First checklist of the fruit flies of Morocco, including new records (Diptera, Tephritidae)

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Abstract
The first checklist of the Tephritidae of Morocco, containing 59 species, is presented here. Out of 38 species collected during the present project, three (Campiglossa martii (Becker, 1908), Tephritis divisa (Rondani, 1871), and Terellia sp. near longicauda) present new records for North Africa, and ten (Carpomyia incompleta (Becker, 1903), Chaetorellia conjuncta (Becker, 1913), Chetostoma curvinerve Rondani, 1856, Dacus frontalis (Becker, 1922), D. longistylus (Wiedemann, 1830), Dioxyna sororcula (Wiedemann, 1830), Ensina sonchi (Linnaeus, 1767), Myopites inulaedysentericae Blot, 1827, M. stylatus Fabricius, 1794, and Tephritis vespertina (Loew, 1844)) are new for Morocco.

Keywords
Anti Atlas, Beni Snassen, High Atlas, Middle Atlas, North Africa, Rif, Sahara

Introduction
Tephritidae is one of the largest families of the acalyptrate Diptera, and more than 4300 valid species are known in the world (Norrbom 2004). Prior to this study, the Tephritid fauna of Morocco has not been the subject of focused research. Only few
studies from North Africa were devoted to the fruit flies (e.g., Tunisia, Arambourg and Soria 1961; Algeria, Hering 1937; Morocco, Algeria and Tunisia, Hefman and Dirlbek 2006). Some new species were described from Algeria (Dirlbek and Dirlbekova 1976; Hendel 1927; Hering 1938; Séguy 1934a) and Morocco (Becker and Stein 1913; Séguy 1930, 1941).

The Tephritidae of Morocco have been also published upon among some Diptera studies (Wiedemann 1824; Becker and Stein 1913; Séguy (1930, 1934b, 1941, 1949, 1953). Faunal records from all relevant publications have been registered in the Catalogue of the Tephritidae of the World (Norrbom et al. 1999). A total of 46 species have been previously recorded from Morocco. New findings increase the number of fruit flies known from Morocco to 59.

The material reported in the present article was mostly collected in Morocco between 2013–2016 in 99 field expeditions over mountainous areas (Rif, Beni Snassen (eastern Morocco), Middle Atlas, Anti Atlas) and the arid area of Morocco (Sahara). Thirty-eight species of Tephritidae were identified from this material, of which ten species are new to Morocco, and three species are new to North Africa. One of the main achievements of this project is the first checklist of Tephritidae from Morocco, containing 59 species, which is presented here.

**Materials and methods**

**Collecting methods**

A total of 924 specimens of Tephritidae were collected by sweeping nets and malaise traps, or reared from flower heads or fruits of plants, examined, and preserved in 70% ethanol. When terminalia were necessary to confirm species identity, they were prepared by boiling the abdomen in 10% KOH for 20 minutes at 95°C and preserved in glycerine. Species were recognised according to the identification keys of Hendel (1927), Freidberg and Kugler (1989), White and Elson-Harris (1992), Merz (1994), Korneyev and White (1992, 2000). The systematic classification is based on White and Elson-Harris (1992), Norrbom et al. (1999), White et al. (2000) and White and Goodger (2009).

A list of 99 sampling sites, with coordinates and altitudes, is given in Table 2, and the locations of the sites are shown in Map 1, elaborated using the logiciel GisArc (Geographic Information System, version 9.3). All the specimens are deposited in the collection of Diptera of the Department of Biology, Faculty of Sciences, University Abdelmalek Essaâdi, Tétouan.

The following checklist summarizes the species inventory presently known from Morocco, and their worldwide distribution.
Table 1. Species (in alphabetical order) of Tephritidae known from North Africa.

| Species                                | Morocco | Algeria | Tunisia | Libya | Egypt |
|----------------------------------------|---------|---------|---------|-------|-------|
| Acanthiophilus helianthi (Rossi, 1794) | X*      | X       | X       |       |       |
| Aciura coryli Rossi, 1794               | X       |         |         |       |       |
| Bactrocera cucurbitae (Coquillett, 1899)|         |         |         | X     |       |
| Bactrocera oleae Rossi, 1790            | X**     |         |         |       |       |
| Bactrocera zonata Saunders, 1842        |         |         |         |       | X     |
| Campiglossa boffi (Dirlbek & Dirlbekova, 1976)| X |         |         |       |       |
| Campiglossa martii (Becker, 1908)      | X****   |         |         |       |       |
| Campiglossa producta Loew, 1844        | X*      | X       | X       |       |       |
| Capitites ramosa (Loew, 1844)          | X       | X       |         |       |       |
| Capparimyia savastani (Martelli, 1911) | X       | X       | X       | X     | X     |
| Carpomya incompleta (Becker, 1903)     | X***    |         |         |       |       |
| Carpomya pardalina (Bigot, 1891)       |         |         |         |       |       |
| Ceratitis capitata (Wiedemann, 1824)   | X*      | X       | X       | X     | X     |
| Chaetorellia conjuncta (Becker, 1913)  | X***    |         |         |       |       |
| Chaetorellia bestia (Hering, 1937)     | XX      | X       |         |       |       |
| Chaetorellia succinea Costa, 1844      | X       |         |         |       | X     |
| Chaetostomella cylindrica Robineau-Desvoidy, 1830 | X | X | X |       |       |
| Chetostoma curvinerve Rondani, 1856    | X***    | X?      | X?      | X?    | X?    |
| Dacus annulatus (Becker, 1903)         |         |         |         |       | X     |
| Dacus ciliatus (Loew, 1862)            |         |         |         |       | X     |
| Dacus frontalii (Becker, 1922)         | X***    | X       | X       | X     | X     |
| Dacus longistylus (Wiedemann, 1830)    | X***    |         |         |       | X     |
| Dacus semispheerus (Becker, 1903)      |         |         |         |       | X     |
| Dacus sexmaculatus (Walker, 1871)      |         |         |         |       | X     |
| Desmella conyzae (Frauenfeld, 1857)    |         |         |         |       | X     |
| Desmella rostellata (Séguy, 1941)      |         |         |         |       | X     |
| Dioxya bidentis (Robineau-Desvoidy, 1830) | X? | X? | X? | X? | X? |
| Dioxya sororcula (Wiedemann, 1830)     | X***    | X       | X       |       |       |
| Enisia sonchi (Linnaeus, 1830)         | X***    |         |         |       |       |
| Euaresta bullans (Wiedemann, 1830)     | X*      | X       | X       |       |       |
| Euarestella iphione (Effatouin, 1924)  |         |         |         |       | X     |
| Euarestella kugleri (Freidberg, 1974)  |         |         |         |       | X     |
| Euarestella piniae (Freidberg, 1981)   |         |         |         |       | X     |
| Euleia heraclei (Linnaeus, 1758)       | X**     |         |         |       | X     |
| Euleia marmorata (Fabricius, 1805)     |         |         |         |       | X     |
| Goniurellia lacera (Becker, 1913)      |         |         |         |       | X     |
| Goniurellia longicauda (Freidberg, 1980) | X*** | X | X | X | X |
| Goniurellia persignata (Freidberg, 1980) | X*     |         |         |       | X     |
| Goniurellia spinifera (Freidberg, 1980) |         |         |         |       | X     |
| Hyalotephritis planiscutellata (Becker, 1903) |         |         |         |       | X     |
| Hypenidium graecum (Loew, 1862)        |         |         |         |       | X     |
| Katonia aida (Hering, 1938)            |         |         |         |       | X     |
| Metasphenisca gracilipes (Loew, 1862)  |         |         |         |       | X     |
| Metasphenisca haematopoda (Berzi, 1924) |         |         |         |       | X     |
| Metasphenisca negeviana (Freidberg, 1974) |         |         |         |       | X     |
| Species                              | Morocco | Algeria | Tunisia | Libya | Egypt |
|--------------------------------------|---------|---------|---------|-------|-------|
| Myopites apicatus (Freidberg, 1979)  | X       |         |         |       |       |
| Myopites boghariensis (Séguy, 1934) |         | X       |         |       |       |
| Myopites cypriacus Hering, 1938      | X       |         |         |       |       |
| Myopites insulatodesmertici Blot, 1827 | X***    | X       | X?      | X?    | X?    |
| Myopites styriatus Fabricius, 1794   | X***    | X       | X?      | X?    |       |
| Myopites variofasciatus (Becker, 1903) |       |         |         |       | X     |
| Neniceratitius efflatouni (Hendel, 1931) | X       |         |         |       |       |
| Notonoma mutillum Bezzi, 1923        |         |         |         |       | X     |
| Oedasip daphnea (Séguy, 1930)        | X       |         |         |       |       |
| Oedasip farinosa (Hendel, 1927)      |         | X       |         |       |       |
| Oedasip fisa Loew, 1862              | X       |         |         |       |       |
| Oedasip multijaculata (Hering, 1937) | X       | X       |         |       |       |
| Oedasip trotteriana (Bezzi, 1913)    | X       | X       | X       | X     |       |
| Oedasip villeneuei (Bezzi, 1913)     | X       | X       | X       |       |       |
| Oxyacitera thalidae Robineau-Desvoidy 1830 | X*      |         |         |       |       |
| Oxyca superflava (Freidberg, 1974)   | X       |         |         |       |       |
| Paradesis augur (Frauenfeld, 1857)   | X       | X       | X       |       |       |
| Parapheniscus debokii (Efflatoun, 1924) | X       |         |         |       |       |
| Schistopterum moebiusi (Becker, 1903) |         |         |         |       | X     |
| Spathulina acroleuca (Schiner, 1868) | X       |         |         |       |       |
| Spathulina sicula (Rondani, 1856)    | X*      |         | X       |       |       |
| Sphaeniscus filiolus (Loew, 1869)    | X***    |         |         |       | X     |
| Sphenella marginata (Fallen, 1814)   | X*      |         |         |       | X     |
| Tephritis bimaculata (Freidberg, 1981) | X       |         |         |       |       |
| Tephritis diocurea Loew, 1856         | X       |         |         |       |       |
| Tephritis divis (Rondani, 1871)       | X****   |         |         |       |       |
| Tephritis formosa (Loew, 1844)        | X**     |         |         |       |       |
| Tephritis jubelae (Freidberg, 1981)   | X       |         |         |       |       |
| Tephritis leontodontis De Geer, 1776  | X       | X?      | X?      | X?    | X?    |
| Tephritis nigrula Loew 1856           | X**     | X       |         |       |       |
| Tephritis potica (Loew, 1844)         | X**     | X       |         |       |       |
| Tephritis praecox (Loew, 1844)        | X**     |         |         |       |       |
| Tephritis pulcher Loew, 1844           | X       | X       |         |       |       |
| Tephritis simplex (Loew, 1844)        | X       | X       | X       |       |       |
| Tephritis stictica Loew, 1862          | X       |         |         |       |       |
| Tephritis spreta (Loew, 1861)          |         |         |         |       | X     |
| Tephritis theryi (Séguy, 1930)        | X       |         |         |       |       |
| Tephritis truncata (Loew, 1844)       |         |         |         |       | X     |
| Tephritis vespertina (Loew, 1844)     | X***    |         |         |       | X     |
| Tephritomyia lauta (Loew, 1869)       | X**     | X       |         |       | X     |
| Terellia colon Meigen, 1826           | X       | X?      | X?      |       |       |
| Terellia fuscicornis (Loew, 1844)     | X       | X?      | X?      |       |       |
| Terellia longicauda Meigen, 1838      | X       |         |         |       |       |
| Terellia luteola (Wiedemann, 1830)    |         | X       |         |       | X     |
| Terellia oasis (Hering, 1938)         |         |         |         |       | X     |
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| Species                          | Morocco | Algeria | Tunisia | Libya | Egypt |
|---------------------------------|---------|---------|---------|-------|-------|
| Terellia serratulae (Linnaeus, 1758) | X*      | X       | X       |       |       |
| Terellia sp. near longicauda     | X****   |         |         |       |       |
| Terellia vectensis Collin, 1937  |         | X       |         |       |       |
| Terellia viridula (Loew, 1846)   | X**     |         | X       |       |       |
| Trupanea amoena (Frauenfeld, 1857) | X**    |         |         |       |       |
| Trupanea guimari (Becker, 1908)  | X**     |         |         |       |       |
| Trupanea pseudoamoena (Freidberg, 1974) | X     |         |         |       |       |
| Trupanea repleta (Bezzi, 1918)   | X       |         |         |       |       |
| Trupanea stellata (Fuesslin, 1775) | X**    |         | X       |       |       |
| Urelliosoma desertorum (Efflatoun, 1924) | X     |         |         |       |       |
| Urelliosoma pulcherrimum (Efflatoun, 1924) | X   | X       |         |       |       |
| Urophora calcitratae (White & Korneyev, 1989) | X    |         |         |       |       |
| Urophora mauritanica (Macquart, 1851) | X**   | X       |         |       |       |
| Urophora pauperata Zaitzev, 1945 | X       |         |         |       |       |
| Urophora phacoca (Hering, 1961)  | X       |         |         |       |       |
| Urophora quadrifasciata (Meigen, 1826) | X   | X       |         |       |       |
| Urophora quadrifasciata algerica (Hering, 1941) | X   | X       |         |       |       |
| Urophora solstitialis Linnaeus 1758 | X   | X       | X       |       |       |

X****: new species for North Africa; X***: new species for Morocco; X**: new species for one or more of the geographic regions of Morocco; X*: species known from Morocco and collected by the authors; ?: species considered, in the literature, present in North Africa without specifying country.

Table 2. Sampling sites (in alphabetical order) harboring the species collected in Morocco with localities, geographical coordinates, and altitudes.

| Province | Station               | Locality                      | Altitude (m) | Geographical coordinates |
|----------|-----------------------|-------------------------------|--------------|--------------------------|
| Rif      |                       |                               |              |                          |
| Al Hoceïma | 1. Affluent Tarmast | Parc National d’Al Hoceïma | 168          | N35°10.666’, W004°03.088’ |
|          | 2. Oued Azila         | Azila, Jbel Tidighine         | 1601         | N34°52.028’, W004°32.609’ |
|          | 3. Aïn Afersiw        | Mezine                        | 746          | N35°05.945’, W005°20.439’ |
|          | 4. Aïn El Ma Bared    | Bouzthate                     | 1267         | N35°00.333’, W005°12.105’ |
|          | 5. Aïn El Malàab      | Parc National Talassemtane    | 1278         | N35°05.509’, W005°09.443’ |
|          | 6. Aïn El Maounzil    | Parc National Talassemtane    | 1106         | N35°04.577’, W005°10.406’ |
|          | 7. Aïn Tiouila        | Parc National Talassemtane    | 1502         | N35°07.194’, W005°09.978’ |
|          | 8. Bab El Karne       | Tamakoute                     | 1248         | N34°58.510’, W005°11.838’ |
|          | 9. Cascade Chrafate   | Chrafate                      | 820          | N35°03.997’, W005°06.434’ |
|          | 10. Daya Afrate       | Tanaqoub                      | 600          | N35°05.634’, W005°26.028’ |
|          | 11. Daya El Ânassar   | Bab Berred                    | 1183         | N35°00.788’, W004°57.419’ |
|          | 12. Daya El Birdiyel  | Ânasar                        | 1300         | N35°01.089’, W004°59.477’ |
|          | 13. Douar Abou Boubnar (Marabout Sidi Gile) | Parc National Talassemtane | 1247 | N35°10.812’, W005°07.500’ |
|   | Location                              | Address                     | Coordinates      |
|---|---------------------------------------|-----------------------------|------------------|
|14 | Douar Ouslaf                          | Parc National Talassemtane  | 625 N35°13.787', W005°11.376' |
|15 | Douar Tamakoute                       | Tamakoute                   | 1089 N34°58.609', W005°12.743' |
|16 | Maison forestière                     | Parc National Talassemtane  | 1674 N35°08.076', W005°08.262' |
|17 | Mizoghar                              | El Khizana                  | 1005 N35°02.725', W005°12.969' |
|18 | Oued Abou Bnar                        | Parc National Talassemtane  | 1260 N35°10.854', W005°07.840' |
|19 | Oued Derdara                          | Dérder                      | 400 N35°06.484', W005°17.147' |
|20 | Oued El Kanar                         | Stehate                     | 50 N35°17.233', W004°59.639' |
|21 | Oued El Kelâa                         | Akchour                     | 510 N35°13.514', W005°08.553' |
|22 | Oued Jbara                            | Tanaqoub                    | 600 N35°05.634', W005°26.028' |
|23 | Oued Jnane Niche                      | Jnane Niche                 | 36 N35°17.019', W004°51.233' |
|24 | Oued Majjou                           | Village Majjou              | 799 N35°06.186', W005°10.935' |
|25 | Oued Mezine                           | Mezine                      | 778 N35°06.104', W005°21.177' |
|26 | Oued Sidi Ben Sâada                   | Dérder                      | 220 N35°03.921', W005°19.895' |
|27 | Oued Sidi Yahya Aârab                 | Sidi Yahya Aârab            | 62 N35°17.545', W004°53.503' |

Chefchaouen

|   | Location                              | Address                     | Coordinates      |
|---|---------------------------------------|-----------------------------|------------------|
|28 | Affluent Oued Amsemil                 | Jbel Bouhachem              | 1130 N35°15.657', W005°26.159' |
|29 | Daya Mrahen                           | Jbel Bouhachem              | 966 N35°16.195', W005°26.158' |
|30 | Daya Tazia                           | Route Moulay Abdessalam     | 721 N35°20.814', W005°33.139' |
|31 | Oued Tkaraâ                           | Jbel Bouhachem              | 959 N35°16.063', W005°25.829' |

Larache

|   | Location                              | Address                     | Coordinates      |
|---|---------------------------------------|-----------------------------|------------------|
|32 | Ksar Rimal                            | Kabila                      | 11 N35°43.806', W005°20.509' |
|33 | Daya Aïn Jdîoui                       | Ain Jdîoui                  | 5 N35°34.074', W005°55.499' |
|34 | Daya El Hajjami                       | Barrage 9 Avril             | 21 N35°31.306', W005°50.263' |
|35 | Oued Aïn Jdîoui (Touaret)             | Ain Jdîoui                  | 2 N35°33.768', W005°55.002' |

M'diq-Fnideq

|   | Location                              | Address                     | Coordinates      |
|---|---------------------------------------|-----------------------------|------------------|
|36 | Aïn Boharoch                          | Ain Aticha                  | 234 N34°29.049', W004°40.442' |
|37 | Dhar Shaghe Mâasra                    | Khemis Hoara                | 396 N34°26.977', W005°28.972' |
|38 | El Hajria                             | Sahel Botaher               | 184 N34°29.496', W004°49.886' |
|39 | Koudia El Aouinate                    | Dour Kda                    | 403 N34°26.170', W005°28.167' |
|40 | Lâazaba                               | Khemis Hoara                | 357 N34°26.820', W005°28.408' |

Tanger-Assilah

|   | Location                              | Address                     | Coordinates      |
|---|---------------------------------------|-----------------------------|------------------|
|41 | Aïn El Âakba Larbaâ                    | Mokdassene                  | 95 N35°31.328', W005°19.012' |
|42 | Barrage Nakla                          | Zinat                       | 240 N35°26.954', W005°24.326' |
|43 | Barrage Smir                           | Bouzaghla (M'diq)           | 20 N34°41.491', W005°22.673' |
|44 | Daya Amsemil                           | Jbel Bouhachem              | 1059 N35°15.596', W005°25.917' |
|45 | Daya Jbel Zemzem                       | Jbel Zemzem                 | 216 N35°15.457', W005°22.189' |
|46 | Douar Dacheryène                       | Dacheryène                  | 132 N35°33.863', W005°27.162' |
|47 | Douar Kitane                           | Kitane                      | 52 N35°32.412', W005°20.393' |
|48 | Douar Taghbaloute                      | Larbaâ Beni Hassen          | 379 N35°15.323', W005°20.887' |
|49 | Douar Tizga                            | Amsa                        | 516 N35°26.237', W005°13.694' |
|50 | El Haoura                             | Kitane                      | 52 N35°32.320', W005°20.166' |
|51 | El Malâab                             | Kitane                      | 75 N35°32.348', W005°20.290' |
|52 | Jumb Kitane                           | Kitane                      | 38 N35°32.759', W005°20.420' |
|53 | Oued Achekrade                         | Douar Aouzighen             | 642 N35°22.931', W005°20.364' |
|54 | Oued Al Mizzine                        | Mezine                      | 790 N35°06.143', W005°21.272' |
|55 | Oued Amsa                              | Amsa                        | 11 N35°31.926', W005°13.747' |
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| Location                      | Site Name                      | Town             | District          | Coordinates          |
|-------------------------------|--------------------------------|------------------|-------------------|----------------------|
| **Tétouan**                   | Oued Boumarouil               | Larbaa Beni Hassen | 551               | N35°18.733', W005°21.271' |
| 57. | Oued El Hamma                 | Beni Ydder         | 200               | N35°23.532', W005°30.051' |
| 58. | Oued El Kebir                | Route Vers Beni Ydder | 89               | N35°27.351', W005°25.796' |
| 59. | Oued Halilá                  | Azla               | 3                 | N35°33.137', W005°14.678' |
| 60. | Oued Maâza (Âachira)         | Kitane             | 15                | N35°32.596', W005°20.350' |
| 61. | Oued Maâza (Târik El Ouasâa) | Kitane             | 39                | N35°32.237', W005°19.891' |
| 62. | Oued Martil                  | Mhannech 2         | 9                 | N35°33.693', W005°22.510' |
| 63. | Oued Martil (Tamouda)        | Tamouda            | 8                 | N35°33.627', W005°24.799' |
| 64. | Oued Sahel                   | Ben Karrich        | 40                | N35°29.238', W005°26.352' |
| 65. | Oued Zarka                   | Zarka              | 128               | N35°31.211', W005°20.477' |
| 66. | Oued Zinat                   | Zinat              | 190               | N35°28.207', W005°24.224' |

### Beni Snassen (Eastern Morocco)

| Berkane                        | Oued Beni Ouaklane | Beni Snassen | 630 | N34°51.581', W002°15.180' |

### Middle Atlas

| Khénifra                       | Oued Oum Er Rbia   | Farra         | 826 | N32°55.358', W005°40.390' |
| 69. | Sensla                       | Arougo          | 1111  | N32°55.387', W005°34.081' |

### Anti Atlas

| Assa zag                       | Oued Assa         | Assa          | 306  | N28°36.507', W009°25.800' |
| 70. | Avant Sidi Binzarne          | Massa           | 10    | N30°03.144', W009°39.067' |
| 71. | Centre Sidi Ouassay          | Massa           | 41    | N30°03.387', W009°41.249' |
| 72. | Douar Sidi Abou              | Massa           | 55    | N29°59.322', W009°35.627' |
| 73. | Environ Massa                | Massa           | 24    | N29°59.353', W009°38.708' |
| 74. | Oued Massa (Pont Aghbalou)   | Massa           | 2     | N30°02.007', W009°38.768' |

### Errachidia

| Oued Ziz (Pont Errachidia)     | Oued Ziz         | 1026  | N31°56.253', W004°25.455' |

### Guelmim

| Msidira                        | El Filaha        | 257   | N28°56.865', W010°02.979' |
| 77. | Oued Sayad                  | Tâghjîit        | 568   | N29°03.784', W009°26.027' |
| 78. | Oued Tisla                  | Bouizakarne     | 613   | N29°09.908', W009°43.280' |

### Ouarzazate

| Douar Zaouia                   | Kelâa M'gouna   | 1238  | N31°14.275', W006°08.169' |
| 80. | Oued Ouarzazate             | Ouarzazate      | 1135  | N30°54.917', W006°54.187' |

### Rissani

| Ksibat Elhdeeb                | Rissani         | 770   | N31°16.494', W004°16.310' |
| 82. | Oued Tighrimt               | Tighrimt        | 706   | N29°45.742', W007°58.521' |
| 83. | Oued Zaouiet                | Akka            | 554   | N29°26.485', W008°16.535' |
| 84. | Oued Zaouia                 | Thaghjîit       | 566   | N29°53.415', W007°18.928' |

### Tata

| Imzine                        | Tissint          | 665   | N30°06.786', W006°52.639' |
| 85. | Oued Fom Zaguid (Douar Ouaïftoute) | Fom Zaguid  | 665   | N30°06.786', W006°52.639' |
| 86. | Oued Tamanarne              | Fom El Hisn     | 480   | N29°00.941', W008°53.588' |
| 87. | Oued Tata                   | Tata            | 277   | N29°45.348', W007°58.690' |

### Tinghir

| Oued Tinghir                  | Dour Iheriane    | 1280  | N31°31.366', W005°31.677' |

### Tiznit

| Airport Sidi Ifni            | Sidi Ifni       | 51    | N29°22.654', W010°10.711' |
| 90. | Arbene                      | Tiznit          | 191   | N29°44.388', W009°43.740' |
| 91. | Route Bab El Khemis         | Tiznit          | 225   | N29°42.647', W009°43.702' |
Map 1. Map showing all collecting sites in Morocco.
First checklist of the fruit flies of Morocco, including new records (Diptera, Tephritidae)

Results

Faunistic records

Family TEPHRITIDAE (Newman, 1834)
Subfamily DACINAE (Loew, 1862)
Tribe CERATITIDINI Bezzi, 1910
Genus CAPPARIMYIA Bezzi, 1920

Capparimyia savastani Martelli, 1911

Literature records. Morocco, Anti Atlas: Tiznit (Séguy 1953).

World distribution. Algeria, Tunisia, Libya, Egypt, Italy, Greece, Malta, Israel, Oman, France, Yemen and Pakistan (Freidberg and Kugler 1989, Norrbom et al. 1999, Donati and Belcari 2003, De Meyer and Freidberg 2005, Miranda et al. 2008, Papachristos et al. 2009).

Genus CERATITIS MacLeay, 1829

Ceratitis capitata (Wiedemann, 1824)

Literature records. Morocco, Rif: Tangier (Becker and Stein 1913), High Atlas (Séguy 1930), Ouadj-Ouli-Mohamed, env. Settat, Insgane (De Meyer 2000).

New records. Morocco, Rif: Douar Kitane, 4♂♂, 4♀♀, 23-IX-2014- 4♂♂, 24-IX-2014- 4♂♂, 3♀♀, 25-IX-2014- 1♂, 2♀♀, 27-IX-2014- 1♂, 3♀♀, 02-X-2014- 4♂♂, 1♀, 27-VII-2015 (reared); El Haouta, 1♂, 1♀, 20-IX-2014 (net sweeping)- 5♂♂, 11♀♀, 02-X-2014 (reared); Jumb Kitane, 4♂♂, 7♀♀, 30-VI-2015. Middle Atlas: Sensla, 1♀, 14-VII-2016 (net sweeping). Anti Atlas: Environs Massa, 1♀, 11-V-2015; Oued Massa (Pont Aghbalou), 2♂♂, 12-V-2015; Douar Sidi Abou, 23♂♂, 34♀♀, 13-V-2015; Douar Tighrimt, 1♂, 29-V-2015; Douar Zaouia, 1♂, 11-VI-2015 (net sweeping).

Host plants. A highly polyphagous species, including the infestation of fruits of Ficus carrica L., Prunus armeniaca L., Prunus persica L., and Pyrus communis L. from which the recorded specimens were reared, and Argania spinosa L. (Fig. 1) from which our specimens were collected by sweep-netting.

World distribution. Algeria, Tunisia, Libya, Egypt, Angola, Burundi, Cameroon, Congo, Ghana, Guinea, Kenya, Madagascar, Mozambique, Nigeria, South Africa, Seychelles Is, St Helena I., Tanzania, Benin, Burkino Faso, Cape Verde Is, Ethiopia, Gabon, Ivory Coast, Liberia, Malawi, Mali, Mauritius I., Niger, Reunion I., São Tomé I., Senegal, Sudan, Togo, Uganda, Zimbabwe, South Europe, Middle East, Neotropics, West Australia, Hawaii (Norr bom et al 1999, De Meyer 2000, De Meyer et al. 2013).
Figure 1. *Argania spinosa* L. host plant of *Ceratitis capitata*.

**Tribe DACINI Loew, 1862**

**Genus BACTROCERA Macquart, 1835**

**Subgenus Bactrocera Macquart, 1835**

*Bactrocera oleae* (Rossi, 1790)

**Literature record.** Morocco, Rif: Tangier (Becker and Stein 1913). First record for the Middle and Anti Atlas.

**New records.** Rif: El Haouta, 1♂, 30-I-2014 (net sweeping); Oued Maâza (Tarik El Ouasâa), 5♂♂, 1♀ 18-III-2015 (reared); Cascade Chrafate, 1♂, 28-IV-2015 (net sweeping); Koudia El Aouinate, 3♂♂, 6♀♀, 12-XII-2015 (net sweeping); Lâazaba, 2♂♂, 12-XII-2015 (net sweeping); Dhar Sbagh Mâaasra, 2♂♂, 12-XII-2015 (net sweeping); El Hajria, 1♀, 13-XII-2015 (net sweeping). Middle Atlas: Sensla, 1♂, 1♀, 14-VII-2016 (net sweeping). Anti Atlas: Route Bab El Khemis, 2♂♂, 2♀♀, 14-V-2015 (net sweeping).

**Host plant.** Fruits of *Olea europea* L. from which the specimens were both reared and collected by sweep-netting.

**World distribution.** Mediterranean region, Eritrea, Ethiopia, Kenya, Angola, Lesotho, Namibia, South Africa, Sudan, Greece, Italy, Portugal, Spain, Madeira, Canary Islands, North Africa, Israel, Lebanon, Jordan, Réunion, Saudi Arabia, Syria, Turkey,
Caucasus, Pakistan, nw. India, USA, Mexico (Séguy 1930, Munro 1984, White and Hancock 1997, Norrbom et al. 1999, Copeland et al. 2004, White 2006).

Genus DACUS Fabricius, 1805

Dacus frontalis (Becker, 1922)

New records. Morocco, Anti Atlas: Oued Foum Ziguid (Douar Ouaiftoute), 1♂, 2♀, 01-VI-2015 (net sweeping); Oued Drâa (Ikhf Mezrou), 1♂, 1♀, 06-VI-2015 (net sweeping); Isdaoun, 2♂, 3♀, 07-VI-2015 (net sweeping). First record for Morocco.

World distribution. Algeria, Libya, Egypt, Angola, Benin, Botswana, Cape Verde Is., Congo, Eritrea, Kenya, Lesotho, Namibia, Saudi Arabia, South Africa, Sudan, Tanzania, Yemen, Zimbabwe (White 2006, White and Goodger 2009, De Meyer et al. 2013).

Dacus longistylus (Wiedemann, 1830)

New records. Morocco, Anti Atlas: Oued Tata, 1♀, 29-V-2015 (net sweeping); Douar Tighrimt, 1♂, 29-V-2015 (net sweeping); Oued Foum Ziguid (Douar Ouaiftoute), 31♂, 12♀, 01-VI-2015 (net sweeping). First record for Morocco.

Host plant. Calotropis L. (Fig. 2) from which the specimens were collected by sweep-netting.

World distribution. Libya, Egypt, Benin, Cameroon, Chad, Eritrea, Ethiopia, Kenya, Mali, Mauritania, Niger, Nigeria, Oman, Saudi Arabia, Senegal, Somalia, Sudan, Tanzania, Uganda, Yemen (White and Hancock 1997, White 2006, White and Goodger 2009, De Meyer et al. 2013).

Subfamily TEPHRITINAE (Newman, 1834)

Tribe DITHRYCINI Hendel, 1927
Subtribe OEDASPIDINA Hering, 1947
Genus OEDASPIS Loew, 1862

Oedaspis daphnea (Séguy 1930)

Literature records. Morocco, Middle Atlas: El Mers (Séguy 1930, Foote 1984, Norrbom et al. 1999).

World distribution.

Comments. The species was described from Morocco and never recorded since; we did not examine the type material.
Figure 2. *Calotropis procera* L., host plant of *Dacus longistylus*.

**Oedaspis multifasciata** (Loew, 1850)

**Literature records.** Morocco, Middle Atlas: Itzer (Séguy 1953).

**World distribution.** Spain, France, Germany, Italy, Croatia, Austria, Ukraine (Korneyev 2002).

**Oedaspis trotteriana** (Bezzi, 1913)

**Literature records.** Morocco (Ribera and Blasco-Zumeta 1998).

**World distribution.** Algeria, Libya, Egypt, Israel (Ribera and Blasco-Zumeta 1998, Norrbom et al. 1999).

**Tribe MYOPITINI** Hendel, 1927
**Genus *MYOPTES* Blot, 1827**

**Myopites inulaedyssetericae** Blot, 1827

**New record.** Morocco, Rif: Affluent Tarmast, 1♂, 26-IV-2013; Aïn Afersiw, 1♀, 11-VI-2013 (net sweeping). First record for Morocco.
World distribution. Algeria, Great Britain, Estonia, France, Germany, Italy, Poland, Russia, Spain, Switzerland, Ukraine, Balkans, central Europe (Evstigneev 2011).

Myopites stylatus Fabricius, 1794

New record. Morocco, Rif: Affluent Tarmast, 1♀, 26-VI-2013; Oued El Hamma, 1♂, 25-IV-2014; El Haouta, 1♂, 18-VI-2014 (net sweeping). First record for Morocco.

World distribution. North Africa, southern Europe, Israel, Spain, Albania, (Zimsen 1964, Freidberg and Kugler 1989, Norrbom et al 1999, Merz 2001, Korneyev 2003).

Genus UROPHORA Robineau-Desvoidy, 1830

Subgenus Urophora Robineau-Desvoidy, 1830

= Euribia Meigen, 1800

Urophora sp. near congrua

Literature records. Morocco, Anti Atlas: Taroudant (Séguy 1941).

World distribution. France, South Germany, Austria (Norrbom et al, 1999).

Comments. The presence of Urophora congrua Loew, 1862 in Morocco is obviously a misidentification of another Urophora (Personal communication with Valery Korneyev). The literature records and the world distribution given above are those of U. congrua and therefore do not necessarily represent the true information for the species that occurs in Morocco

Urophora mauritanica (Macquart, 1851)

Literature records. Morocco, High Atlas: Imi N’Takandout, Dar Kaid M’tougui (Séguy 1930), Ito (White and Korneyev 1989). First record for the Anti Atlas.

New records. Morocco, Anti Atlas: Airport Sidi Ifni, 1♀, 17-V-2015; Oued Tata, 5♂♂, 29-V-2015 (net sweeping); Oued Tata, 12♂♂, 8♀♀, 06-VI-2015 (reared); Douar Tighrimt, 3♂♂, 29-V-2015; Imzine, 3♂♂, 1♀, 30-V-2015; Jnane Makadir, 1♀, 03-VI-2015; Oued Ouarzazate, 2♂♂, 12-VI-2015 (net sweeping)- 25♂♂, 14♀♀, 28-VI-2015- 7♂♂, 2♀♀, 01-VII-2015 (reared).

Host plant. Centaurea calcitrapa L. (Fig. 3) from which the specimens were reared.

World distribution. Algeria, Libya, Albania, Azerbaijan, Bulgaria, Cyprus, Czech Rep., France, Greece, Iran, Israel, Italy, Jordan, Kazakhstan, Lebanon, Macedonia, Malta, Moldova, Russia, Spain, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan
Figure 3. *Centaurea calcitrapa* L., host plant of *Urophora mauritanica*, *Chaetorellia conjuncta* and *Terellia virens*.

(White and Korneyev 1989, Korneyev and White 1996, 1999, Norrbom et al. 1999, Gharali et al. 2005, Khaghaninia and Gharajedaghi 2012).

**Urophora quadrifasciata** (Meigen, 1826)

**Literature records.** Morocco (Séguy 1930).

**World distribution.** South to North Africa, Europe, Kazakhstan, Iran, North America, Australia (Norrbom et al. 1999, Heřman and Dirlbek 2006).

**Urophora solstitialis** Linnaeus, 1758

**Literature record.** Morocco, High Atlas: Haute Reraya (Séguy 1930).

**World distribution.** Tunisia, Great Britain, Eastern Scandanvia to Kazakhstan, China, France, Italy, Switzerland, Turkey, Iran, Armenia, Moldova, Poland, Russia, Ukraine, North America, Australia, New Zealand (Korneyev and White 1999, Heřman and Dirlbek 2006, Evstigneev 2011).
Tribe Noeetini (Norrbom & Korneyev, 1999)
Genus *ENSINA* Robineau-Desvoidy, 1830

*Ensina sonchi* (Linnaeus, 1767)

**New records.** Morocco, Rif: Ksar Rimal, 5♂♂, 2♀♀, 05-VI-2013- Douar Tizga, 1♂, 25-VI-2014- Oued El Kebir, 1♀, 31-V-2015. Middle Atlas: Sensla, 1♂, 14-VII-2016 (net sweeping). Anti Atlas: Oued Massa (Pont Aghbalou), 1♀, 12-V-2015 (net sweeping); Centre Sidi Ouassay, 1♂, 12-V-2015; Ain Boharrocch, 1♀, 13-XII-2015; Atbene, 1♀, 14-V-2015; Oued Tamanarne, 1♂, 26-V-2015; Oued Drâa (Tahta), 6♂♂, 7♀♀, 03-VI-2015; Jnane Makadir, 3♂♂, 1♀, 03-VI-2015; Kasbah Asma, 16♂♂, 13♀♀, 04-VI-2015 (net sweeping)- 7♂♂, 13♀♀, 10-VI-2015 (reared); Aït Aissa O Brahima, 1♀, 05-VI-2015; Oued Ziz (Pont Errachidia), 2♂♂, 2♀♀, 09-VI-2015; Oued Ouarzazate, 4♂♂, 2♀♀, 12-VI-2015 (net sweeping). First record for Morocco.

**Host plants.** Flower heads of *Hypochaeris radicata* L. (Fig. 4) from which the specimens were reared.

**World distribution.** South to North Africa, Great Britain, Scandinavia, Andorra, Czech Rep., France, Germany, Iran, Poland, Portugal, Spain, Sweden, Switzerland,

![Figure 4. Hypochaeris sp., host plant of Ensina sonchi.](image-url)
Turkey, Ukraine, Saudi Arabia, Japan, Korea, India, Ethiopia, Taiwan, Philippines, Hawaii (White and Elson-Harris 1992, Merz and Dawah 2005, Heřman and Dirlbek 2006, Gharajedaghi et al. 2012).

**Genus HYPENIDIUM Loew, 1862**

*Hypenidium graecum* (Loew, 1862) = *Stephanaciura bipartita* Séguy, 1930

**Literature records.** Morocco, Middle Atlas: Taffert (Séguy 1930, Norrbom et al. 1999).

**World distribution.** Bosnia, Greece, Hungary, Israel, Italy, Portugal, Spain, Ukraine (Korneyev et al. 2011).

**Tribe TEPHRELLINI Hendel, 1927**

**Subtribe TEPHRELLINA Hendel, 1927**

**Genus ACIURA Robineau-Desvoidy, 1830**

*Aciura coryli* (Rossi, 1794) = *Aciura powelli* (Séguy, 1930)

**Literature records.** Morocco, Middle Atlas: Azrou (Séguy 1930), Korifla (Séguy 1953).

**World distribution.** North Africa, Spain and southern France to southern Ukraine, Canary Islands, Esrael, Syria (Korneyev and Dirlbek 2000).

**Genus OXYACIURA Hendel, 1927**

*Oxyaciura tibialis* (Robineau-Desvoidy, 1830)

**Literature records.** Morocco, Rif: Tangier (Becker and Stein 1913), Sker (Séguy 1930).

**New sites.** Morocco, Rif: Daya El Birdiyel, 1♂, 27-VI-2013; Oued Azila, 1♂, 27-VI-2013; Maison forestière, 1♂, 17-VI-2014; Oued Maâza (Tarik El Ouasâa), 1♂, 18-IV-2015 (net sweeping).

**World distribution.** North Africa, Canary Islands, Cape Verde Islands, Madeira, Spain, China, Iran, Israel, Kazakhstam, Saudi Arabia, Syria, United Arab Emirates, Afghanistan, Ethiopia (Merz 1992, 2008, Korneyev and Dirlbek 2000, Merz and Dawah 2005, Gharajedaghi et al. 2012).
First checklist of the fruit flies of Morocco, including new records (Diptera, Tephritidae)

Genus *SPHAENISCUS* Becker, 1908

*Sphaeniscus filiolus* (Loew, 1869)

= *Spheniscomyia aegyptiaca* (Efflatoun, 1924)

**Literature records.** Morocco, Anti Atlas: Goulimine (Séguy 1930, 1949). First record for the Rif.

**New records.** Morocco, Rif: Affluent Tarmast, 1♂, 26-VI-2013; Oued Maâza (Tarik El Ouasâa), 2♀♂, 1♀, 19-VI-2014 (net sweeping).

**World distribution.** Egypt, Spain, Canary Islands, Cape Verde Islands, Israel, Ethiopia (Séguy 1930, 1949; Merz 1992, 2001).

Tribe TEPHRITINI Macquart, 1835

Genus *ACANTHIOPHILUS* Becker, 1908

*Acanthiophilus helianthi* (Rossi, 1794)

**Literature records.** Morocco, Rif: around Tangier (Becker and Stein 1913, Séguy 1930), Middle Atlas (Séguy 1930), Anti Atlas: Goulimine, Foum el Hassan, Alnif, Tarfaia, Boufarik (Séguy 1949).

**New sites.** Morocco, Rif: Oued Zinat, 1♀, 27-IV-2012; Ksar Rimal, 1♀, 10-V-2013; Oued Derdara, 1♀, 24-V-2013; Affluent Tarmast, 1♂, 26-VI-2013; Daya El Birdiyel, 1♀, 27-VI-2013; Oued Azila, 1♂, 27-VI-2013; Daya Jbel Zemzem, 1♂, 23-IV-2014; Oued Boumarouil, 2♂♂, 1♀, 10-V-2014; Douar Abou Boubnar (Marabout Sidi Gile), 1♀, 18-V-2014; El Haouta, 1♂, 18-VI-2014; Oued Maâza (Tarik El Ouasâa), 1♀, 19-VI-2014- 1♀, 18-IV-2015; Douar Tizga, 1♂, 25-VI-2014; Daya Afrate, 1♀, 18-IV-2015; Oued Mezine, 1♂, 18-IV-2015; Aïn El Malâab, 1♂, 1♀, 21-IV-2015; Oued Jnane Niche, 1♀, 25-IV-2015. Middle Atlas: Oued Oum Er Rbia, 1♂, 14-VII-2016. Anti Atlas: Centre Sidi Ouassay, 1♂, 2♀♀, 12-V-2015; Avant Sidi Binzarne, 1♀, 12-V-2015; Route Bab El Khemis, 1♂, 1♀, 14-V-2015; Airport Sidi Ifni, 22♂♂, 22♀♀, 17-V-2015; Oued Tisla, 1♀, 24-V-2015; Oued Sayad, 1♀, 25-V-2015; Oued Tamanarne, 1♂, 1♀, 26-V-2015; Oued Fom Ziguid (Douar Ouaifoutoute), 1♂, 1♀, 01-VI-2015; Jnane Makadir, 2♂♂, 4♀♀, 03-VI-2015; Douar Rggaga, 1♀, 05-VI-2015; Oued Tinghir, 1♂, 1♀, 11-VI-2015; Oued Ouazarzate, 12♂♂, 6♀♀, 12-VI-2015 (net sweeping).

**World distribution.** Algeria, Tunisia, Albania, Andorra, Austria, Balearic Is., Belgium, Great Britain, Bulgaria, Corsica, Cyprus, Czech Rep., France, Germany, Greece, Hungary, Italy, Malta, Moldova, Netherlands, Norway, Poland, Portugal, Romania, Russia, Sardinia, Sicily, Slovakia, Spain, Switzerland, Ukraine, Turkey, Central Asia, Mongolia, China, Madeira, Canary Islands, Ethiopia, Kenya, Sudan, Afghanistan, Iran,
Israel, Kazakhstan, Kyrgyzstan, Lebanon, Saudi Arabia, United Arab Emirates, Syria, India, Nepal, Pakistan, Thailand (Séguy 1930, Merz and Korneyev 2004, Heřman and Dirlbek 2006, David and Ramani 2011).

**Genus CAMPIGLOSSA** Rondani, 1870

*Campiglossa martii* (Becker, 1908)

= *Oxyna martii* Becker, 1908

**New records.** North Africa, Morocco, Rif: Oued El Kebir, 1♀, 31-V-2014 (net sweeping). Anti Atlas: Centre Sidi Ouassay, 1♂, 12-V-2015 (net sweeping). First record for Morocco and North Africa.

**World distribution.** Canary Islands (Frey 1958a), Cape Verde Islands (Frey 1958b), Spain (Merz 1992).

*Campiglossa producta* Loew, 1844

= *Paroxyna tessellata* Hendel, 1927

**Literature records.** Morocco, Rif: Tangier and its surroundings, (Becker and Stein 1913, Séguy 1930), High Atlas (Séguy 1930).

**New sites.** Morocco, Rif: Oued Al Mizzine, 1♀, 11-VI-2013; Aïn El Malââb, 1♂, 17-V-2014; Daya El Hajjami, 1♂, 28-III-2015 (net sweeping).

**World distribution.** Algeria, Tunisia, Great Britain, Finland, Netherlands, Poland, Portugal, Spain, Switzerland, Madeira, Canary Islands, Turkey, Syria, Jordan, Iran, Israel, Iraq, Afghanistan, Central Asia, India, China, Thailand, Vietnam, Korea, Japan (Korneyev and Dirlbek 2000, Hancock and McGuire 2002, Korneyev 2004, Heřman and Dirlbek 2006, Mohamadzade Namin and Nozari 2011).

**Genus CAPITITES** Foote & Freidberg, 1981

*Capitites ramulosa* (Loew, 1844)

**Literature records.** Morocco, Middle Atlas: Forest of Timelilt (Séguy 1941). High Atlas: Tizi n’Test, Imdress, Taroudant (Séguy 1941), Foum El Hassan, Akka, Agdz, Alnif (Séguy 1949).

**World distribution.** Algeria, Tunisia, Egypt, Greece, Portugal, Spain, Cyprus, Syria, Israel, Iraq, Canary Islands, Cape Verde Islands (Séguy 1930, Freidberg and Kugler 1989, Merz 1992, Norrbom et al. 1999, Korneyev and Dirlbek 2000).
First checklist of the fruit flies of Morocco, including new records (Diptera, Tephritidae)

**Genus DESMELLA Munro, 1957**

*Desmella rostellata* (Séguy, 1941)

= *Paroxyna rostellata* (Séguy, 1941)

**Literature record.** Morocco, Anti Atlas: Agadir (Séguy 1941).

**Genus DIOXYNA Frey, 1945**

*Dioxyna sororcula* (Wiedemann, 1830)

**New records.** Morocco, Rif: Ksar Rimal, 2♂, 1♀, 19-V-2013- 2♂, 2♀, 26-V-2013; Oued Jnane Niche, 2♀, 1♂, 14-VI-2013; Oued Halila, 1♂, 05-XI-2013; Oued Zarka, 7♂♀, 1♀, 13-XII-2013; Oued Martil, 1♂, 1♀, 13-XII-2013; Oued Amsa, 1♀, 19-XII-2013; Oued Sahel, 1♂, 05-IV-2014; Daya Jebel Zemzem, 1♂, 17-IV-2014; Oued Majjou, 2♂♂, 10-V-2014; Dhar Shagh Mâasra, 1♀, 12-XII-2015; Douar Kitane, 15♂♀, 5♀♀, 14-XI-2013- 1♂, 2♀, 13-III-2014- 1♀, 17-III-2014- 2♂♂, 1♀, 10-IV-2014- 5♂♂, 13♀♀, 02-V-2014- 26♂♂, 14♀♀, 23-I-2016 (net sweeping). First record for Morocco.

**World distribution.** Algeria, Tunisia, South Africa, Madeira, Canary Islands, Spain, Saudi Arabia, Yemen, India, West Bengal, Nepal, Thailand, China, Korea, Japan, Taiwan, Botswana, Namibia, Zambia, Zimbabwe, Australia, New Caledonia, Western Samoa, Niue, Cook Is., French Polynesia, Fiji, Hawaii (Hancock and McGuire 2001, Norrbom and Hancock 2004, Merz and Dawah 2005, David and Ramani 2011).

**Genus EUARESTA Loew, 1873**

*Euaresta bullans* (Wiedemann, 1830)

**Literature records.** Morocco, Anti Atlas: Tiznit, Sidi-Moussa-d’Aglou (Heřman and Dirlbek 2006).

**New site.** Morocco, Anti Atlas: Msidira, 2♂♀, 1♀, 18-V-2015 (net sweeping).

**World distribution.** Algeria, Tunisia, South Africa, Argentina, Bolivia, Chile, Peru, Uruguay, California, Arizona, Bulgaria, France, Greece, Hungary, Iran, Israel, Italy, Macedonia, Moldova, Russia, Slovakia, Spain, Turkey, Ukraine, Australia (Heřman and Dirlbek 2006, Khaghaninia and Gharajedaghi 2012).
Genus *GONIURELLIA* Hendel, 1927

**Goniurellia longicauda** (Freidberg, 1980)

**Literature records.** Morocco, Middle Atlas: Tizi s’Tkrine, Forest of Azrou (Séguy 1930, Freidberg 1980), High Atlas: Taroudant (Séguy 1953, Freidberg 1980). Anti Atlas: Edehby Ouarzazate (Pârvu et al. 2006).

**New sites.** Morocco, Anti Atlas: Airport Sidi Ifni, 4♂♂, 17-V-2015; Oued Tisla, 6♂♂, 9♀♀, 24-V-2015; Oued Tamanarne, 1♂, 26-V-2015; Douar Zaouiet, 1♂, 27-V-2015; Oued Tata, 1♀, 29-V-2015; Douar Tighrimt, 1♀, 29-V-2015; Ksibat Elhdeb, 2♂♂, 07-VI-2015; Oued Ziz (Pont Errachidia), 1♀, 09-VI-2015; Oued Ouarzazate, 2♂♂, 12-VI-2015 (net sweeping).

**World distribution.** Algeria, Tunisia, Libya, Egypt, France, Canary Islands, Cape Verde Islands, Iran, Iraq, Israel, Saudi Arabia, Syria, Turkey, United Arab Emirates, Kenya (Freidberg 1980, Freidberg and Kugler 1989, Merz 1992, Norrbom et al. 1999, 2008, Korneyev and Dirlbek 2000, Al Dhafer et al. 2012).

**Goniurellia persignata** Freidberg, 1980

**Literature records.** Morocco, Eastern region: Defilia, nr. Figuig (Freidberg 1980). Anti Atlas: Tiffoultoute (Norrbom et al. 1999, Heřman and Dirlbek 2006).

**New records.** Morocco, Rif: Dhar Sbagh Mâasra, 1♀, 12-XII-2015. Anti Atlas: Douar Zaouiet, 1♂, 27-V-2015; Oued Ouarzazate, 1♂, 12-VI-2015 (net sweeping). First record for the Rif.

**World distribution.** Egypt, China, Crete, Cyprus, Ethiopia, Israel, Saudi Arabia, Sri Lanka, Turkmenistan, Namibia? (Freidberg 1980, Norrbom et al. 1999, Hancock et al. 2001, Merz and Dawah 2005, Herman and Dirlbek 2006).

Genus *SPATHULINA* Rondani, 1856

**Spathulina sicula** (Rondani, 1856)

**Literature records.** Morocco (Séguy 1930).

**New site.** Morocco, Rif: Barrage Smir, 1♂, 27-IV-2014 (net sweeping).

**World distribution.** Spain, Portugal, Italy, Israel, Canary Is. (Norrbom et al. 1999).
Genus *SPHENELLA* Robineau-Desvoidy, 1830

*Sphenella marginata* (Fallén, 1814)

**Literature records.** Morocco, Rif: around Tangier (Becker and Stein 1913, Séguy 1930).

**New sites.** Morocco, Rif: Affluent Tarmast, 1♂, 26-VI-2013; Daya Jbel Zemzem, 5♂♀, 2♀♂, 23-IV-2014; El Malâab, 1♂, 02-II-2015; Oued Maâza (Âachira), 1♀, 10-III-2015; Daya Ain Jdioui, 1♀, 28-III-2015; Oued Majjou, 1♀, 09-IV-2015; Daya Afrate, 1♂, 1♀, 18-IV-2015 (net sweeping).

**World distribution.** Egypt, South Africa, Czech Rep., Poland, Portugal, Spain, Sweden, Switzerland, Ukraine, Russia, Madeira, Afghanistan, Canary Islands, China, Iran, Israel, Kazakhstan, Saudi Arabia, Turkey, Turkmenistan, Eritrea, Kenya, Lesotho, Mozambique (Gharajedaghi et al. 2012).

Genus *TEPHRITIS* (Latreille, 1804)

*Tephritis dioscurea* Loew, 1856

**Literature records.** Morocco, Middle Atlas: El Hajeb (Séguy 1930).

**World distribution.** Sweden, France, Hungary, Austria, Germany, Switzerland, Russia, Estonia, Latvia, Lithuania, Ukraine, Moldova, Azerbaijan, Armenia, Georgia, Kazakhstan, Turkey, Iran (Foote 1984, Merz 1994, Thompson 1998, Kütük 2005, Zarghani et al. 2010).

*Tephritis divisa* (Rondani, 1871)

**New record.** Morocco, Rif: Daya Amsemlil, 1♀, 01-XI-2014 (net sweeping). First record for Morocco and North Africa.

**World distribution.** Croatia, France, Greece, Israel, Italy, Near East Asia, Spain, Switzerland, Turkey and Ukraine (Norrbom 1999, Korneyev 2003, Merz and Korneyev 2004, Kütük 2005).

*Tephritis formosa* (Loew, 1844)

**Literature record.** Morocco, High Atlas: Asni (Séguy 1930).

**New records.** Morocco, Rif: Oued Abou Bnar, 1♂, 18-V-2014; Oued Sidi Ben Sâada, 1♂, 30-V-2014; Oued Achekrade, 1♂, 31-V-2014; Oued El Kanar, 1♀, 25-IV-2015 (net sweeping). First record for the Rif.
World distribution. Caucasus, Israel, Persia, Russia, Ukraine, Moldova, Azerbaijan, Georgia, Armenia, England, Switzerland, Germany, Iran, Turkey, China (Hendel 1927, Dirlbek and Dirlbek 1971, Giray 1979, Foote 1984, White 1988, Freidberg and Kugler 1989, Merz 1994, Wang 1998).

_Tephritis leontodontis_ De Géer, 1776

**Literature record.** Morocco (Séguy 1930).

**World distribution.** Austria, Albania, Belgium, Bulgaria, United Kingdom, Estonia, Ireland, Spain, Italy, Latvia, Lithuania, Netherlands, Germany, Norway, Poland, Russian Federation, Romania, Slovakia, Hungary, Ukraine, Finland, France, United Kingdom, Czech Republic, Sweden, Switzerland (Korneyev 2016).

_Tephritis matricariae_ Loew, 1844

**Literature records.** Morocco (Séguy 1930).

**New sites.** Morocco, Rif: Affluent Oued Amsemlil, 1♂, 30-V-2013; El Haouta, 1♀, 30-I-2014; Daya Jbel Zemzem, 1♂, 23-IV-2014; Daya Amsemlil, 1♂, 01-XI-2014; Oued El Hamma, 1♀, 24-IV-2015 (net sweeping).

**World distribution.** Algeria, Tunisia, Libya, Egypt, England, Netherlands, Austria, Andorra, Greece, Portugal, Spain, Switzerland, Turkey, Iran (Norrbom et al. 1999, Merz 2001, Mohamadzade Namin et al. 2010a).

_Tephritis nigricauda_ Loew, 1856

**Literature records.** Morocco: Berrechid (Séguy 1930). First record for the Rif.

**New sites.** Daya Jbel Zemzem, 2♂♀, 23-IV-2014; Oued Maâza (Tarik El Ouasâa), 1♂, 1♀, 18-IV-2015; Ain El Maounzil, 1♀, 21-IV-2015; Daya Tazia, 1♀, 24-IV-2015; Daya Amsemlil, 1♀, 27-V-2015; Douar Tamakoute, 1♂, 1♀, 25-XII-2015 (net sweeping).

**World distribution.** Algeria, Egypt, Poland, Portugal, Spain, Iran, Iraq, Jordan, Russia, Syria (Korneyev and Dirlbek 2000, Merz 2001, Gharajedaghi et al. 2012).

_Tephritis postica_ (Loew, 1844)

**Literature records.** Morocco, Middle Atlas: Volubilis (Heřman and Dirlbek 2006). First record for the Anti Atlas.

**New records.** Anti Atlas: Ksibat Elhdeb, 1♀, 07-VI-2015 (net sweeping)- 1♂, 1♀, 23-VI-2015- 1♂, 1♀, 26-VI-2015- 1♂, 1♀, 28-VI-2015 (reared); Oued Tinghir, 1♂, 11-VI-2015 (net sweeping).
First checklist of the fruit flies of Morocco, including new records (Diptera, Tephritidae)

Host plant. Flower heads of *Onopordum acanthium* L. (Fig. 5) from which the specimens were reared.

World distribution. Algeria, Tunisia, Spain, France, Czech Rep., Georgia, Germany, Hungary, Poland, Slovakia, Ukraine, Russia, Turkey, Kazakhstan, Kyrgyzstan, China, Iran, Israel, Lebanon (Séguy 1934a, Richter 1970, Merz 1994, 2001, Wang 1998, Klasa 2001, Heřman and Dirlbek 2006, Zarghani et al. 2010, Gharajedaghi et al. 2012, Hancock 2013).

*Tephritis praecox* (Loew, 1844)

Literature records. Morocco, Rif: Tangier (Heřman and Dirlbek 2006). Middle Atlas: Tizi s’Tkrine (Séguy 1930), Ifrane-Azrou National Park (Heřman and Dirlbek 2006). First record for eastern Morocco.

New sites. Morocco, Rif: Daya El Ânassar, 2♂♂, 24-V-2013; Daya Amsemlil, 1♀, 30-V-2013; Affluent Oued Amsemlil, 1♀, 30-V-2013; Douar Dacheryène, 1♀, 04-IV-2014; Douar Taghbaloute, 1♂, 05-IV-2014; Barrage Nakha, 1♂, 05-IV-2014; Oued Sahel, 2♂♂, 05-IV-2014; Daya Jbel Zemzem, 4♂♂, 2♀♀, 17-IV-2014- 1♂, 23-IV-2014; Douar Kitane, 1♂, 19-IV-2014; Oued El Hamma, 1♂, 25-IV-2014; Oued El Kebir, 2♂♂, 2♀♀, 25-IV-2014; Aïn El Ma Bared, 1♂, 06-V-2014; Aïn El Malâab, 1♂, 1♀, 17-V-2014; Douar Abou Boubnar (Marabout Sidi Gile), 1♀, 18-V-2014; Maison forestière, 1♂, 1♀, 17-VI-2014; Douar Tizga, 1♀, 25-VI-2014; Oued Aïn Jdioui (Touaret), 1♀, 28-III-2015;
Daya Afrate, 1♂, 18-IV-2015; Oued Jbara, 1♂, 18-IV-2015; Ain El Malâab, 1♂, 21-IV-2015; Ain El Maounzil, 11♂♀, 8♀♂, 21-IV-2015; Daya Tazia, 1♂, 24-IV-2015; Oued Jnane Niche, 5♂♂, 4♀♀, 25-IV-2015; Oued Majjou, 1♀, 27-IV-2015; Ain Tiouila, 1♂, 02-V-2015; Daya Mtahen, 1♂, 1♀, 07-V-2015; Lâazaba, 3♂♂, 1♀, 12-XII-2015; Dhar Sbagh Mâasra, 1♂, 3♀♀, 12-XII-2015; El Hajria, 1♀, 13-XII-2015; Ain Boharrhoch, 1♂, 13-XII-2015; Douar Tamakout, 1♀, 25-XII-2015; Douar Ouslaf, 1♂, 2♀♀, 26-XII-2015 (net sweeping). Beni Snassen (Eastern Morocco): Oued Beni Ouaklane, 1♂, 24-XI-2014.

**World distribution.** Algeria, Spain, Portugal, Switzerland, Great Britain, Austria, Hungary, Madeira, Canary Islands, Syria, Iran, Israel, Iraq, Afghanistan (Séguy 1930, Norrbom et al. 1999, Korneyev and Dirlbek 2000, Smit 2006, Heřman and Dirlbek 2006, Zarghani et al. 2010, Gharajedaghi et al. 2012).

*Tephritis pulchra* Loew, 1844

**Literature records.** Morocco (Séguy 1930).

**World distribution.** North Africa, France, Spain, Austria, Hungary, Italy, Greece, Poland, Iran, Turkey, China (Norrbom et al. 1999, Merz 2001, Freidberg and Küttük 2002, Mohamadzade Namin and Nozari 2011).

*Tephritis simplex* Loew, 1844

**Literature records.** Morocco (Séguy 1930).

**World distribution.** Algeria, Tunisia, Spain, Portugal, Crete, Turkey, Israel (Norrbom et al. 1999, Merz 2001).

*Tephritis stictica* Loew, 1862

**Literature records.** Morocco: Rabat (Séguy 1930).

**World distribution.** Algeria (Séguy 1930), southern Europe (Norrbom et al. 1999).

*Tephritis theryi* (Séguy 1930)

**Literature records.** Morocco, High Atlas: Asni (Séguy 1930, Norrbom et al. 1999).

*Tephritis vespertina* (Loew, 1844)

**New record.** Morocco, Rif: Daya Mtahen, 1♀, 27-V-2015; Dhar Sbagh Mâasra, 1♂, 1♀, 12-XII-2015 (net sweeping). First record for Morocco.
World distribution. South to North Africa, Andorra, Germany, Hungary, Poland, Portugal, Spain, Switzerland, Ukraine, Turkey (Merz 2001, Hendel 1927, Foote 1984, Norrbom et al. 1999, Merz 1994, Küütük and Özgür 2003).

Genus TEPHRITOMYIA Hendel, 1927

Tephritomyia lauta (Loew, 1869)

Literature records. Morocco, High Atlas: Tachdirt (Séguy 1930); Tizi-n-Tichka (Morgulis 2015). First record for the Rif.

New records. Morocco, Rif: Daya El Birdiyel, 1♂, 27-VI-2013; Daya Amsemlil, 1♀, 01-XI-2014; Lâazaba, 1♂, 12-XII-2105. Anti Atlas: Msdira, 1♂, 18-V-2015; Oued Ouarzazate, 1♂, 6♀, 12-VI-2015 (net sweeping).

World distribution. Tunisia, Egypt, Cyprus, Greece, Iran, Iraq, Israel, Lebanon, Syria, Turkey (Freidberg and Kugler 1989, Norrbom et al. 1999, Korneyev and Dirlbek 2000, Mohamadzade Namin and Nozari 2011, Morgulis 2015).

Genus TRUPANEA (Schrank, 1795)

Trupanea amoena (Frauenfeld, 1857)

Literature records. Morocco, Middle Atlas: Aïn Leuh (Séguy 1930). First record for the Rif.

New records. Morocco, Rif: Ksar Rimal, 1♂, 05-VI-2013; Oued Jnane niche, 1♂, 14-VI-2013; Affluent Tarmast, 2♀, 26-VI-2013; Oued Martil (Tamouda), 1♀, 13-VII-2013; Oued Amsa, 1♂, 13-XII-2013; Oued El Hamma, 2♂♀, 1♀, 25-IV-2014; Oued Boumaroul, 1♀, 10-V-2014; Oued Sidi Yahya Aârab, 1♂, 25-IV-2015; Ain Tiouila, 1♂, 02-V-2015. Anti Atlas: Oued Massa (Pont Aghbalou), 1♂, 12-V-2015; Centre Sidi Ouassaï, 1♂, 12-V-2015; Avant Sidi Binzarne, 2♂♀, 1♀, 12-V-2015; Oued Tisla, 2♀♀, 24-V-2015; Douar Tighrimt, 1♂, 29-V-2015; Oued Draa (Tahtah), 1♂, 03-VI-2015; Jnane Makadir, 1♂, 03-VI-2015; Douar Rggaga, 1♀, 05-VI-2015; Aït Aissa O Brahim, 1♂, 05-VI-2015; Oued Drâa (Ikhf Mezrou), 1♂, 06-VI-2015; Isdaoun, 1♂, 07-VI-2015; Ksibat Elhdeb, 1♀, 07-VI-2015; Oued Tinghir, 2♂♀, 11-VI-2015 (net sweeping).

World distribution. North Africa, Canary Islands, Ceylon, Ethiopia, England, Germany, India, Iran, Israel, Middle Asia, Middle and North Europe, Netherlands, Philippines, Saudi Arabia, Switzerland, Taiwan, Turkey, United Arab Emirates (Hendel 1927, Séguy 1930, Giray 1969, Foote 1984, White 1988, Freidberg and Kugler 1989, Merz 1994, Merz and Korneyev 2004, Merz and Dawah 2005, Merz 2008, Mohamadzade Namin et al. 2010b).
Trupanea guimari (Becker, 1908)

**Literature records.** Morocco, Middle Atlas: Tizi s’Tkrine, Forest of Azrou (Séguy 1930). High Atlas: Tenfecht (Séguy 1930). First record for the Anti Atlas.

**New records.** Morocco, Anti Atlas: Centre Sidi Ouassay, 4♂♂, 12-V-2015; Msidi-ra, 1♂, 18-V-2015; Jnane Makadir, 2♂♂, 1♀, 03-VI-2015; Aït Aissa O Brahim, 1♂, 1♀, 05-VI-2015; Ksibat Elhdeb, 1♀, 07-VI-2015 (net sweeping).

**World distribution.** Algeria, Spain, Canary Islands, Cape Verde Islands (Merz 1992, 1999).

Trupanea stellata (Fuessly, 1775)

**Literature records.** Morocco, Middle Atlas: Forest of Timelilt (Séguy 1930), Anti Atlas: Goulimine (Séguy 1949). First record for the Rif.

**New records.** Morocco, Rif: Mizoghar, 1♀, 06-V-2014; Oued Maâza (Tarik El Ouasàa), 1♂, 19-VI-2014; Daya Afrage, 1♀, 18-IV-2015; Ain El Malâab, 1♀, 21-IV-2015; Oued Tkaraâ, 1♀, 07-V-2015. Anti Atlas: Centre Sidi Ouassay, 1♀, 12-V-2015 (net sweeping).

**World distribution.** Tunisia, Andorra, Armenia, British Isles, Scandinavia, Czech Rep., Madeira, Poland, Spain, Switzerland, Turkey, Ukraine, Mongolia, China, Canary Islands, Iraq, Israel, Saudi Arabia, United Arab Emirates, Iran, India (Norrbom et al. 1999, Heřman and Dirlbek 2006, David and Ramani 2011, Gharajedaghi et al. 2012, Merz 2011).

Tribe TERELLINI Hendel, 1927
Genus CHAETORELLIA Hendel, 1927

Chaetorellia conjuncta (Becker, 1912)

**New records.** Morocco, Anti Atlas: Airport Sidi Ifni, 5♂♂, 5♀♀, 17-V-2015; Oued Assa: 3♂♂, 2♀♀, 21-V-2015; Oued Sayad, 1♂, 25-V-2015; Oued Foum Ziguid (Douar Ouaiftoute), 1♀, 01-VI-2015; Ksibat Elhdeb, 1♂, 07-VI-2015; Oued Ziz (Pont Errachidia), 1♀, 09-VI-2015 (net sweeping)- 1♀, 12-VI-2015- 3♂♂, 23-VI-2015 (reared); Oued Ouarzazate, 4♂♂, 2♀♀, 12-VI-2015 (net sweeping)- 1♂, 28-VI-2015- 1♂, 1♀, 01-VII-2015 (reared). First record for Morocco.

**Host plants.** Flower heads of Centaurea calcitrapa L. from which the specimens were reared.

**World distribution.** Egypt, Afghanistan, Albania, Caucasus, Cyprus, Greece, Hungary, Iraq, Iran, Israel, Jordan, Kazakhstan, Lebanon, Pakistan, Syria, Turkey (White and Marquardt 1989, Norrbom et al. 1999, Korneyev and Dirlbek 2000, Merz 2000).
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Chaetorellia bestia Hering, 1937

**Literature record.** Morocco, High Atlas: Essaouira (Séguy 1930). First record for the Anti Atlas.

**New record.** Morocco, Anti Atlas: Centre Sidi Ouassay, 2♂♂, 12-V-2015 (net sweeping).

**World distribution.** Algeria, France, Spain, Italy (Séguy 1930, White and Marquardt 1989, Norrbom et al. 1999).

Genus *TERELLIA* Robineau-Desvoidy, 1830

*Terellia colon* Meigen, 1826

**Literature records.** Morocco (Séguy 1930).

**World distribution.** North Africa, Austria, Azerbaijan, Belgium, Great Britain, Crete, Czech Republic, Denmark, Dodecanese Islands, France, Germany, Georgia, Greece, Hungary, Israel, Italy, Kazakhstan, Kyrgyzstan, Lithuania, Moldova, North Aegean Islands, Poland, Romania, Russia, Sicily, Slovakia, Spain, Sweden, Switzerland, West Siberia, Tajikistan, Netherlands, Turkmenistan, Turkey, Ukraine, Uzbekistan (Foote 1984, Norrbom et al. 1999, Küttük and Özgür 2003, Özgür and Küttük 2003, Merz and Korneyev 2004, Heřman and Dirlbek 2006).

*Terellia fuscicornis* (Loew, 1844)

**Literature records.** Morocco (Séguy 1930).

**World distribution.** North Africa, Crete, Cyprus, France, Greece, Italy, Madeira, Malta, Sardinia, Sicily, Spain, Iran, Israel, Lebanon, Turkey, California, Scotland (Norr bom et al. 1999, Merz 2001, Whittington 2002, Küttük and Yaran 2011, Mohamadzade Namin 2011).

*Terellia longicauda* (Meigen, 1838)

**Literature records.** Morocco, High Atlas: Tizi n’Test, Middle Atlas: Aïn Leuh (Séguy 1930, 1934b).

**World distribution.** Albania, Austria, Great Britain, Bulgaria, Czech Republic, Cyprus, France, Germany, Hungary, Italy, Near East, Poland, Russia, Slovakia, Spain, Switzerland, Ukraine, Turkey (Küttük 2003, Merz and Korneyev 2004).
Terellia sp. near longicauda

**New record.** Morocco, Rif: Douar Kitane, 4♂, 10-VIII-2016- 2♂, 3♀, 11-VIII-2016- 1♂, 3♀, 12-VIII-2016- 1♀, 13-VIII-2016 (reared). First record for Morocco and North Africa.

**Host plants.** Flower heads of *Cynara cardunculus* L. (Fig. 6) from which the specimens were reared.

**World distribution.** Spain, Canary Islands (Merz 1992).

**Comments.** This is an undescribed, cryptic species of the *Terellia serratulae* L. complex known to infest *Cynara cardunculus* L. in Spain and the Canary Islands. The *serratula* group contains cryptic species, a situation that needs to be resolved, and for which a molecular approach should be adopted (Valery Korneyev, pers. comm.).

Terellia serratulae (Linnaeus, 1758)

**Literature records.** Morocco, Rif: Tangier (Wiedemann 1824, Becker and Stein 1913).

**New sites.** Morocco, Rif: Daya Jbel Zemzem, 1♀, 23-IV-2014; Oued Maâza (Tarik El Ouasâa), 2♂, 1♀, 18-VI-2014 (net sweeping).

**World distribution.** Algeria, Tunisia, Albania, Andorra, Armenia, Austria, Azerbaijan, Balearic Islands, Belgium, Great Britain, Bulgaria, China, Corsica, Crete, Cyprus,
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Czech Rep., Denmark, Finland, France, Georgia, Germany, Greece, Iran, Iraq, Ireland, Israel, Italy, Kazakhstan, Korea, Lebanon, Malta, Moldova, Mongolia, Netherlands, Norway, Poland, Portugal, Romania, Russia, Sardinia, Sicily, Slovakia, Spain, Sweden, Switzerland, Syria, Turkey, Ukraine (Korneyev and Dirlbek 2000, Han and Kwon 2000, Merz 2001, Heřman and Dirlbek 2006, Kütük and Yaran 2011, Khaghaninia et al. 2012).

**Terellia virens** (Loew, 1846)

**Literature records.** Morocco, High Atlas: Jbel Ayachi (White 1989), Tizi-n-Talrhemt (Korneyev et al. 2013). First record for the Anti Atlas.

**New record.** Morocco, Anti Atlas: Airport Sidi Ifni, 2♂♂, 17-V-2015; Oued Ouarzazate, 5♂♂, 12-VI-2015 (net sweeping)- 1♀, 01-VII-2015 (reared).

**Host plants.** Flower heads of *Centaurea calcitrapa* L. from which the specimens were reared.

**World distribution.** Tunisia, Albania, Afghanistan, Austria, Bulgaria, Corsica, Czech Rep., France, Germany, Greece, Hungary, Iran, Iraq, Israel, Italy, Jordan, Kazakhstan, Moldova, Netherlands, Poland, Romania, Russia, Serbia, Sicily, Slovakia, Spain, Switzerland, Turkey, Ukraine, USA (Séguy 1930, Kütük and Yaran 2011, Gharajedaghi et al. 2012, Korneyev et al. 2013).

**Subfamily TRYPETINAE** (Robineau-Desvoidy, 1830)

**Tribe CARPOMYINI** Korneyev, 1995

**Subtribe CARPOMYINAE** Norrbom, 1989

**Genus CARPOMYA** Costa, 1854

*Carpomya incompleta* (Becker, 1903)

**New record.** Morocco, Anti Atlas: Douar Zaouia, 1♂, 1♀, 11-VI-2015 (net sweeping). First record for Morocco.

**World distribution.** Italy, Egypt, Ethiopia, Iraq, Israel, Saudi Arabia, Sudan, United Arab Emirates, Burkina Faso, Kenya (Norrbom et al. 1999, Merz 2011, Copeland 2009, Tankoano et al. 2012).

**Tribe TRYPETINI** Loew, 1861

**Subtribe CHETOSTOMATINA**

**Genus CHETOSTOMA** Rondani, 1856

*Chetostoma curvinerve* Rondani, 1856

**New record.** Morocco, Rif: Oued El Kelâa, 1♂, 18-XII-2015; Bab El Karne, 1♀, 25-XII-2015 (net sweeping). First record for Morocco.
**World distribution.** North Africa, Austria, Great Britain, Italy, Netherlands, Portugal, Spain, Switzerland, Uzbekistan, Iran, Israel (Norrbom et al., 1999, Mohamadzade Namin et al. 2010).

**Subtribe TRYPETINA Loew, 1861**

**Genus EULEIA Walker, 1835**

*Euleia heraclei* (Linnaeus, 1758)

**Literature records.** Morocco, Gharb plain: Sidi Slimane (Séguy 1953). First records for the Rif.

**New record.** Morocco, Rif: Oued Boumarouil, 1♂, 10-V-2014; Aïn El Âakba Larbaâ, 1♂, 18-IV-2015 (net sweeping).

**World distribution.** Algeria, Madeira, Great Britain, Czech Rep., Estonia, Latvia, Moldova, Poland, Romania, Russia, Spain, Switzerland, Ukraine, Afghanistan, Armenia, Azerbaijan, Georgia, Iran, Israel, Kazakhstan, Kyrgyzstan, Tadjikistan, Turkey, Turkmenistan, Uzbekistan, Japan (Norrbom et al. 1999, Heřman and Dirlbek 2006, Giliasian and Merz 2008).

*Euleia marmorea* (Fabricius, 1805)

**Literature records.** Morocco, Rif: Tangier (Séguy 1930, Zimsen 1964).

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