, 1941) - SPAIN (HERING 1934, MERZ & BLASCO-ZUMETA 1995, CARLES-TOLRÀ 1997). BALEARES: Mallorca, Puerto de Pollensa, 4.V.1979, Gravestain, 1♂ (ZMAN). **New to the Balears.**
113. *Urophora stylata* (Fabricius, 1775) - SPAIN (HERING 1934, MIHALYI 1969, CARLES-TOLRÀ 1997).
114. *Urophora terebrans* (LOEW, 1850) - SPAIN (NORRBOM et al. 1998).

115. *Xyphosia miliaria* (SCHRANK, 1781) - SPAIN (CARLES-TOLRÀ 1997). ANDORRA: Santa Coloma, 16.-31.VIII.1993, Pujade, 1 ♀ (cMCT). **New to Andorra.**

CONCLUSION

Prior to the present study, the Tephritidae of the Iberian Peninsula and the Balears had never been treated in a comprehensive way. Previous faunistic accounts were scattered in various journals over the last 70 years and they dealt with small areas of Spain and Portugal only. With the exception of one reliable record, nothing had been published on the Tephritidae faunas of the Balears and Andorra. Thus, it is not surprising that the identification of some 1000 specimens revealed a large number of additions for this region. Currently, 104 species are known from mainland Spain (29 species are here recorded as new to the area), 22 species for mainland Portugal (14 new), 25 species for the Balears (all new), and 35 species for Andorra (34 new). Altogether, 115 species are known for the whole area. Compared with Italy, which is the only other mediterranean country with a modern checklist and for which 134 species are recorded (BELCARI et al. 1995), the fauna of the Iberian Peninsula is still insufficiently known. This applies in particular to mainland Portugal, for which very little material has ever been collected. Considering the species which are known from Southern France (unpublished data), but which have not yet been recorded from the Iberian Peninsula, and taking into account the insufficient collecting efforts up until now, I expect that some 150 species of Tephritidae may be found in the region eventually.

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REFERENCES

- ALUJA, M. & NORRBOM, A. L. (eds) 2000. *Fruit Flies (Tephritidae): Phylogeny and Evolution of Behaviour*. CRC Press, Boca Raton, London, New York, Washington D.C. 944 pp.
- BELCARI, A., GIORLAMI, V., RIVOSECCHI, L. & ZAITZEV, V. F. 1995. Diptera, Tephritoidea. In: MINELLI, A., RUFFO, S. & LA POSTA, S. (eds), *Checklist delle species della fauna italiana* 72: 1-13. Calderini, Bologna.
- CARLES-TOLRÀ, M. 1997. Citas nuevas de dípteros acalípteros para la Península Ibérica (Diptera, Acalyptera). *Bol. SEA* 76: 7-10.
- DIRLBEK, J. & OHM, P. 1982. Ein Beitrag zur Kenntnis der Fruchtfliegen (Diptera, Tephritidae) der Kapverdischen Inseln. *Cour. Forsch.-Inst. Senckenberg* 52: 241-243.
- FREIDBERG, A. & NORRBOM, A. L. 2000. A Generic Reclassification and Phylogeny of the Tribe Myopitini (Tephritinae), pp. 581-627. In: ALUJA, M. & NORRBOM, A. L. (eds), *Fruit Flies (Tephritidae): Phylogeny and Evolution of Behaviour*. CRC Press, Boca Raton, London, New York, Washington D.C. 944 pp.
- HERING, M. 1934. Spanische Bohrfliegen (Dipt.). *Boln. R. Soc. esp. Hist. nat.* 33: 249-252.
- MERZ, B. 1992. The fruit flies of the Canary Islands (Diptera: Tephritidae). *Ent. Scand.* 23: 215-231.
- MERZ, B. 1994. Diptera - Tephritidae. *Insecta Helvetica, Fauna* 10: 1-198.
- MERZ, B. 1997. Die Arten von *Chetostoma* Rondani in der Schweiz (Diptera, Tephritidae). *Mitt. ent. Ges. Basel* 46: 122-124.
- MERZ, B. 2000a. Phylogeny of the Palaearctic and Afrotropical Genera of the *Tephritis* Group (Tephritinae: Tephritini), pp. 629-669. In: ALUJA, M. & NORRBOM, A. L. (eds), *Fruit Flies (Tephritidae): Phylogeny and Evolution of Behaviour*. CRC Press, Boca Raton, London, New York, Washington D.C. 944 pp.

- MERZ, B. 2000b. Two new Tephritidae (Diptera) from the Western Palaearctic region. *Rev. Suisse Zool.* 107 (4): 883-892.
- MERZ, B. & BLASCO-ZUMETA, J. 1995. The fruit flies (Diptera, Tephritidae) of the Monegros region (Zaragoza, Spain), with the record of the host plant of *Rhagoletis zernyi* HENDEL, 1927. *ZAPATERI Rev. aragon. entomol.* 5: 127-134.
- MIHALYI, F. 1969. Some Trypetidae (Diptera) from Southern Spain. *Ent. Meddels.* 37: 193-201.
- NORRBOM, A. L., CARROLL, L. E., THOMPSON, F. C., WHITE, I. M. & FREIDBERG, A. 1998. Systematic Database of Names, pp. 65-299. In: THOMPSON, F. C. (ed.), *Fruit Fly Expert Identification System and Systematic Information Database*. *Myia* 9: 65-299.
- SÉGUY, E. 1934. Diptères d'Espagne. Étude systématique basée principalement sur les collections formées par le R. P. LONGIN NAVAS S. *J. Mem. Acad. Cienc. Exac. Fisico-Quimicas Natur. Zaragoza* 3: 44-46.
- WHITE, I. M. & ELSON-HARRIS, M. M. 1992. *Fruit Flies of Economic Significance: Their Identification and Bionomics*. CAB International. 601 pp.
- WHITE, I. M. & KORNEYEV, V. A. 1989. A revision of the western Palaearctic species of *Urophora* ROBINEAU-DESVOIDY (Diptera: Tephritidae). *Syst. Entomol.* 14: 327-374.
- WHITE, I. M. & MARCQUART, K. 1989. A revision of the genus *Chaetorellia* HENDEL (Diptera: Tephritidae) including a new species associated with spotted knapweed, *Centaurea maculosa* LM. (Asteraceae). *Bull. ent. Res.* 79: 453-487.

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