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Tephritidae in Turkey An evaluation of its status from various standpoints (*Diptera*)

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Abstract: *Tephritidae* in Turkey. An evaluation of its status from various standpoints (*Diptera*). Cesa News 86: 1-49, 42 figs., 25 maps., 2 Tables.

In this paper, scientific evaluations on the faunistic information, morphological and systematical knowledge, illustrations, mapping, bibliography, authorship, and ethical situation, within the frame of some recent publications on the *Tephritidae* are given. As a result of this, several regrettable cases are determined. A list of 156 tephritid species, known from Turkey so far, is given. Totally 25 species are reported for Van Province, together with their distributional maps. From various provinces, 22 species are illustrated in nature. Three species are reported as new to the fauna of Turkey.

Keywords: *Tephritidae*, *Diptera*, fauna, comments, Turkey.

Of course, we have great responsibilities as scientists. Carrying out studies in the laboratory, or in the field, and publishing the results are not the sole one, but educating, and training young scientists, as well as correcting the mis-information in the literature, if exist. We are absolutely against the pollution of the knowledge. We are aware of the importance of the education and training of the young people properly. Experienced academicians in the universities are also assigned as supervisors of young scientists within the related programs. Supervisors carry responsibilities not only in teaching the scientific information to the students, but also scientific merits, i.e., morality and ethics.

In fact, we are lepidopterists, but in broader sense, entomologists. We have been studying within the Cesa Project, Entomofauna of Turkey,³ since 2008. The main aim of our Project is to

¹ <http://zoobank.org/?lsid=urn:lsid:zoobank.org:author:4755104C-24B4-4E00-8831-5F5E08B9E831>

² <http://zoobank.org/?lsid=urn:lsid:zoobank.org:author:671DD110-BDF1-49C8-964D-2A9251BE7824>

determine of the species of the pterygot insect orders in Turkey. In other words, to determine the known faunal composition of our country. By doing this, we used the literary data published so far, and as a team, our own information based upon our field studies and observations in Turkey, since 1966. Up to the present time, we published several temporary reports on the Entomofauna of Turkey, reflecting the development stages of the Project mentioned. The last comprehensive report contains 20417 known species of the pterygot insects in Turkey (Koçak & Kemal, 2012).⁴ As it is always expressed, also the last report is not complete, neither in specific composition, nor in the evaluated publications. Expected number of the known species is between 27-30000 species. We are of the opinion that, these reports, even incomplete yet, are very important, as the first comprehensive studies on this subject. Besides, they contain numerous new faunistic records, original images, maps, and corrected scientific names, and many references. In the last comprehensive publication on the Diptera of Turkey, authors evaluated nearly 3000 species of the Diptera, with many original illustrations and maps. As lepidopterists, studying Diptera of Turkey, is a prerogative for us (Koçak & Kemal, 2013).⁵

Before going further on the evaluation of the status *Tephritidae*, we would like to express our opinions on the basic subjects given below:

Faunistic information, morphological and systematical knowledge, illustrations, mapping, bibliography, authorship, ethical situation.

Faunistic information

Especially in the last two decades, the faunistic information on the *Tephritidae* of Turkey are rather good in the literature (see reference list). In general, in such articles published in Turkey, the specific names are used with the authors, sometimes with the publication dates of the taxa. Genera are usually omitted in faunistic studies. Synonymous names are used from time to time. In fact, to the issue of synonymy in such publications is not given enough attention by the authors. For example, Korneyev (1996) considered the name *syriaca* Hendel, 1927 and *dzieduszyckii* Frauenfeld, 1867 conspecific after a serious investigations on the type materials in museums; consequently he proposed *syriaca* Hendel as junior subjective synonym of *dzieduszyckii* Frauenfeld. The latter is nomenclaturally valid name for the taxon. After 1996, in the related articles, published in Turkish journals, *syriaca* Hendel is still given as valid name (Kütük, 2003; Bayrak & Hayat, 2012). These last publications are the evidences that the authors have no interest in the latest taxonomical improvements. There is no other taxonomical publication discussing the validity of *syriaca* Hendel after 1996. Finally, Korneyev confirmed this synonymy as valid once more (pers. comm.).

Negligence on the application of the results of taxonomical interpretations is also seen in the cases, concerning evaluations other studies, published by unfamiliar authors. During our Entomofauna survey, we recognized a few hundred authors and read their more than 2700 publications (in Lepidoptera 8740 publications), for the purpose of evaluating within our database program. Since 2009, we published several serious intermediate reports on the faunal status of Turkey and adjacent countries, regions, etc. For example in 2009 we published our first dipteran list of the species and genera occurring in Turkey.⁶ This study, is currently placed in Internet Archive as pdf file, and since then 1104 times downloaded by various dipterists in the world.⁷ What happened? We really don't know. But, we have never seen it in a reference list of a publication. This proves one thing; in respect of citation, the authors usually prefer the publications published by familiar authors, and *vice versa*.⁸ This situation restricts the spread of new knowledge and experience in science, and it cannot be tolerated at all. Consequently, such a scientist inevitably becomes small-minded, closed innovation, unproductive, and away from the creativity. This

³ <http://www.cesa-tr.org/Entomofauna.htm>

⁴ <http://archive.org/details/CentreForEntomologicalStudiesAnkaraMemoirs6>

⁵ <http://archive.org/details/CentreForEntomologicalStudiesAnkaraPriamusSupplement28>

⁶ <http://archive.org/details/CentreForEntomologicalStudiesAnkaraCesaNewsNr.51>

⁷ The same case is also seen in our other publications on *Hymenoptera* and *Coleoptera* of Turkey. The former publication have been downloaded from Internet Archive 1067 times (no reference information), The latter publication have been downloaded from Internet Archive 1429 times (no reference informaton).

⁸ This can be explained as having a mutually beneficial relationship.

explains also the reason of the publications of many authors, produced by dividing their original academic theses several times.

As a result of the faunistical studies, authors give some numerical values, such as “100 species known in Turkey for the family...” In the last two important faunistical publications, Bayrak & Hayat (2012) reported the species number of the family *Tephritidae*: “*In Turkey, totally, 133 species were recorded in the studies conducted till now* [in abstract only]”. One year later, in their research article, published in the “esteemed” journal in Turkey, Kütük, Yaran, Hayat, Koyuncu, Görmez and Aytakin (2013) stated: “*Urophora tenuis Becker, 1908 is recorded for the first time from Turkey. Thus, the number of Turkish fruit flies is increased to 118.*” We really wonder if 133 or 118 species of *Tephritidae* are known in Turkey, or not. Hayat is the author of both publications; therefore he is the only authority to explain this dilemma.

Morphological and systematical knowledge

Publications on the morphological studies on the *Tephritidae* of Turkey is gradually increasing in parallel with the systematical studies. When we examine these systematical studies, previously published in Turkish journals, they raise an opinion that the authors perceive systematics wrongly. Because, they simply place in such articles adopted identification keys, without discussion and interpretation such diagnostic characters. Systematics is rather difficult branch of taxonomy, and, in modern sense, meaningless, if it isn't associated properly with the molecular and phylogenetic data.

Illustrations

Before us, there was almost no scientific publication on the *Tephritidae* of Turkey, containing images of the adults *in vivo* and *in situ*. But now, there are scientific publications, published in Turkish “esteemed” journals, or in theses (MSc, PhD), containing wing patterns of the *Tephritidae* of Turkey. Illustrations of wing pattern slides have been made by Kütük, Pakyürek (2006), Yaran (2009), Görmez (2011).

There is a general problem with the explanations of these images. The authors give only specific name to the images of the wing patterns, without information on the collecting locality of the illustrated specimens. This case brings to the literature confusion, and make necessary comparison impossible. Under these circumstances, such simple wing patterns has no scientific value. Besides, when we examine these images carefully, especially Kütük's publications or theses of his students (Yaran and Görmez), it is clearly seen that Kütük's images has been repeated in other publications, without any necessary citation. This act is universally called as **plagiarism**. Now, we don't mention plagiarism,⁹ but **mis-information**, published in these publications, including academic theses. We would like to explain this case by using only images of one species among many.

Mapping

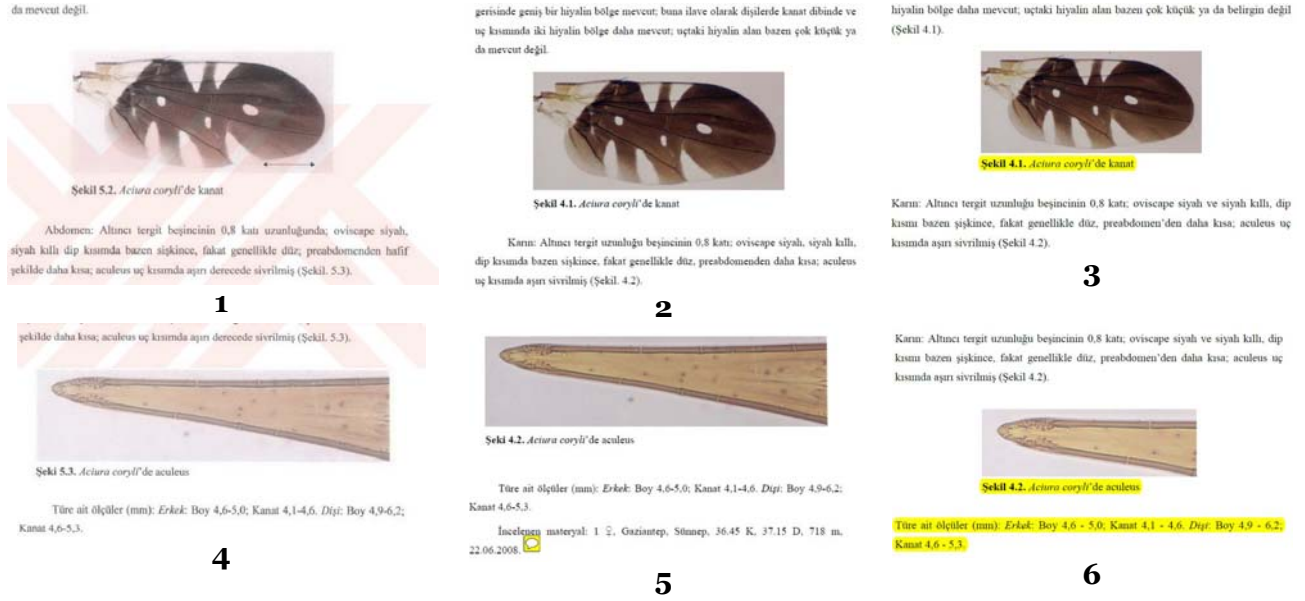
Various but particularly regional maps have been used in the theses and other publications on Diptera of Turkey (Kütük, 2003; Bayraktar, 2006). Koçak & Kemal (2013) used composed maps showing approximate distributions of the species in Turkey, as well as in abroad. Mapping Project of the authors is on the upgrade.

Bibliography

The number of the tephritid publications in Turkey is a significant amount. However, the readers should be careful, as the reliability of some of them are doubtful. Therefore, they cannot be recommended (see Table 1).

⁹ plagiarism is an affair of serious dipterists!

Table 1 - Wing pattern and aculeus of *Aciura coryli* (Tephritidae). Figs. 1-3 wings, figs. 4-6 aculeus. For evaluation, see below.



Figs. 1,4 ex Kütük PhD thesis (2003) from SW Anatolia, figs. 2,5 ex Yaran MSc thesis (2009) from Gaziantep, figs. 3,6 ex Görmez MSc thesis (2011) from Kahramanmaraş.

Figs. 1, 2, 3 are the same wing pattern slide. Figs. 4, 5, 6 are also the same aculeus slide. One wing pattern image is used in three academic theses, without citation and explanation. In other words, the used images donot belong the the studied areas in the theses. Similarly, aculeus images donot belong to the studied areas of the theses. These results show that the methods used in these theses couldnot be considered as “scientific”. Moreover, the descriptive text used are copied by the authors (see figs.1, 2, 3). Measurements of the adults are also copied completely (see figs.4, 5, 6). Tragicomic is the fig.5. Examined material is a single female, but Yaran gives full measurements of the males and females. How it can be possible? There is only one way, plagiarism from the thesis of his supervisor. Interesting is the responsible supervisor [!] obviously supported this act. In these theses and in other publications of the authors, same acts are numerous. All of these, copied images, copied texts disclosure the present situation of the academic researches on the Tephritidae of Turkey.

Authorship

Author(s) decide, plan and carry out a survey at the beginning, and write the obtained results, and publish it at the end. According to us, author(s) are responsible for a publication at all stage. Supervisor is an assigned person and responsible for teaching and training of the student for a certain period. These two academical concepts are absolutely different in every respect.¹⁰ However, in the Turkish academical circles, we see very frequently the supervisors, after completing thesis and the necessary examinations, appearing as authors of the personally examined thesis, during its publication stage. Our team are not able to understand this approach and official application, and finding it completely non-ethical as well as extremely immoral. ¹¹ Thesis is a kind of study that only one person gains from it an academical title. For that reason, thesis **must** belong to one person **only**, never two or three. Just in the case in Zoological Nomenclature Rules, denoting name bearing “types”.

Authors are the persons contributing to the text or to the part of the publication planned. In the last example on the *Tephritidae*, six authors published a study entitled: “The determination of fruit fly (Diptera: Tephritidae) fauna in Adıyaman, Kilis...”. Let’s see these six authors; Murat Kütük (dipterist), Mehmet Yaran (dipterist, Kütük’s student), Rüstem Hayat (dipterist), M.Ö.Koyuncu (dipterist), V. Görmez (dipterist, Kütük’s student), and finally Halil Uğur Aytekin (lepidopterist, Kütük’s student). The last author, has no academic experience as dipterist, but experienced [!] on the Pyralidae of Gaziantep. Unfortunately, Aytekin has experienced solely on

¹⁰ See also the comments on this subject: Koçak & Kemal, 2013, Priamus (Suppl.) 28: 3, footnote 1.

¹¹ Latest example for a correct act: S.Korneyev (2013: 87-88) expressed in the Acknowledgement: “This paper is resulted from my master diploma work at the Department of Zoology of Taras Shevchenko National University of Kiev in 2011–2012. My sincere thanks are due to Dr. V. A. Korneyev and Dr. N. A. Matushkina, the **supervisors** of this work, for their valuable comments and criticism”.

plagiarism at the highest level during preparation his MSc thesis under Kütük's supervisor. His scientific contribution to the publication mentioned above as "dipterist" is really a subject of curiosity.

Ethical situation

In brief, most of the publications, authorships, used images, and texts in the scientific researches on the family *Tephritidae* in Turkey are the subject of ethics. The point reached is never desirable goal. Determination of the status and to take measures are the unavoidable responsibilities of all scientists. We share with the responsible dipterists, what we know about these unpleasant situation, in order to prevent bad trend. On this point, we believe that serious and sincere collaboration between us is not only an approach required, but also a necessity of being scientific.

On a recent publication

Recently, Korneyev (2013) published an important revisional work on *Terellia virens* – group, together with six co-authors. Three of the authors are Turkish, M.Kütük, M.Yaran, and M.Ö.Koyuncu. Kütük and Yaran, as co-authors of this important study didnot solve the identification problem¹² of the Turkish material of the *Terellia virens* auct. nec Loew,1846, which created by themselves. Besides, there are serious errors in the locality names of Turkey on page 13 of this work. We are of the opinion that these three Turkish authors of this publication were responsible on this subject; but they didnot fulfil their responsibilities as authors. In order to prevent the distribution of these mis-spelled names among the other dipterists, corrections regarding the localities in Turkey are given (Table 2).

Table 2 – Locality names in Turkey and their corrections

Original text with errors	Corrected text
33 km. from Haymane twd. Yanice Ankara, Yaglipinar Balikeser, 1.5 km W 20 rd. km N Bucac Icel, 0.5 km N of Nut	33 km. from Haymana twd. Yenice Ankara, Yağlıpınar Balıkesir, 1.5 km W 20 rd. km N Bucak İçel, 0.5 km N of Mut
46 km E of Silifke at Qulnar	46 km E of Silifke at Gülnar
33 km S Seydisehir twd. Bozkır	33 km S Seydişehir twd. Bozkır
Sansun 18 km E of Nerziton	Samsun 18 km E of Merzifon
Turgat W. of Toaget near Yoggat	?Turgat W. of Tokat near Yozgat

Korneyev explained rightfully about his well represented revision work: "A very fresh paper (but written for over 20 years¹³ and finally born¹⁴) to your attention. The most common European tephritid fly and its uncommon Near and Middle East relatives" [ex Facebook, V.Korneyev, site].

Unfortunately, we cannot see their scientific contributions of these three Turkish "co-authors" to this revision work on *Terellia virens*- group. We are of the opinion that these authors belong to "unreal" type, defined by Koçak & Kemal (2013). For that reason, we consider the "real" authors of this work, as "V.A.Korneyev, D. A. Evstigneev, Y. Karimpour, and S. Mohamadzade

¹² "No specimens of *T.virens* from Asia Minor, Transcaucasia or Middle East were found in this study by the first author. Material and localities listed by Kütük (2008) from Turkey need thorough re-examination as it was identified without use of genitalic characters and might contain at least some misidentified specimens, judging from the list of host-plants, which includes "*Centaurea iberica* Trev.... (Kütük, 2008; Kütük & Yaran 2011)..." (Korneyev et al.,2013).

¹³ More precise date may be 1983! (Korneyev, pers. comm.).

¹⁴ It is interesting that one of the Turkish co-authors, M. Yaran's birth day is "18 August,1984". In this case, the author M.Yaran should be about 2-3 years old, during the preparation of this revision work!

Namin, who have really contributions to this study, since 1983".¹⁵ On the other hand, their independent academical personalities are also doubtful, as they are represented by a single official e-mail only, i.e., mkutuk@gantep.edu.tr (see authors of the publication, under discussion). This means that all academic activities of these young people are under Kütük's governance. Further serious evidences on the academic value of these persons may be explained in the coming publications, if necessary.

Finally, the topic of the *Tephritidae* of Turkey has been moved to another dimension after taking the contents of the last publications into consideration. Determined important cases are as follows; **plagiarism, misappropriation of the academic concepts, such as authorship and supervisor in the Dipterology.** Faunistically, it became also clear that the specific information under the name "*Terellia virens*" are absolutely unreliable, therefore cannot be used, because of the identification methods followed by Kütük and his students (Korneyev et al.,2013).

How do we get rid of this annoying situation?

Scientist is philosopher, teaches just the facts, defends the truth only. Being a real scientist is a prerogative, and protection this identity is a virtue.

¹⁵ On the contrary, these Turkish authors gained in an unfair manner a great academical experience [sic] for their further and higher academical position in their University, thanks to Korneyev!

List of the Tephritidae in Turkey

The details on text and numerous images that has been previously planned for this study, are omitted here unwillingly, due the mis-information, created by Turkish specialists on Tephritidae (see above). For that reason, a simple name list is given below temporarily.

Tephritidae of Turkey will be re-studied within the frame of the Cesa Project by ourselves in a long, planned process.

The specific and synonymic list is based upon the info-system of the Cesa. It is composed of 156 valid species. In this way, the total number of the dipteran species of Turkey increased to 3029. Total number of the species of pterygot insects of Turkey increased also to 21100. These numbers are, of course, changeable. Number of tephritid species is also not exact, due to the mis-identifications by Kütük and his students, discussed above. Total number of the pterygot insects of Van Province increased now to 2205,¹⁶ of which 221 species belong to the order Diptera. Most of these records are thanks to efforts of our team.

As it is easily seen that the tephritid program has a share of 0.73% of our task within the Entomofauna Project [156 x 100/21100].

In the list below, the species recorded by us in Van Province are marked with “*”. Besides, “#” denotes nomenclaturally unavailable name. The specific identity of these records belong mostly to V.Korneyev. Composed maps are given for the 25 species recorded in Van Province. Selected tephritid images from various provinces of Turkey belong to M.Kemal (preserved in the Cesa Archive).

1. ***Acanthiophilus helianthi (Rossi,1790)** (Tephritidae) Synonym(s): *helianthi* Rossi,1790; *eluta* Meigen,1826
2. **Acanthiophilus ramulosus Loew,1844** (Tephritidae) Synonym(s): *ramulosus* Loew,1844
3. **Acinia biflexa (Loew,1844)** (Tephritidae) Synonym(s): *biflexa* Loew,1844
4. **Aciura coryli (Rossi,1790)** (Tephritidae) Synonym(s): *coryli* Rossi,1790; *rotundiventris* Meigen,1826; *femoralis* R-D.,1830; *powelli* Seguy,1930
5. **Actinoptera discoidea (Fallén,1814)** (Tephritidae) Synonym(s): *discoidea* Fallén,1814; *aestiva* Meigen,1826; *gnaphalii* Loew,1844
6. **Bactrocera (Daculus) oleae (Rossi,1790)** (Tephritidae) Synonym(s): *oleae* Rossi,1790; *flaviventris* Guercio,1900; *funesta* Guercio,1900
7. **Campiglossa absinthii (Fabricius,1805)** (Tephritidae) Synonym(s): *absinthii* Fabricius,1805; *maculata* R-D.,1830; *elongatula* Loew,1862; *parvula* Loew,1862; *cilicornis* M.Hering,1941
8. **Campiglossa difficilis (Hendel,1927)** (Tephritidae) Synonym(s): *tessellata* Zetterstedt,1847 *nec* Lw.,1844; *difficilis* Hendel,1927;
9. **Campiglossa lederi (Hendel,1927)** (Tephritidae) Synonym(s): *lederi* Hendel,1927
10. ***Campiglossa misella (Loew,1869)** (Tephritidae) Synonym(s): *misella* Loew,1869; *coei* Hardy,1964; *pishanica* Wang,1996; *kunlunica* Wang,1996¹⁷
11. ***Campiglossa producta (Loew,1844)** (Tephritidae) Synonym(s): *producta* Loew,1844; *insularis* Wollaston,1858
12. ***Campiglossa tesellata (Loew,1844)** (Tephritidae) Synonym(s): *tesellata* Loew,1844; *producta* Loew,1844
13. **Capitetes ramulosa (Loew,1844)** (Tephritidae) Synonym(s): *ramulosa* Loew,1844; *radiata* Macquart,1849; *perfecta* Becker,1908 [ssp.]
14. **Carpomya pardalina (Bigot,1891)** (Tephritidae) Synonym(s): *pardalina* Bigot,1891; *caucasica* Zaitzev,1919; *#carpalina* Fletcher,1920
15. **Carpomya schineri (Loew,1856)** (Tephritidae) Synonym(s): *schineri* Loew,1856
16. **Carpomya vesuviana A.Costa,1854** (Tephritidae) Synonym(s): *vesuviana* A.Costa,1854; *bucchichi* Frauenfeld,1867
17. **Ceratitis (s.str.) capitata (Wiedemann,1824)** (Tephritidae) Synonym(s): *capitata* Wiedemann,1824; *citriperda* Mac Leay,1829; *asparagi* Bezzi,1924
18. **Chaetorellia acrolphi White & Marquardt,1989** (Tephritidae) Synonym(s): *acrolphi* White & Marquardt,1989
19. **Chaetorellia carthami Stackelberg,1929** (Tephritidae) Synonym(s): *carthami* Stackelberg,1929
20. **Chaetorellia conjuncta (Becker,1913)** (Tephritidae) Synonym(s): *conjuncta* Becker,1913

¹⁶ Koçak,A.Ö. & M. Kemal, 2012, List of two thousand species of pterygot insects in Van Province (East Turkey) (Results of the entomofauna project of Turkey – 7). *Cesa News* 81: 2-86, 37 figs.

¹⁷ This species is new to the fauna of Turkey! (Fig.2).

21. **Chaetorellia hexacheta (Loew,1862)** (Tephritidae) Synonym(s): *hexacheta* Loew,1862; *?australis* M.Hering,1940
22. **Chaetorellia jaceae (R-D.,1830)** (Tephritidae) *jaceae* R-D.,1830; *punctata* Loew,1844; *#jacea* Hendel,1927
23. **Chaetorellia loricata (Rondani,1870)** (Tephritidae) Synonym(s): *loricata* Rondani,1870; *holosericea* Hendel,1927; *caradjai* M.Hering,1937; *mara* M.Hering,1937; *septentrionalis* M.Hering,1937
24. **Chaetorellia succinea (O.Costa,1844)** (Tephritidae) Synonym(s): *succinea* O.Costa,1844; *mellea* O.Costa,1844
25. **Chaetostomella cylindrica (R-D.,1830)** (Tephritidae) Synonym(s): *cylindrica* R-D.,1830; *algira* Macquart,1843
26. **Chaetostomella lurida (Loew,1844)** (Tephritidae) Synonym(s): *lurida* Loew,1844; *onotrophes* Loew,1846
27. **Chetostoma curvinerve Rondani,1856** (Tephritidae) Synonym(s): *curvinerve* Rondani,1856; *giraudi* Frauenfeld,1864; *princeps* Costa,1884
28. **Dioxyna bidentis (R-D.,1830)** (Tephritidae) Synonym(s): *bidentis* R-D.,1830; *elongatula* Loew,1844; *cheni* Zia,1937; *chusonica* Zia,1937; *seguyi* Zia,1939; *cilicornis* M.Hering,1941
29. **Ensina sonchi (Linnaeus,1767)** (Tephritidae) Synonym(s): *sonchi* Linnaeus,1767; *obsoloeta* Meigen,1826; *chrysanthemii* R-D.,1830; *doronici* R-D.,1830; *herbarum* R-D.,1830; *linariae* R-D.,1830; *pratensis* R-D.,1830; *scorzoneræ* R-D.,1830
30. **Euaresta bullans (Wiedemann,1830)** (Tephritidae) Synonym(s): *bullans* Wiedemann,1830; *tenera* Loew,1850
31. **Euleia heracleii (Linnaeus,1758)** (Tephritidae) Synonym(s): *heracleii* Linnaeus,1758; *onopordinis* Fabricius,1775; *centauriae* Fabricius,1794; *onopordi* Schrank,1803; *berberidis* Schrank,1803
32. **Goniurellia longicauda Freidberg,1980** (Tephritidae) Synonym(s): *longicauda* Freidberg,1980
33. **Hendrella winnertzi (Frauenfeld,1864)** (Tephritidae) Synonym(s): *winnertzi* Frauenfeld,1864
34. **Heringina guttata (Fallén,1814)** (Tephritidae) Synonym(s): *guttata* Fallén,1814; *gemma* Meigen,1826
35. ***?Hypenidium graecum Loew,1862** (Tephritidae) Synonym(s): *graecum* Loew,1862; *novakii* Strobl,1893; *pulchella* Tavares,1902; *bipartita* Séguy,1930¹⁸
36. **Hypenidium roborowskii (Becker,1908)** (Tephritidae) Synonym(s): *roborowskii* Becker,1908
37. **Myoleja korneyevi Han & Kütük,2006** (Tephritidae) Synonym(s): *korneyevi* Han & Kütük,2006
38. **Myopites apicatus Freidberg,1979** (Tephritidae) Synonym(s): *apicatus* Freidberg,1979
39. **Myopites cypriacus M.Hering,1938** (Tephritidae) Synonym(s): *cypriacus* M.Hering,1938; *shiakidesi* Diribek,1974
40. **Noeeta bisetosa Merz,1992** (Tephritidae) Synonym(s): *bisetosa* Merz,1992
41. **Noeeta crepidis (M.Hering,1936)** (Tephritidae) Synonym(s): *crepidis* M.Hering,1936
42. **Noeeta pupillata (Fallén,1814)** (Tephritidae) Synonym(s): *pupillata* Fallén,1814; *reticula* Schrank,1803; *brunnicosa* R-D.,1830; *lineata* Macquart,1835
43. **Orellia distans (Loew,1847)** (Tephritidae) Synonym(s): *distans* Loew,1847; *lappae* sensu Zetterstedt,1847
44. ***Orellia falcata (Scopoli,1763)** (Tephritidae) Synonym(s): *falcata* Scopoli,1763; *abdominalis* R-D.,1830; *octopunctata* Macquart,1835
45. **Orellia scorzonerae (R-D.,1830)** (Tephritidae) Synonym(s): *scorzoneræ* R-D.,1830
46. **Orellia steropea (Rondani,1870)** (Tephritidae) Synonym(s): *steropea* Rondani,1870
47. **Orellia stictica (Gmelin,1790)** (Tephritidae) Synonym(s): *punctata* Schrank,1781 *nec* Poda,1761; *stictica* Gmelin,1790; *flavicans* R-D.,1830; *intermedia* Frauenfeld,1857
48. ***Oxyaciura tibialis R-D.,1830** (Tephritidae) Synonym(s): *tibialis* R-D.,1830; *gagates* Loew,1846
49. **Oxyna flavipennis (Loew,1844)** (Tephritidae) Synonym(s): *flavipennis* Loew,1844; *flavescens* R-D.,1830; *laticauda* Walker,1836; *parietina* Zetterstedt,1847
50. **Oxyna guttatofasciata (Loew,1850)** (Tephritidae) Synonym(s): *guttatofasciata* Loew,1850
51. **Oxyna lutulenta Loew,1869** (Tephritidae) Synonym(s): *lutulenta* Loew,1869
52. **Oxyna nebulosa (Wiedemann,1817)** (Tephritidae) Synonym(s): *nebulosa* Wiedemann,1817; *femoralis* R-D.,1830; *nigrofemorata* Meigen,1838; *proboscidea* Loew,1844; *parietina* Zetterstedt,1855; *cinarae* Rondani,1870
53. **Rhagoletis batava M.Hering,1938** (Tephritidae) Synonym(s): *batava* M.Hering,1938
54. **Rhagoletis berberidis Jermy,1961** (Tephritidae) Synonym(s): *berberidis* Jermy,1961
55. **Rhagoletis cerasi (Linnaeus,1758)** (Tephritidae) Synonym(s): *cerasi* Linnaeus,1758; *signata* Meigen,1826; *litrata* R-D.,1830; *cerasorum* Dufour,1845
56. **Rhagoletis flavicincta Enderlein,1934** (Tephritidae) Synonym(s): *flavicincta* Enderlein,1934
57. **Rhagoletis flavigenualis M.Hering,1958** (Tephritidae) Synonym(s): *flavigenualis* M.Hering,1958

¹⁸ *Hypenidium graecum* is known from Niğde Prov. (Pakyürek,2006). On the other hand, the genus *Hypenidium* was recorded in Van Prov. by the authors in 2010 (Figs. 7-9). Its specific identity, according to V. Korneyev, is *Hypenidium graecum* [Forum, Diptera.info]. It seems that this identification is doubtful as Korneyev et al. (2011), did not mention our Van record of *Hypenidium* later. Now, we have this issue seriously, and arrive at a conclusion soon.

58. **Spathulina sicula Rondani,1856** (Tephritidae) Synonym(s): *sicula* Rondani,1856; *tristis* Loew,1869; *luisieri* Tavares,1901; *sepia* Becker,1908
59. ***Sphenella marginata (Fallén,1814)** (Tephritidae) Synonym(s): *marginata* Fallén,1814; *linariae* R-D.,1830; *miranda* Wollaston,1858; *tenerifensis* Bigot,1892; *austrina* Munro,1957
60. ***Tephritis acanthiophilopsis M.Hering,1937** (Tephritidae) Synonym(s): *acanthiophilopsis* M.Hering,1937
61. **Tephritis bardanae (Schrank,1803)** (Tephritidae) Synonym(s): *bardanae* Schrank,1803; *arvensis* R-D.,1830; *lappae* R-D.,1830
62. **Tephritis bimaculata Freidberg,1980** (Tephritidae) Synonym(s): *bimaculata* Freidberg,1980
63. **Tephritis brachyura Loew,1869** (Tephritidae) Synonym(s): *brachyura* Loew,1869; *nigrofemorata* Hendel,1927 [ssp.]
64. **Tephritis carmen M.Hering,1937** (Tephritidae) Synonym(s): *carmen* M.Hering,1937
65. **Tephritis cometa (Loew,1840)** (Tephritidae) Synonym(s): *cometa* Loew,1840; *cingulata* M.Hering,1936 [ssp.], *israelis* Freidberg,1974 [ssp.]
66. **Tephritis conjuncta Loew,1862** (Tephritidae) Synonym(s): *conjuncta* Loew,1862
67. **Tephritis dioscurea (Loew,1856)** (Tephritidae) Synonym(s): *dioscurea* Loew,1856
68. **Tephritis divisa Rondani,1871** (Tephritidae) Synonym(s): *divisa* Rondani,1871
69. **Tephritis erdemlii Kütük,2008** (Tephritidae) Synonym(s): *erdemlii* Kütük,2008
70. **Tephritis fallax (Loew,1844)** (Tephritidae) Synonym(s): *fallax* Loew,1844; *nesii* von Roser,1840
71. **Tephritis formosa (Loew,1844)** (Tephritidae) Synonym(s): *formosa* Loew,1844
72. **Tephritis frauenfeldi Hendel,1927** (Tephritidae) Synonym(s): *frauenfeldi* Hendel,1927
73. **Tephritis heiseri Frauenfeld,1865** (Tephritidae) Synonym(s): *heiseri* Frauenfeld,1865
74. **Tephritis heliophila Hendel,1927** (Tephritidae) Synonym(s): *heliophila* Hendel,1927
75. **Tephritis hendeliana M.Hering,1944** (Tephritidae) Synonym(s): *hendeliana* M.Hering,1944
76. ***Tephritis hurvitzi Freidberg,1980** (Tephritidae) Synonym(s): *hurvitzi* Freidberg,1980
77. **Tephritis hyoscyami (Linnaeus,1758)** (Tephritidae) Synonym(s): *hyoscyami* Linnaeus,1758; *personatae* Loew,1869
78. **Tephritis mariannae Merz,1992** (Tephritidae) Synonym(s): *mariannae* Merz,1992
79. **Tephritis matricariae (Loew,1844)** (Tephritidae) Synonym(s): *matricariae* Loew,1844
80. ***Tephritis merzi Freidberg & Kütük,2002** (Tephritidae) Synonym(s): *merzi* Freidberg & Kütük,2002
81. **Tephritis mutabilis Merz,1992** (Tephritidae) Synonym(s): *mutabilis* Merz,1992
82. **Tephritis nigricauda (Loew,1856)** (Tephritidae) Synonym(s): *nigricauda* Loew,1856; *matutina* Rondani,1871
83. **Tephritis ozarlani Kütük, Bayrak & Hayat,2012** (Tephritidae) Synonym(s): *ozarlani* Kütük, Bayrak & Hayat,2012
84. **Tephritis poecilura Loew,1869** (Tephritidae) Synonym(s): *poecilura* Loew,1869
85. ***Tephritis postica (Loew,1844)** (Tephritidae) Synonym(s): *postica* Loew,1844
86. **Tephritis praecox (Loew,1844)** (Tephritidae) Synonym(s): *praecox* Loew,1844
87. ***Tephritis pulchra (Loew,1844)** (Tephritidae) Synonym(s): *pulchra* Loew,1844
88. **Tephritis recurrens Loew,1869** (Tephritidae) Synonym(s): *recurrens* Loew,1869
89. **Tephritis ruralis (Loew,1844)** (Tephritidae) Synonym(s): *ruralis* Loew,1844
90. **Tephritis sauterina Merz,1994** (Tephritidae) Synonym(s): *sauteri* Merz,1992 *nec* Enderl.,1911; *sauterina* Merz & Freidberg,1994
91. **Tephritis scorzonerae Merz,1993** (Tephritidae) Synonym(s): *scorzonerae* Merz,1993
92. **Tephritis separata Rondani,1871** (Tephritidae) Synonym(s): *separata* Rondani,1871; *sejuncta* Rondani,1871; *divisa* Rondani,1871 [ssp.]
93. **Tephritis simplex (Loew,1844)** (Tephritidae) Synonym(s): *simplex* Loew,1844; *fratella* Becker,1907
94. ***Tephritis sp.?n. (det.V.Korneyev)** (Tephritidae) Synonym(s):
95. **Tephritis stictica Loew,1862** (Tephritidae) Synonym(s): *stictica* Loew,1862
96. **Tephritis truncata (Loew,1844)** (Tephritidae) Synonym(s): *truncata* Loew,1844
97. **Tephritis valida (Loew,1858)** (Tephritidae) Synonym(s): *valida* Loew,1858; *procera* Loew,1869; *subvalida* Portschinsky,1875
98. **Tephritis vespertina (Loew,1844)** (Tephritidae) Synonym(s): *vespertina* Loew,1844; *apicalis* Becker,1907
99. ***Tephritomyia lauta (Loew,1869)** (Tephritidae) Synonym(s): *lauta* Loew,1869; *veliformis* Becker,1907
100. **Terellia (Cerajocera) askaleensis Kütük, Bayrak & Hayat,2011** (Tephritidae) Synonym(s): *askaleensis* Kütük, Bayrak & Hayat,2011
101. **Terellia (Cerajocera) ceratocera Hendel,1913** (Tephritidae) Synonym(s): *cornuta* Fabricius,1794 *nec* Sc.,1772; *ceratocera* Hendel,1913
102. ***Terellia (Cerajocera) gynaecochroma (M.Hering,1936)** (Tephritidae) Synonym(s): *gynaecochroma* M.Hering,1936

103. **Terellia (Cerajocera) nigronota (V.Korneyev,1985)** (Tephritidae) Synonym(s): *nigronota V.Korneyev,1985*
104. **Terellia (Cerajocera) plagiata (Dahlbom,1850)** (Tephritidae) Synonym(s): *plagiata Dahlbom,1850; microceras M.Hering,1935*
105. **Terellia (Cerajocera) rhapontici Merz,1990** (Tephritidae) Synonym(s): *rhapontici Merz,1990*
106. **Terellia (Cerajocera) tussilaginisin (Fabricius,1775)** (Tephritidae) Synonym(s): *tussilaginisin Fabricius,1775; arctii De Geer,1776; acanthi Schrank,1803; tanaceti Schrank,1803*
107. **Terellia (Cerajocera) yukseli Kütük,2009** (Tephritidae) Synonym(s): *yukseli Kütük,2009*
108. **Terellia (s.str.) colon (Meigen,1826)** (Tephritidae) Synonym(s): *colon Meigen,1826*
109. **Terellia (s.str.) freidbergi V.Korneyev et al.,2013** (Tephritidae) Synonym(s): *freidbergi V.Korneyev et al.,2013*
110. **Terellia (s.str.) fuscicornis (Loew,1844)** (Tephritidae) Synonym(s): *fuscicornis Loew,1844; #fuscicornis Giray,1979*
111. **Terellia (s.str.) longicauda (Meigen,1838)** (Tephritidae) Synonym(s): *longicauda Meigen,1838; acuticornis Loew,1846*
112. **Terellia (s.str.) luteola (Wiedemann,1830)** (Tephritidae) Synonym(s): *luteola Wiedemann,1830*
113. **Terellia (s.str.) nigripalpis Hendel,1927** (Tephritidae) Synonym(s): *nigripalpis Hendel,1927*
114. ***Terellia (s.str.) quadratula (Loew,1869)** (Tephritidae) Synonym(s): *quadratula Loew,1869*
115. **Terellia (s.str.) ruficauda (Fabricius,1794)** (Tephritidae) Synonym(s): *ruficauda Fabricius,1794; punctata Fallén,1814*
116. ***Terellia (s.str.) serratulae (Linnaeus,1758)** (Tephritidae) Synonym(s): *serratulae Linnaeus,1758; pallens Wiedemann,1824; palpata R-D.,1830; luteola R-D.,1830; dentata Loew,1844*
117. **Terellia (s.str.) uncinata White,1989** (Tephritidae) Synonym(s): *uncinata White,1989*
118. **Terellia (s.str.) virens (Loew,1846)** (Tephritidae) Synonym(s): *virens Loew,1846; syllibi Rondani,1870*
119. **Terellia (s.str.) winthemi (Meigen,1826)** (Tephritidae) Synonym(s): *winthemi Meigen,1826*
120. **Terellia (s.str.) zerovae V.Korneyev,1985** (Tephritidae) Synonym(s): *zerovae V.Korneyev,1985*
121. ***Trupanea amoena (Frauenfeld,1857)** (Tephritidae) Synonym(s): *amoena Frauenfeld,1857; parisiensis R-D.,1830; #amoena Giray,1979*
122. ***Trupanea stellata (Fuesslin,1775)** (Tephritidae) Synonym(s): *stellata Fuesslin,1775; radiata Schrank,1795; terminata Fallén,1814; calcitrapae R-D.,1830*
123. **Trupanea tubulata Munro,1964** (Tephritidae) Synonym(s): *tubulata Munro,1964*
124. **Urophora affinis (Frauenfeld,1857)** (Tephritidae) Synonym(s): *affinis Frauenfeld,1857*
125. **Urophora aprica (Fallén,1820)** (Tephritidae) Synonym(s): *aprica Fallén,1820; centauriae R-D.,1830; scutellata Rondani,1870*
126. **Urophora congrua Loew,1862** (Tephritidae) Synonym(s): *congrua Loew,1862*
127. **Urophora cuspidata (Meigen,1826)** (Tephritidae) Synonym(s): *cuspidata Meigen,1826; solstitialis Zettstedt,1847 nec Linn.,1758*
128. **Urophora doganlari Kütük,2006** (Tephritidae) Synonym(s): *doganlari Kütük,2006*
129. **Urophora dzieduszyckii Frauenfeld,1867** (Tephritidae) Synonym(s): *dzieduszyckii Frauenfeld,1867; wodzickii Frauenfeld,1867; syriaca Hendel,1927; pontica M.Hering,1937; erichschmidti M.Hering,1953; #dzieduszyckiipontica White & Korneyev,1989*
130. **Urophora eriolepidis (Loew,1856)** (Tephritidae) Synonym(s): *eriolepidis Loew,1856; terebrans Frauenfeld,1857*
131. **Urophora hani Kütük,2009** (Tephritidae) Synonym(s): *hani Kütük,2009*
132. ***Urophora aff. iani Korneyev & Merz,1998** (Tephritidae) Synonym(s): *iani Korneyev & Merz,1998¹⁹*
133. ***Urophora impicta (M.Hering,1942)** (Tephritidae) Synonym(s): *impicta M.Hering,1942²⁰*
134. **Urophora jaceana (M.Hering,1935)** (Tephritidae) Synonym(s): *jaceana M.Hering,1935; #jacaena Bayrak & Hayat,2012*
135. **Urophora jaculata Rondani,1870** (Tephritidae) Synonym(s): *jaculata Rondani,1870*
136. **Urophora macrura (Loew,1855)** (Tephritidae) Synonym(s): *macrura Loew,1855; lejura Rondani,1870*
137. **Urophora maura (Frauenfeld,1857)** (Tephritidae) Synonym(s): *maura Frauenfeld,1857*
138. ***Urophora mauritanica Macquart,1851** (Tephritidae) Synonym(s): *mauritanica Macquart,1851*
139. **Urophora neuenschwanderi Freidberg,1982** (Tephritidae) Synonym(s): *neuenschwanderi Freidberg,1982*
140. **Urophora pauperata (Zaitzev,1945)** (Tephritidae) Synonym(s): *pauperata Zaitzev,1945*

¹⁹ This species is new to the fauna of Turkey! (fig.28).

²⁰ This species is reported in Turkey for the first time. Pictures of the adult (Figs.29-32) were taken on *Cousinia macroptera* A.C.Meyer (det. Dr.Fevzi Özgökçe, Van) (Fig.33). *Urophora impicta* was also reported from NW Iran (swept on *Cousinia* sp.) (Khaghaninia, Gharajeddaghi & S.Mohamadzhade Namin, 2012). We are of the opinion that *Cousinia macroptera* can be considered as food plant of *Urophora impicta* in Van Province. *Cousinia macroptera* was described originally from Azerbaijan (Irano-Turanian Element). In Van Province, authors found this species in the year of 2010 at alpin level of Başet and Artos mountains (above 2500m) (Fig. 34).

141. **Urophora phaeocera (M.Hering,1961)** (Tephritidae) Synonym(s): *phaeocera* M.Hering,1961
142. **Urophora phalolepidis Merz & White,1991** (Tephritidae) Synonym(s): *phalolepidis* Merz & White,1991
143. **Urophora pontica (M.Hering,1937)** (Tephritidae) Synonym(s): *pontica* M.Hering,1937
144. ***Urophora quadrifasciata (Meigen,1826)** (Tephritidae) Synonym(s): *quadrifasciata* Meigen,1826; *sjumorum* Rohdendorf,1934 [ssp.]
145. **Urophora repeteki (Munro,1934)** (Tephritidae) Synonym(s): *repeteki* Munro,1934; *angustifascia* M.Hering,1956; *ligulipalpis* M.Hering,1961; *phaeocera* M.Hering,1961
146. **Urophora satunini (F.A.Zaitzev,1945)** (Tephritidae) Synonym(s): *satunini* F.A.Zaitzev,1945
147. **Urophora sirunaseva (M.Hering,1938)** (Tephritidae) Synonym(s): *sirunaseva* M.Hering,1938
148. **Urophora solaris V.Korneyev,1984** (Tephritidae) Synonym(s): *solaris* V.Korneyev,1984
149. **Urophora solstitialis (Linnaeus,1758)** (Tephritidae) Synonym(s): *solstitialis* Linnaeus,1758; *dauci* Fabricius,1787; *leucocanthi* Schrank,1803; *hastatus* Fabricius,1805; *pugionata* Meigen,1826; *reamurii* R-D.,1830; *sibynata* Rondani,1870; *sejuncta* Becker,1907; *#solstitialis* Bayrak & Hayat,2012
150. **Urophora stylata (Fabricius,1775)** (Tephritidae) Synonym(s): *stylata* Fabricius,1775; *ciesii* Schrank,1803; *jacobaeae* Panzer,1805; *venerabulata* Rondani,1870; *vulcanica* Rondani,1870; *pia* M.Hering,1938
151. **Urophora tenuior Hendel,1910** (Tephritidae) Synonym(s): *tenuior* Hendel,1910; *tenuis* Hendel,1910 nec Beck.,1908
152. **Urophora tenuis Becker,1907** (Tephritidae) Synonym(s): *tenuis* Becker,1907
153. **Urophora terebrans (Loew,1850)** (Tephritidae) Synonym(s): *terebrans* Loew,1850; *eriolepidis* Loew,1856; *manni* Hendel,1927; *approximata* M.Hering,1938; *satunini* Zaitzev,1945
154. **Urophora variabilis Loew,1869** (Tephritidae) Synonym(s): *variabilis* Loew,1869
155. **Xyphosia conspicua (Loew,1869)** (Tephritidae) Synonym(s): *conspicua* Loew,1869
156. ***Xyphosia miliaria (Schrank,1781)** (Tephritidae) Synonym(s): *miliaria* Schrank,1781; *arcuata* Fabricius,1782 nec Linn.,1758; *sphaerocephali* Schrank,1803; *cirsiorum* R-D.,1830; *meridionalis* O.Costa,1854; *punctipennis* Hendel,1927 [ssp.]; *orientalis* M.Hering,1936 [ssp.]; *balcanica* Drensky,1943

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Images of the Tephritidae of Turkey



Fig. 1 - *Actinoptera discoidea* [det. V.Korneyev] – Turkey, Bitlis Prov., Mutki 1200m, 23 5 2010, M Kemal (Cesa)



Fig. 2 - *Campiglossa misella* [det. V.Korneyev]– Turkey, Van Prov., Gevaş Altınsaç 1700m, 23 6 2010, M Kemal (Cesa) **New for Turkey!**



Fig. 3 - *Campiglossa producta* [det. V.Korneyev]- Turkey, Van Prov., Gevaş Altınsaç 1750m, 23 6 2010, M Kemal (Cesa)



Fig. 4 - *Chaetostomella lurida* [det. V.Korneyev]- Turkey, Siirt Prov., Şirvan 1000m, 11 6 2010, M Kemal (Cesa)



Fig. 5 - *Heringina guttata*. Turkey, Iğdır Prov., Ağrı dağı 1800m, 25 5 2012, M Kemal (Cesa)

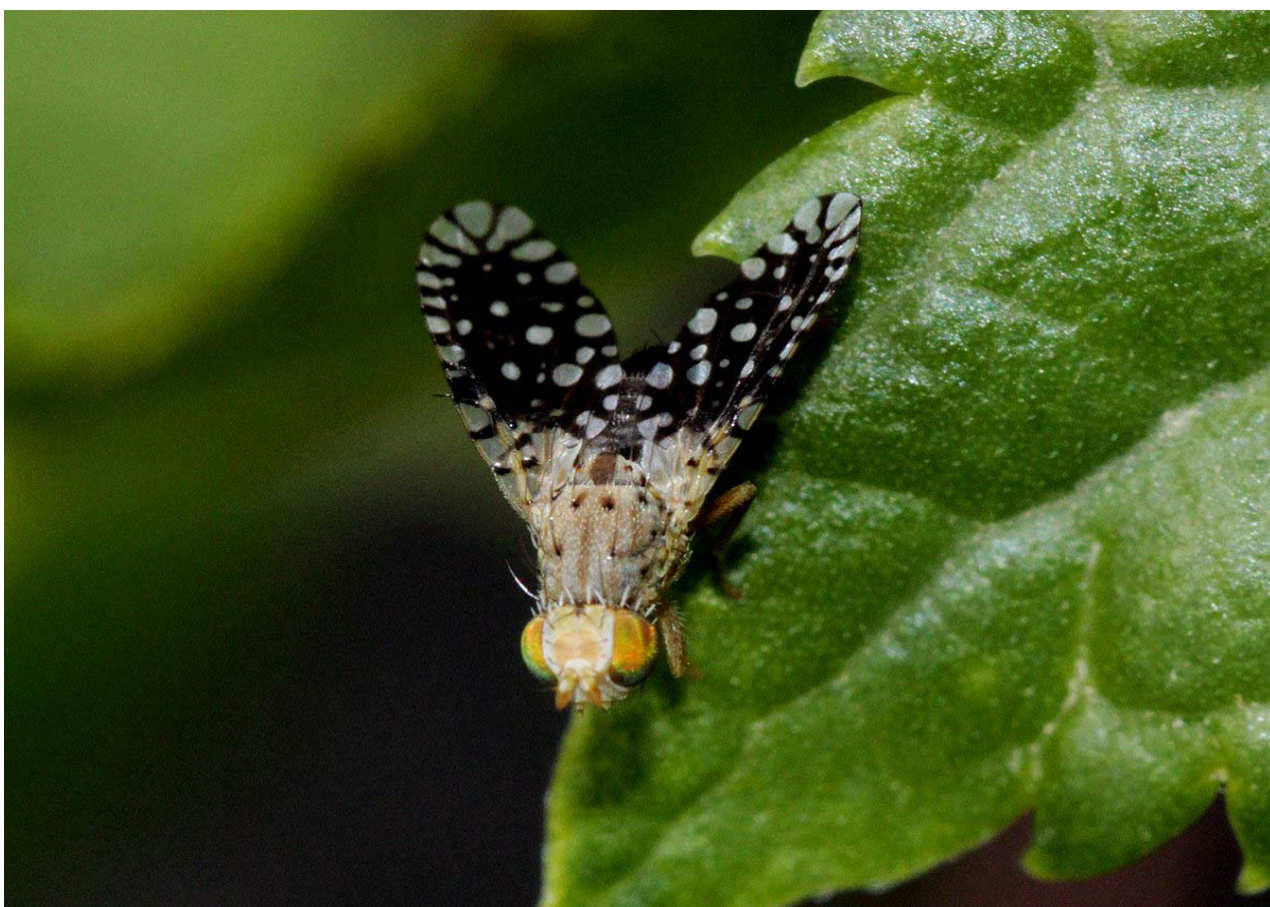


Fig. 6 - *Heringina guttata*. Turkey, Iğdır Prov., Ağrı dağı 1800m, 25 5 2012, M Kemal (Cesa)

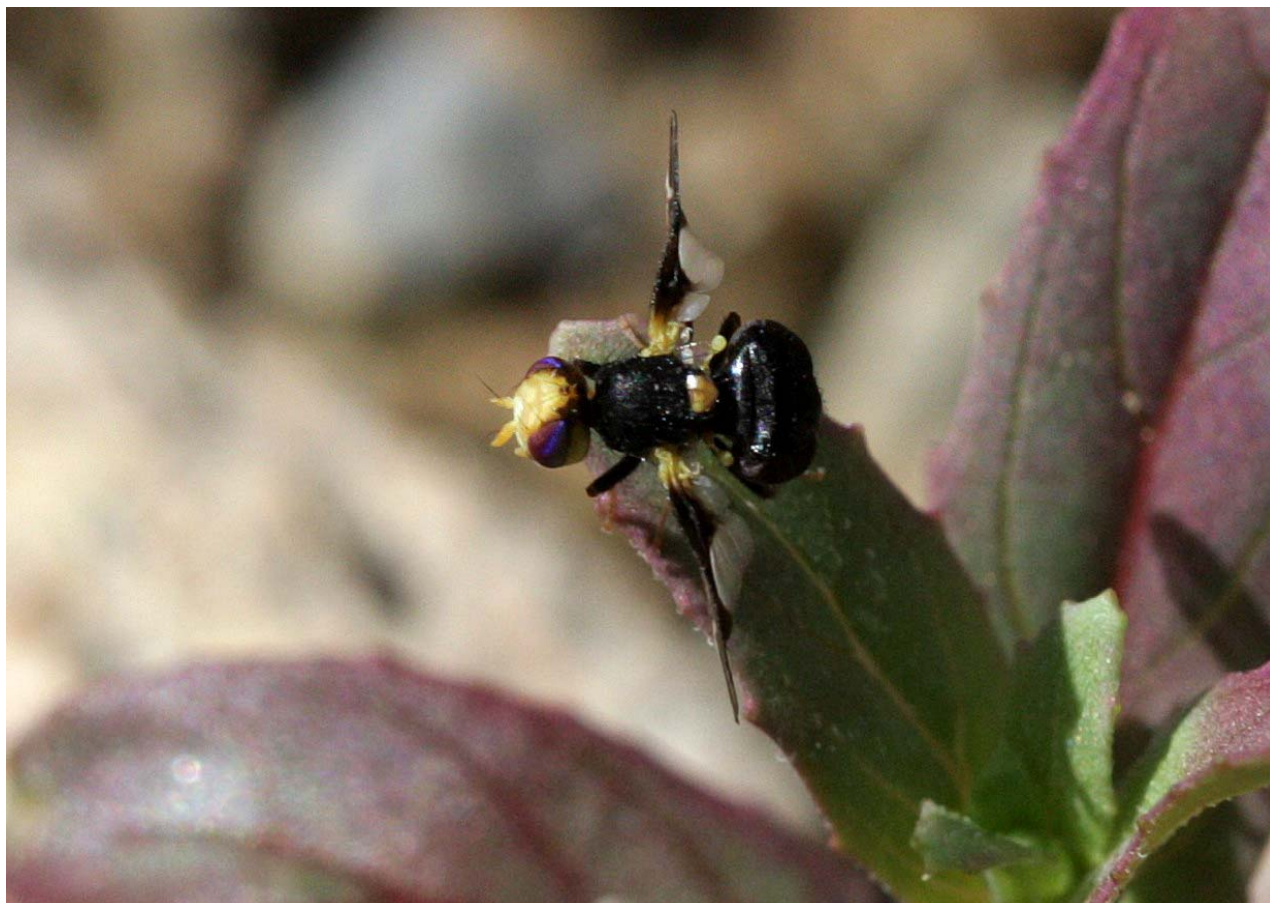


Fig. 7 - *Hypenidium* sp. Turkey, Van Prov., Gevaş Artosdağı 1900m, 7 7 2010, M Kemal (Cesa)

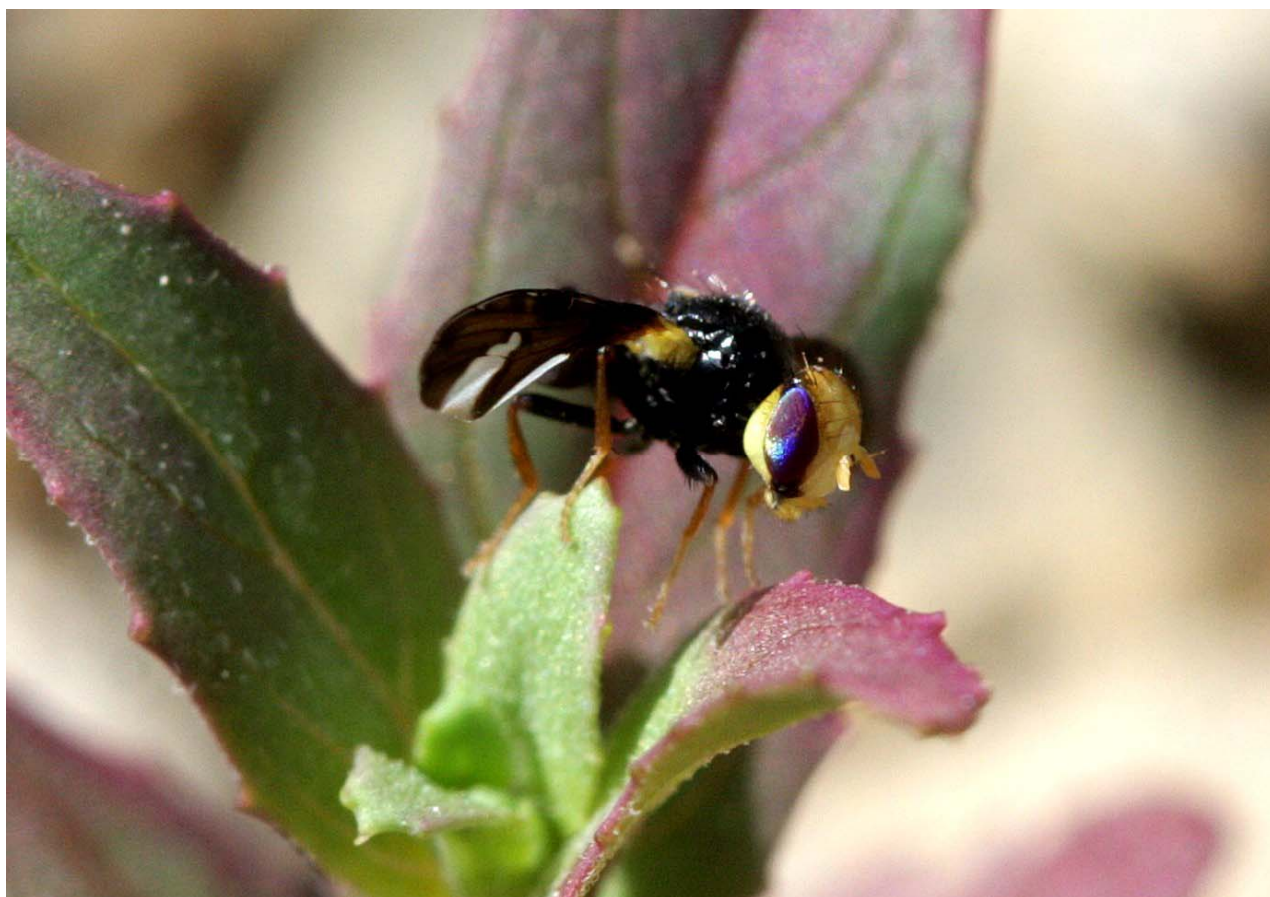


Fig. 8 - *Hypenidium* sp. Turkey, Van Prov., Gevaş Artosdağı 1900m, 7 7 2010, M Kemal (Cesa)

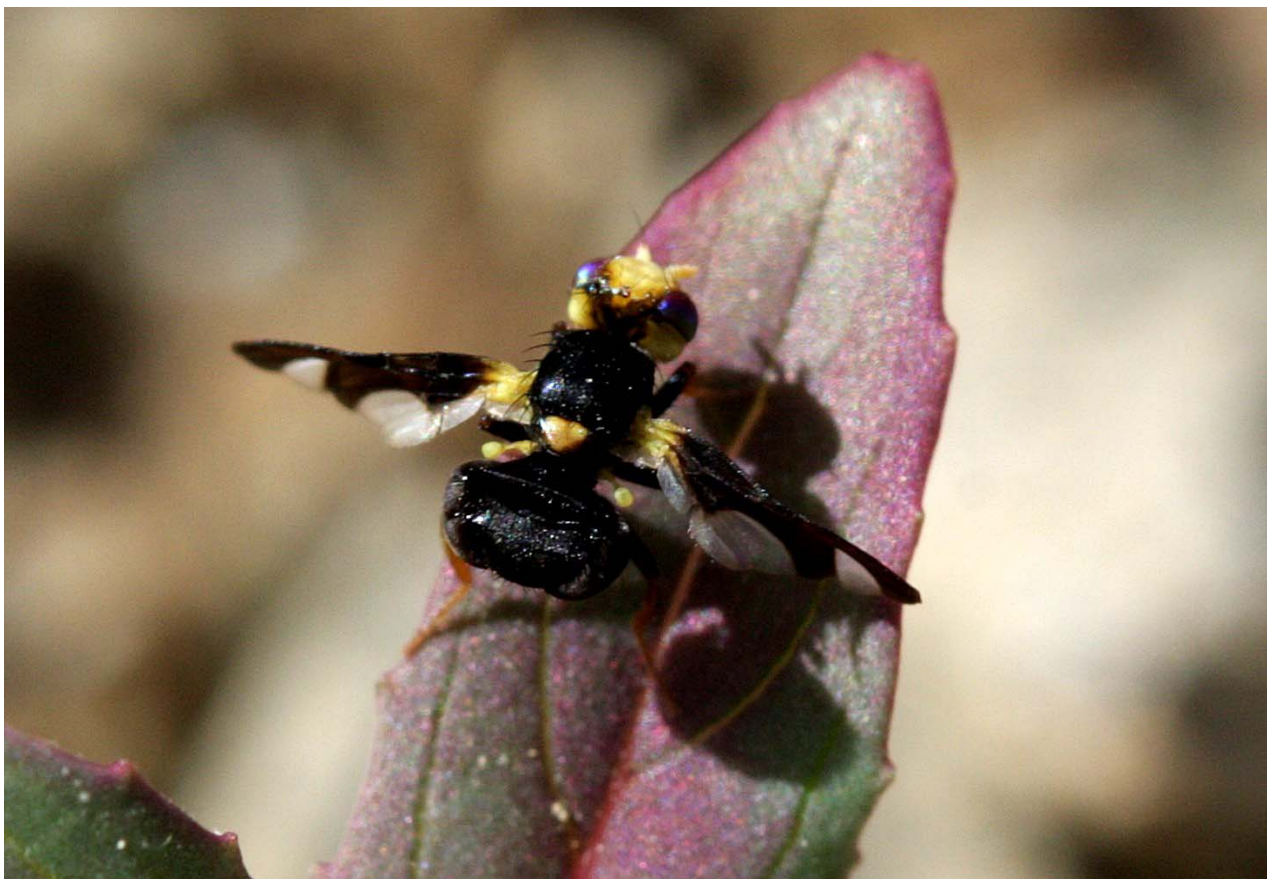


Fig. 9 - *Hypenidium* sp. Turkey, Van Prov., Gevaş Artosdağı 1900m, 7 7 2010, M Kemal (Cesa)

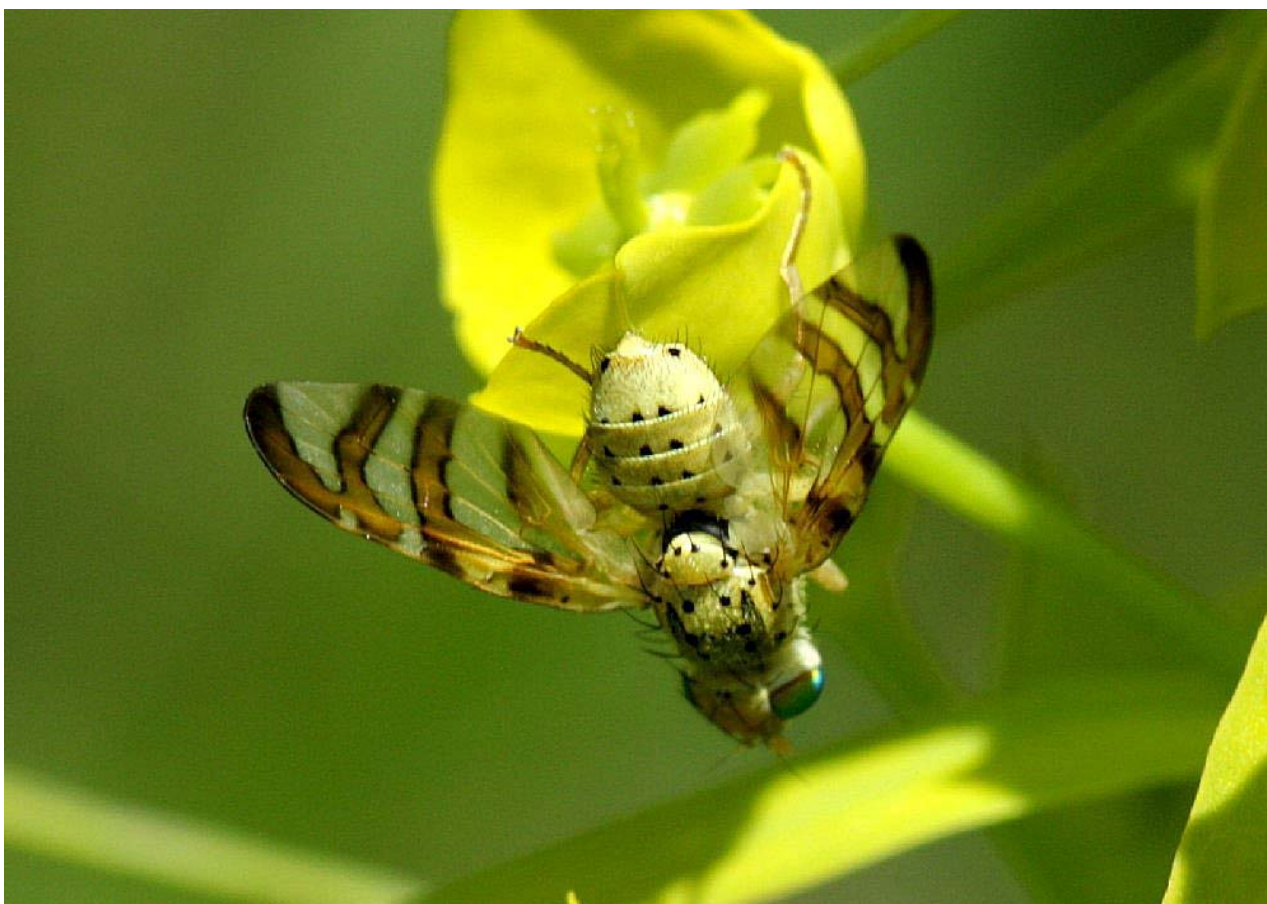


Fig. 10 - *Orellia falcata*[det. V.Korneyev]- Turkey, Van Prov., University Campus 1670m, 15 5 2010, M Kemal (Cesa)



Fig. 11 - *Sphenella marginata* [det. Tristram] – Turkey, Van Prov., University Campus 1670m, 15 5 2010, M Kemal (Cesa)



Fig. 12 - *Tephritis acanthiophilopsis* [det. M. Namin] - Turkey, Van Prov., Gevaş Artosdağı 1900m, 7 7 2010, M Kemal (Cesa)



Fig. 13 -*Tephritis merzi* - Turkey, Van Prov., University Campus 1670m 13 10 2009, M.Kemal (Cesa)



Fig. 14 -*Tephritis postica* – Turkey, Van Prov., Kurubaş N 2150m, 17 6 2010, M Kemal (Cesa)



Fig. 15 - *Tephritis postica* – Turkey, Siirt Prov., Pervari Kato dağı 1240m, 21 5 2011, M Kemal (Cesa)



Fig. 16 - *Tephritis postica* on *Onopordum* – Turkey, Van Prov., Gürpınar, Başet dağı 2800m, 17 7 2011, M Kemal (Cesa)



Fig. 17- *Tephritis* sp. ? n. [det V.Korneyev] - Turkey, Van Prov., Gevaş Kavarsük 1950m, 7 9 2012, M Kemal (Cesa)



Fig. 18 - *Tephritomyia lauta* [det. M.Namin] – Turkey, Siirt Prov., Şirvan 1000m, 30 10 2010, M Kemal (Cesa)



Fig. 19 - *Terellia* aff. *gynaecochroma* [det. V.Korneyev] – Turkey, Siirt Prov., Şirvan 1000m, 11 6 2010, M Kemal (Cesa)b



Fig. 20 - *Terellia* aff. *luteola* [det.V.Korneyev] – Turkey, Van Prov., University Campus 1670m, 13 5 2010, M Kemal (Cesa)



Fig. 21 - *Terellia* aff. *luteola* - Turkey, Van Prov., University Campus 1670m, 13 5 2010, M Kemal (Cesa)



Fig. 22 - *Terellia* aff. *luteola* on *Centaurea depressa*. - Turkey, Van Prov., University Campus 1670m, 13 5 2010, M Kemal (Cesa)



Fig. 23 - *Terellia quadratula* on its food plant *Echinops*. Turkey, Van Prov., Gürpınar, Başetdağı 2800m, 18 7 2010, M Kemal (Cesa)

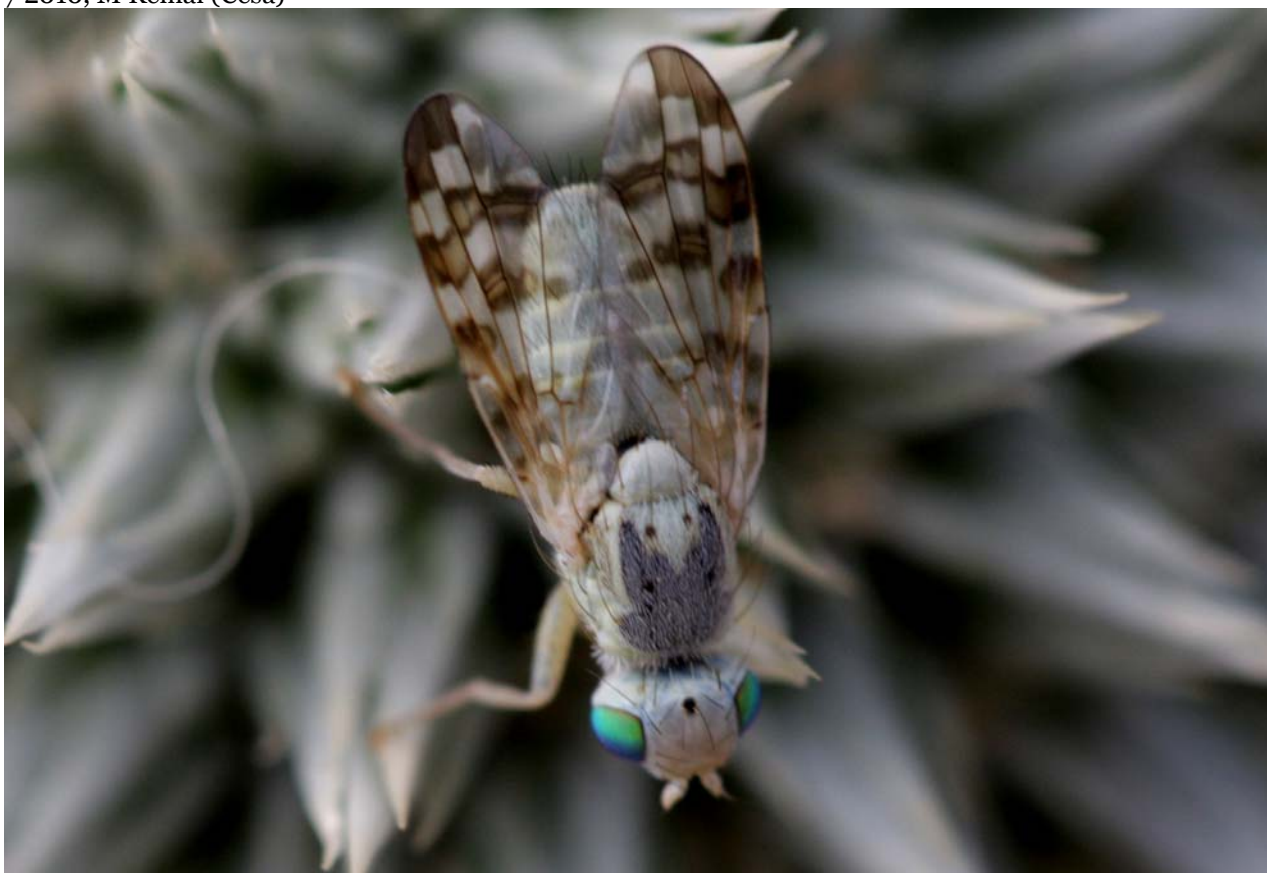


Fig. 24 - *Terellia quadratula* on on its food plant *Echinops*. Turkey, Van Prov., Gürpınar, Başetdağı 2800m, 18 7 2010, M Kemal (Cesa)



Fig. 25 - *Terellia serratulae* [det. V.Korneyev]. Turkey, Siirt Prov., Şirvan 1000m, 12 6 2010 M Kemal (Cesa)



Fig. 26 - *Terellia serratulae* [det.V.Korneyev] on *Cirsium*. Turkey, Van Prov., Gevaş, Kusgunkıran 2150m, 12 8 2010 M Kemal (Cesa)



Fig. 27 - *Terellia serratulae* on *Cirsium*. Turkey, Van Prov., Gevaş, Kusgunkıran 2150m, 12 8 2010, M Kemal (Cesa)



Fig. 28 - *Urophora* aff. *iani* [det. V.Korneyev] – Turkey, Van Prov., University Campus 1670m, 15 5 2010, M Kemal (Cesa) **New for Turkey!**



Fig. 29 -*Urophora impicta* [det. V.Korneyev], on *Cousinia macroptera* [det. F.Özgökçe] – Turkey, Van Prov., Gürpınar, Başetdağı 2800m, 24 6 2010, M Kemal (Cesa). **New for Turkey!**



Fig. 30 -*Urophora impicta* on *Cousinia macroptera* – Turkey, Van Prov., Gürpınar, Başetdağı 2800m, 24 6 2010, M Kemal (Cesa).



Fig. 31 - *Urophora impicta* on *Cousinia macroptera* – Turkey, Van Prov., Gürpınar, Başetdağı 2800m, 24 6 2010, M Kemal (Cesa).



Fig. 32 - *Urophora impicta* on *Cousinia macroptera* - Turkey, Van Prov., Gürpınar, Başetdağı 2800m, 24 6 2010, M Kemal (Cesa).



Fig. 33 - *Cousinia* aff. *macroptera* ([det. F.Özgökçe], the plant on which *Urophora impicta* photographed (before flowering). Turkey, Van Prov., Gürpınar, Başetdağı 2800m, 24 6 2010, M Kemal (Cesa).



Fig. 34 - *Cousinia macroptera* (flowered). Turkey, Van Prov., Gürpınar, Başetdağı 2800m, 18 7 2010, M Kemal (Cesa).



Fig. 35 - *Urophora mauritanica* [det. V.Korneyev], Turkey, Van Prov., University Campus 1650m, 15 5 2010
M Kemal (Cesa)



Fig. 36 - *Urophora quadrifasciata* [det. M.Namin] – Turkey, Siirt Prov., Pervari, Kato dağı, Erçkanis 1320m,
M Kemal (Cesa)



Fig. 37 - *Urophora* aff. *terebrans* [det.V.Korneyev]. Turkey, Iğdır Prov., Hama dağı 1680m, 26 5 2012, M.Kemal (Cesa). **Figs. 37-41** relate to reproductive biology of the species.



Fig. 38 - *Urophora* aff. *terebrans*, fibril of secretion after copulation. Turkey, Iğdır Prov., Hama dağı 1680m, 26 5 2012, M.Kemal (Cesa)



Fig. 39 - *Urophora* aff. *terebrans*, fibril of secretion after copulation. Turkey, Iğdır Prov., Hama dağı 1680m, 26 5 2012, M.Kemal (Cesa)



Fig. 40 - *Urophora* aff. *terebrans*, face of male after copulation. Turkey, Iğdır Prov., Hama dağı 1680m, 26 5 2012, M.Kemal (Cesa)

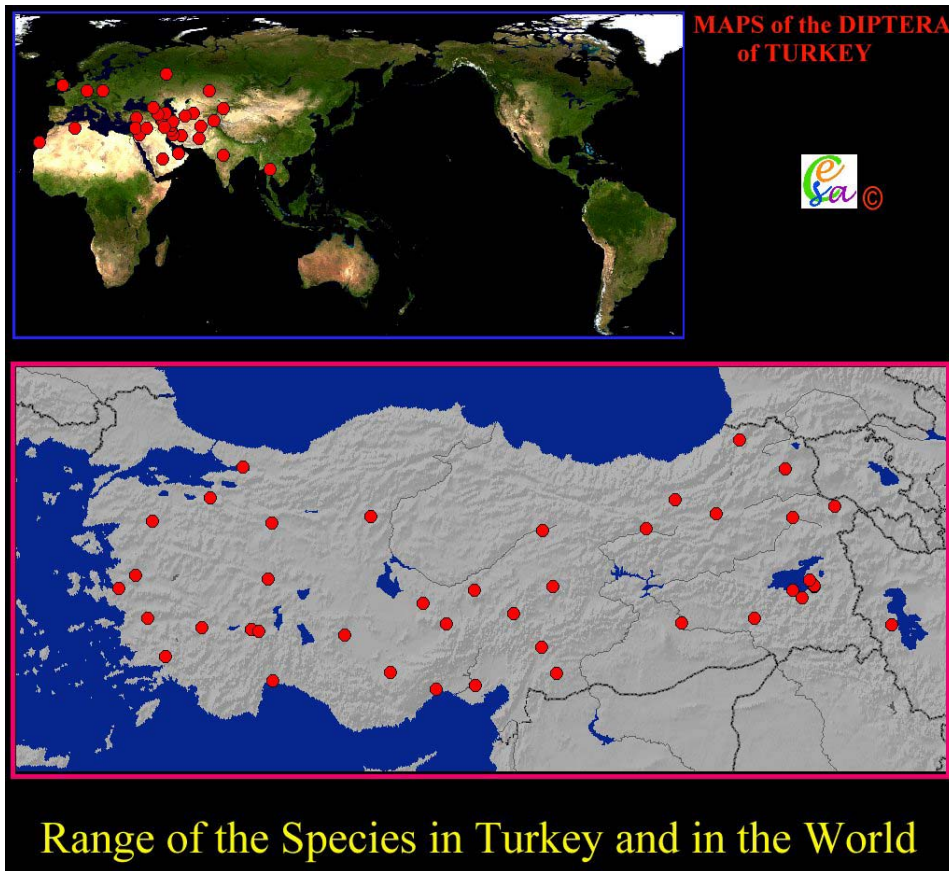


Fig. 41 - *Urophora* aff. *terebrans*. Female after copulation. Hairy oviscapae and terminal of aculeus visible. Turkey, Iğdır Prov., Hama dağı 1680m, 26 5 2012, M.Kemal (Cesa)

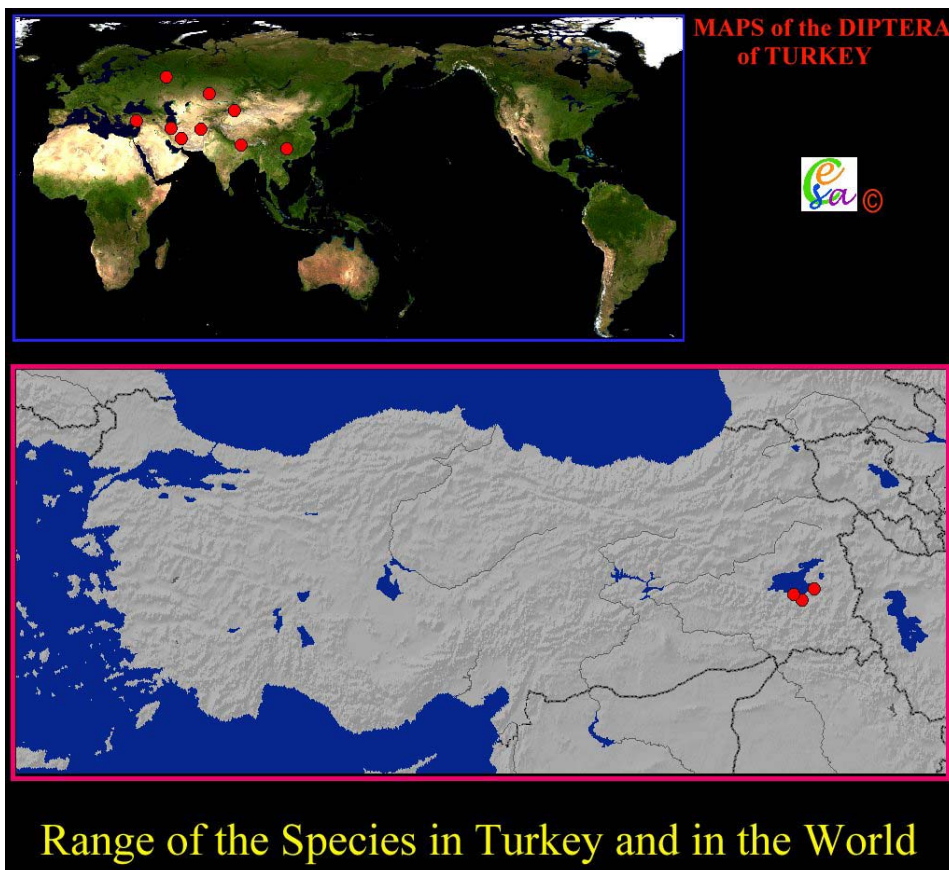


Fig. 42 - *Urophora terebrans* [ad interim]. Turkey, Van Prov., Gevaş, Kuscunkiran 2100m 12 8 2010, M Kemal (Cesa)

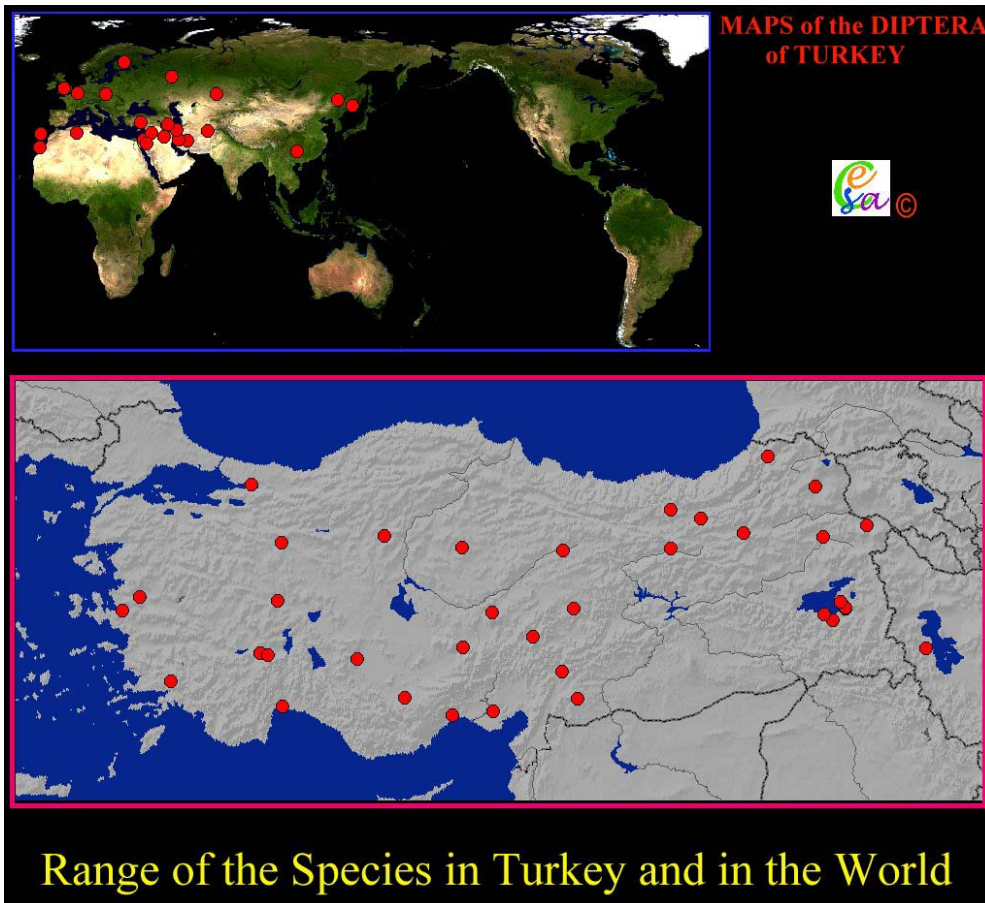
Composed maps of the Tephritidae species recorded in Van Province



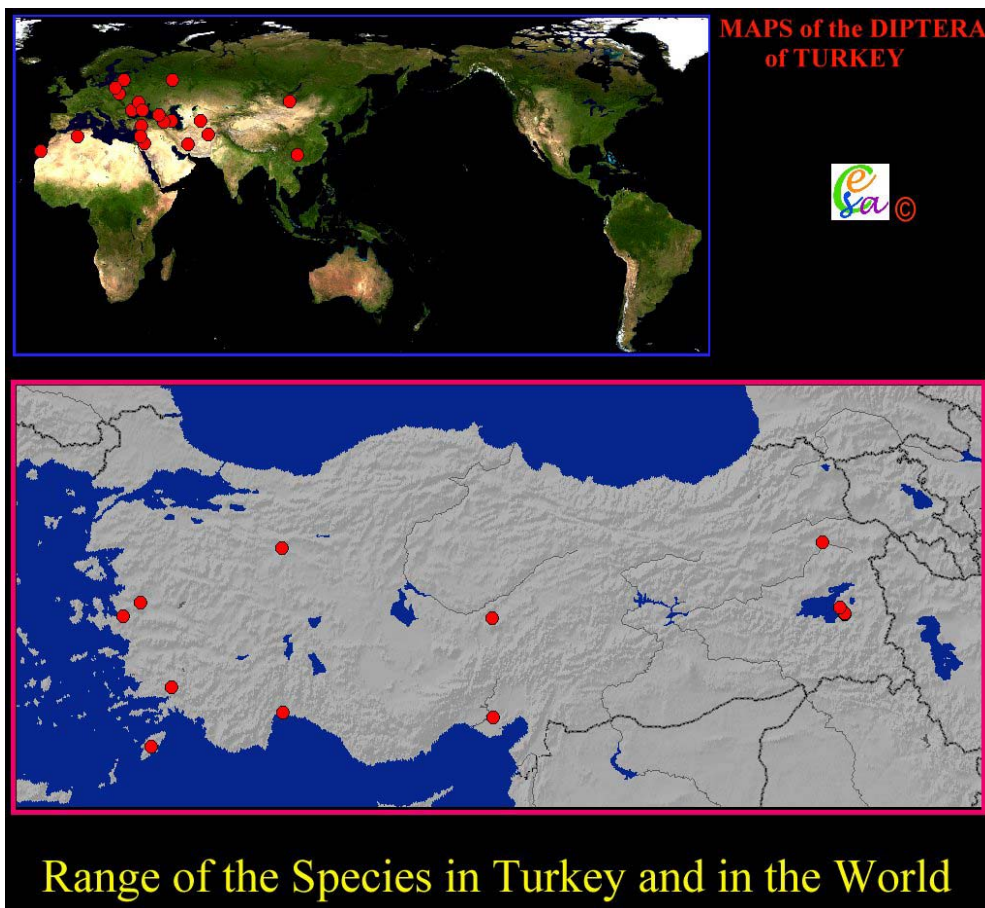
Map 1- *Acanthiophilus helianthi* (Rossi,1790)



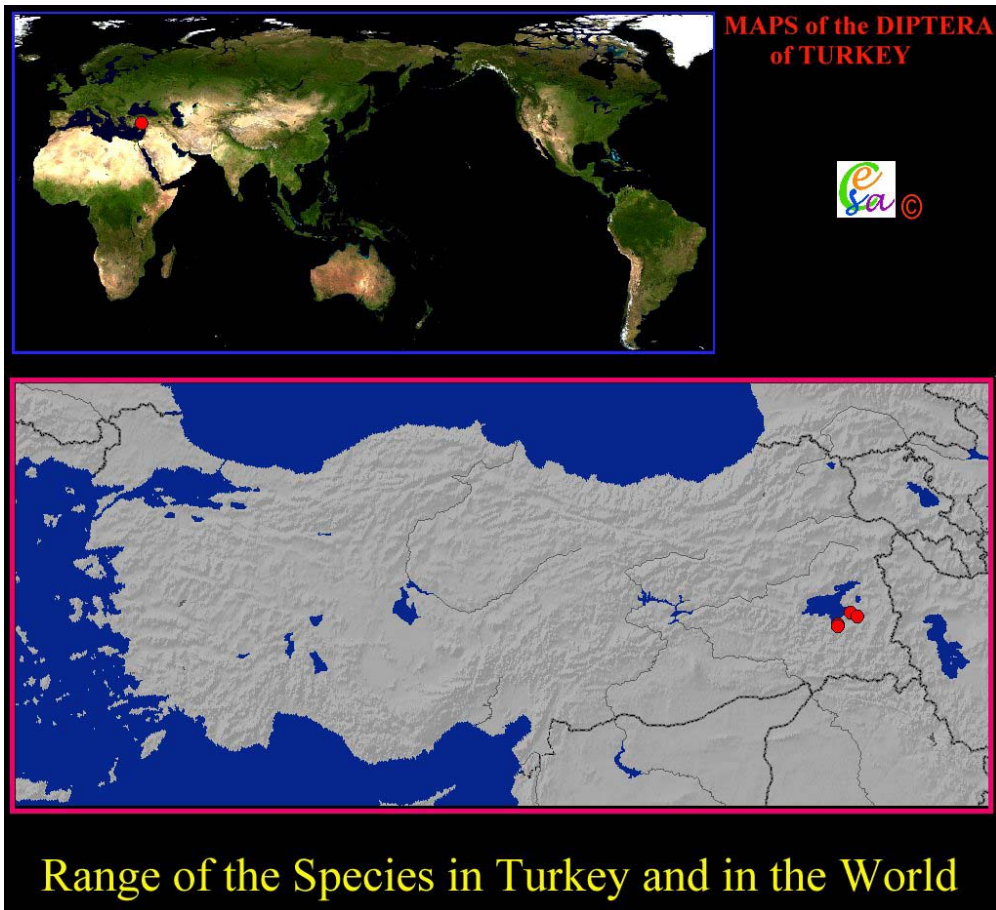
Map 2 - *Campiglossa misella* (Loew,1869)



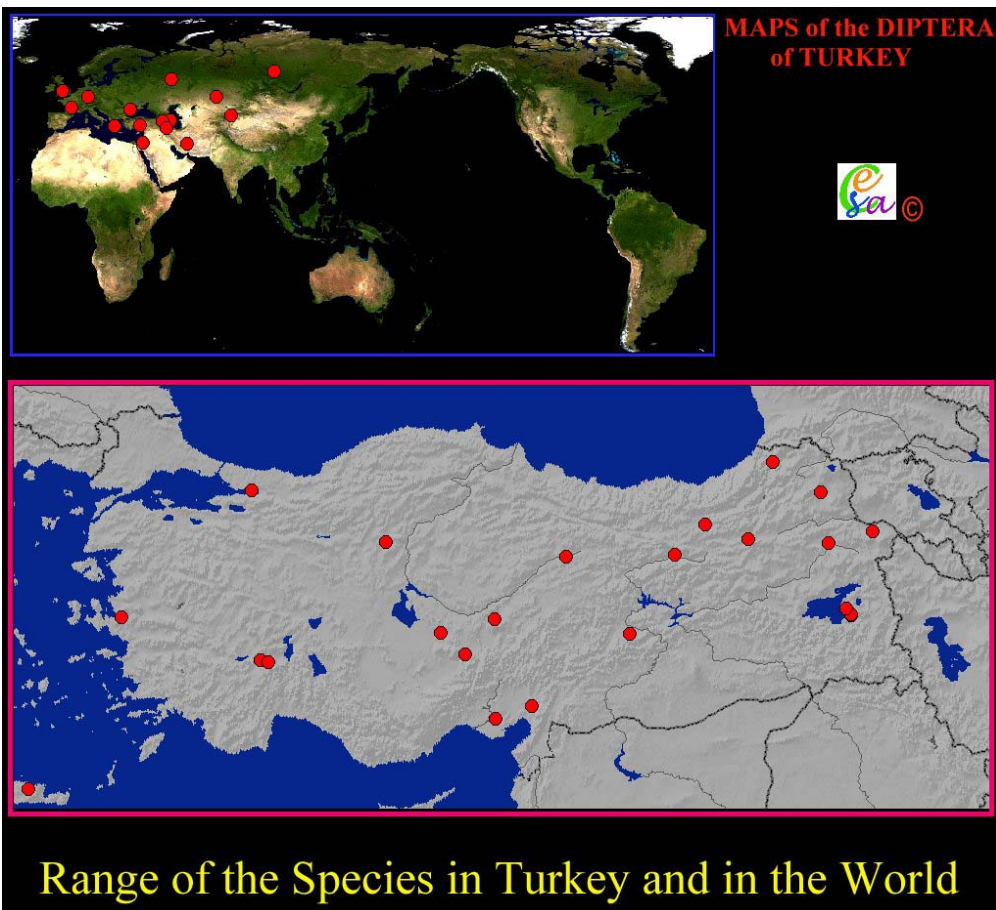
Map 3 - *Campiglossa producta* (Loew,1844)



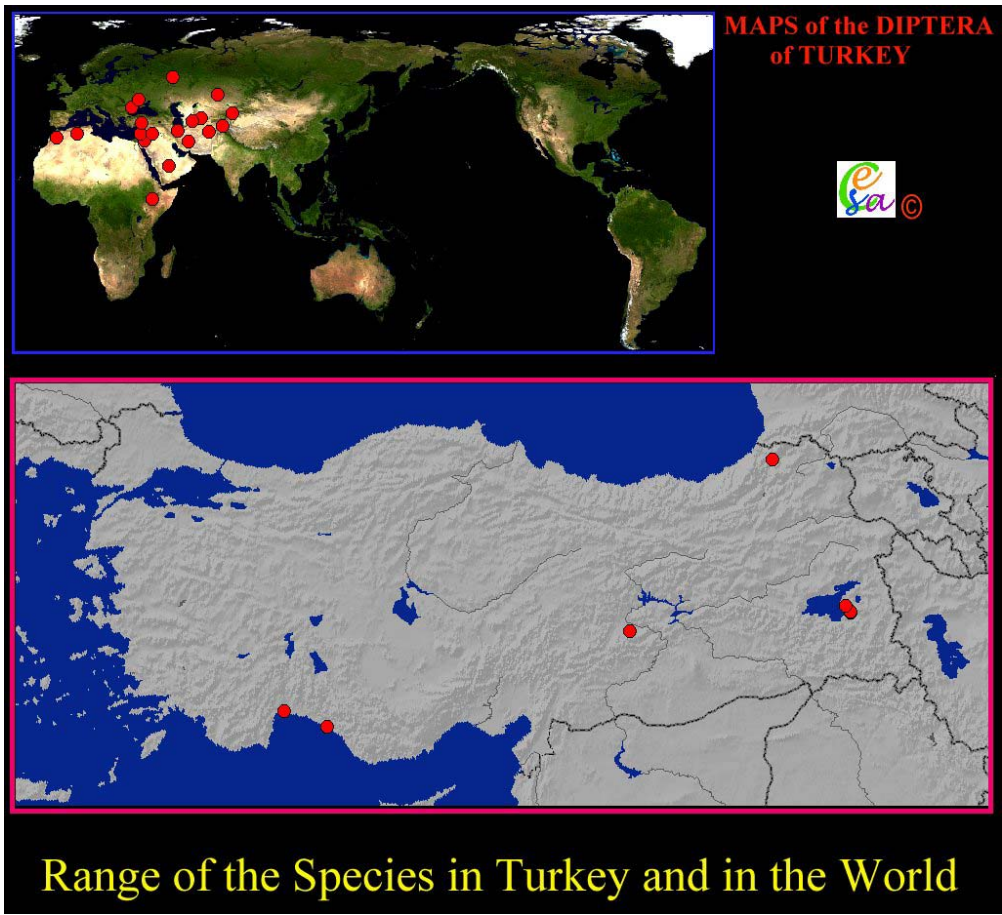
Map 4 - *Campiglossa tesellata* (Loew,1844)



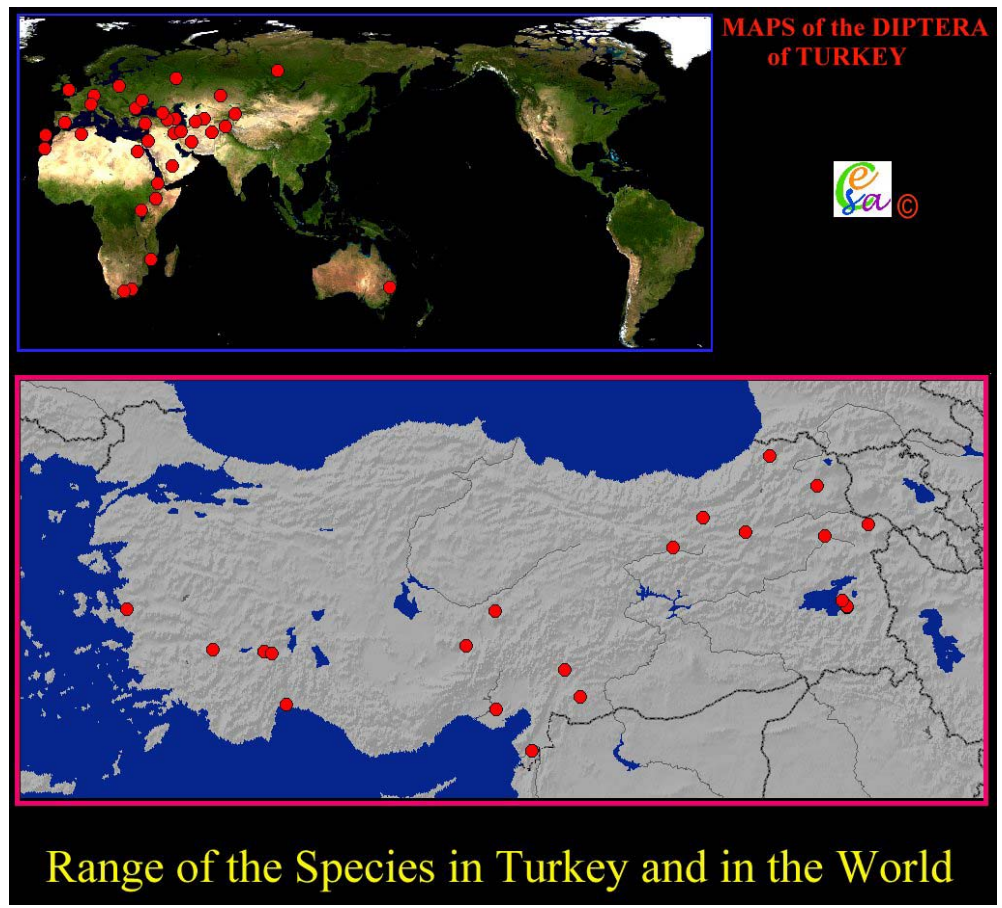
Map 5 - *Hypenidium* sp.



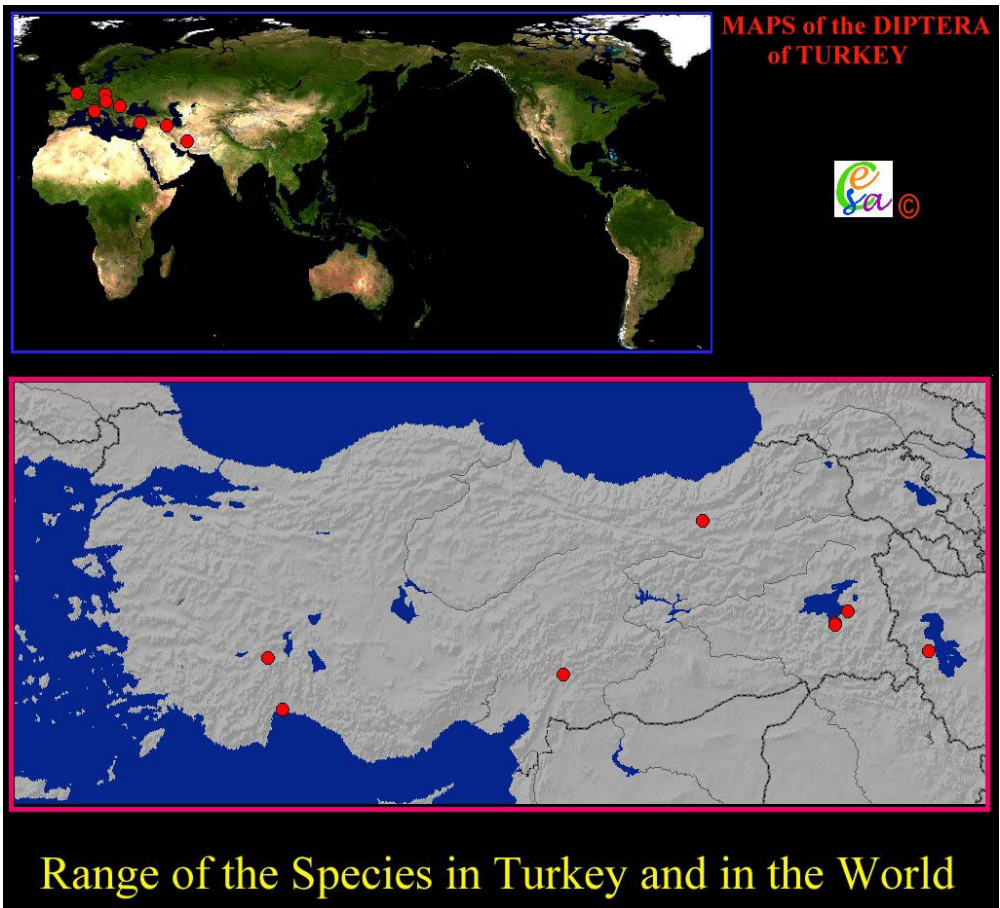
Map 6 - *Orellia falcata* (Scopoli, 1763)



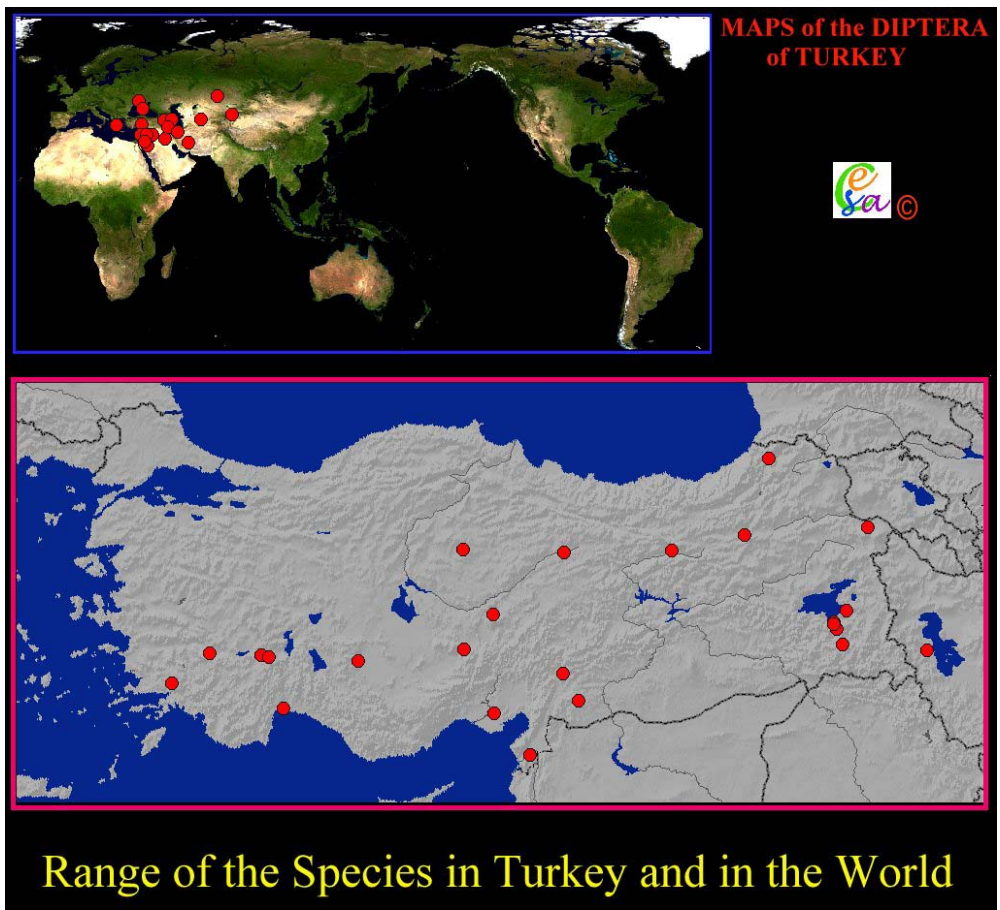
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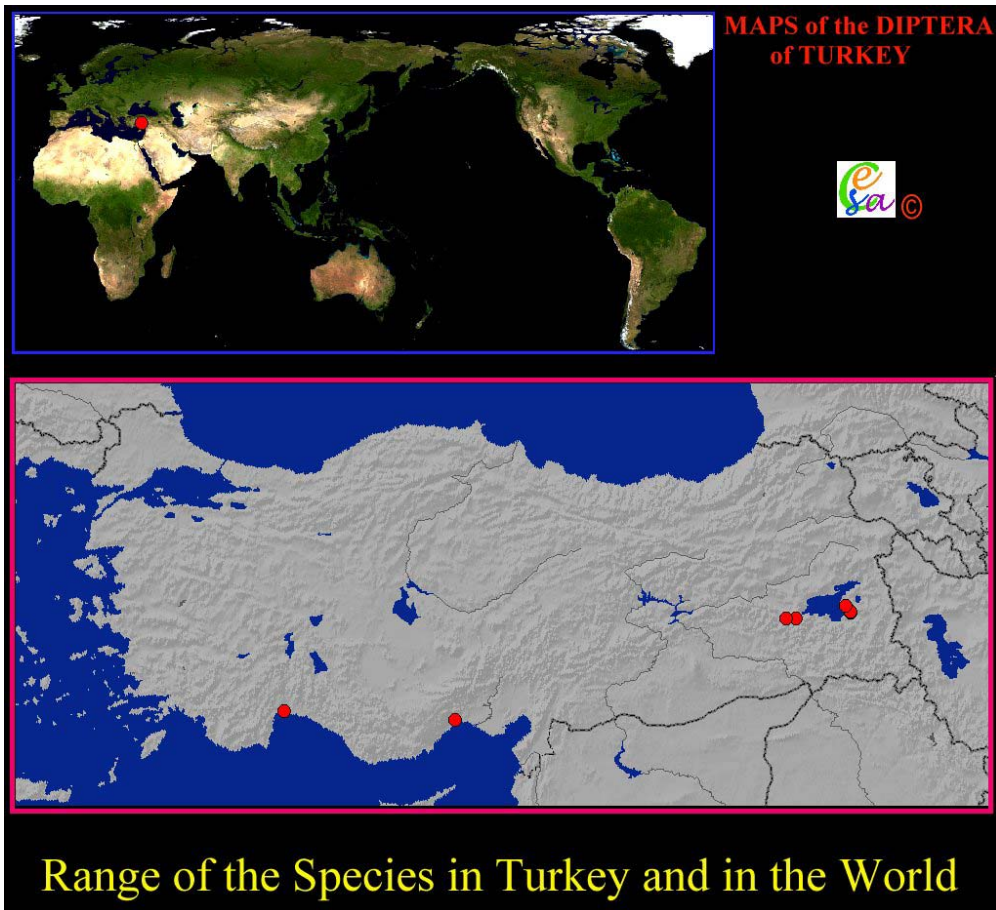
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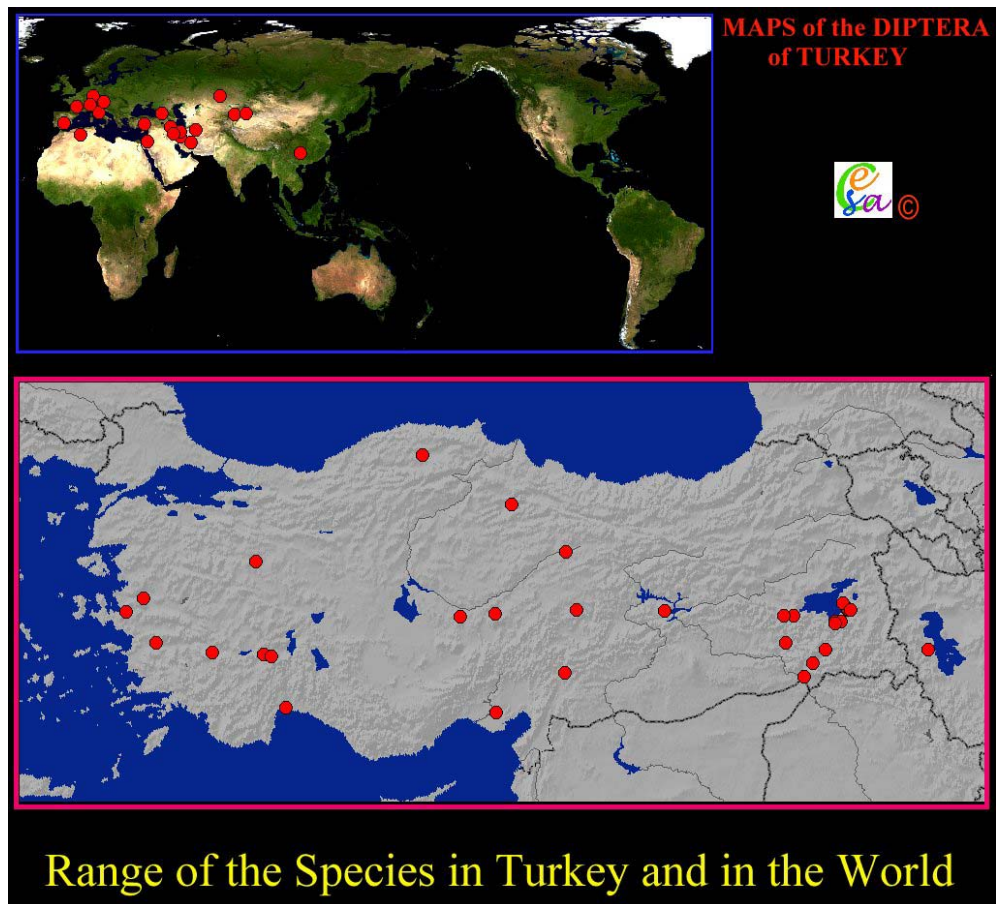
Map 9 - *Tephritis acanthiophilopsis* M.Hering,1937



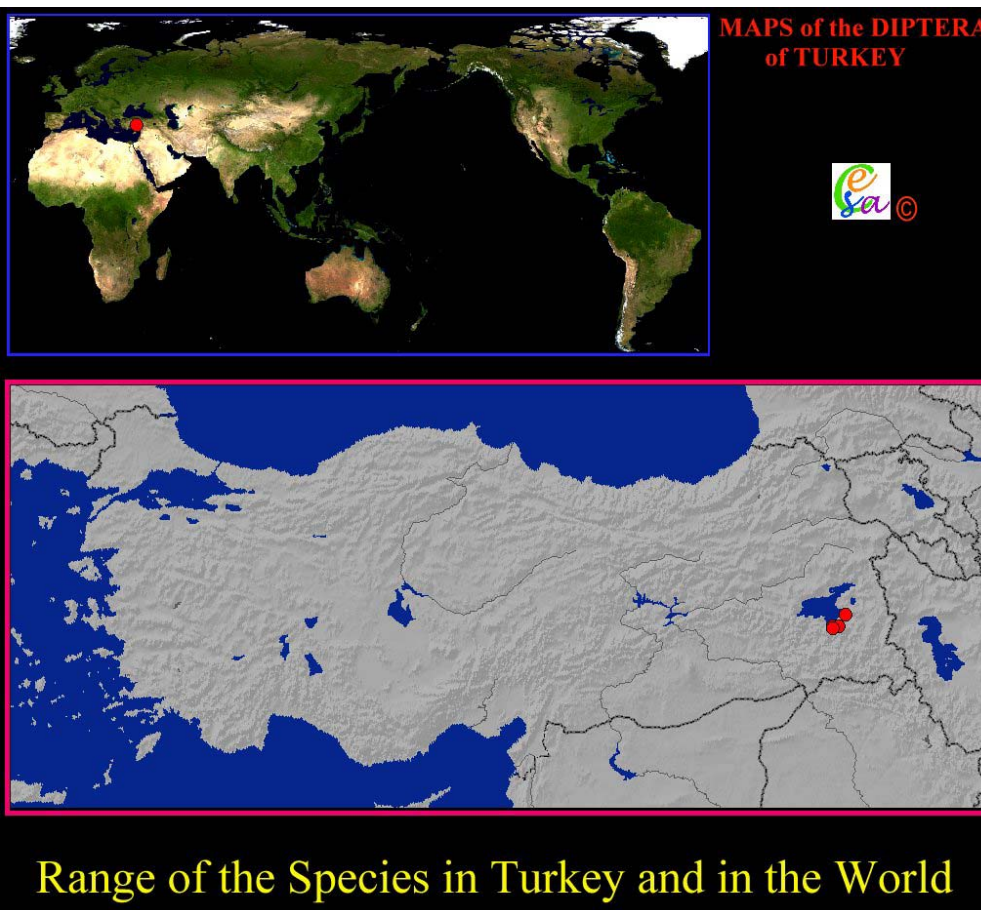
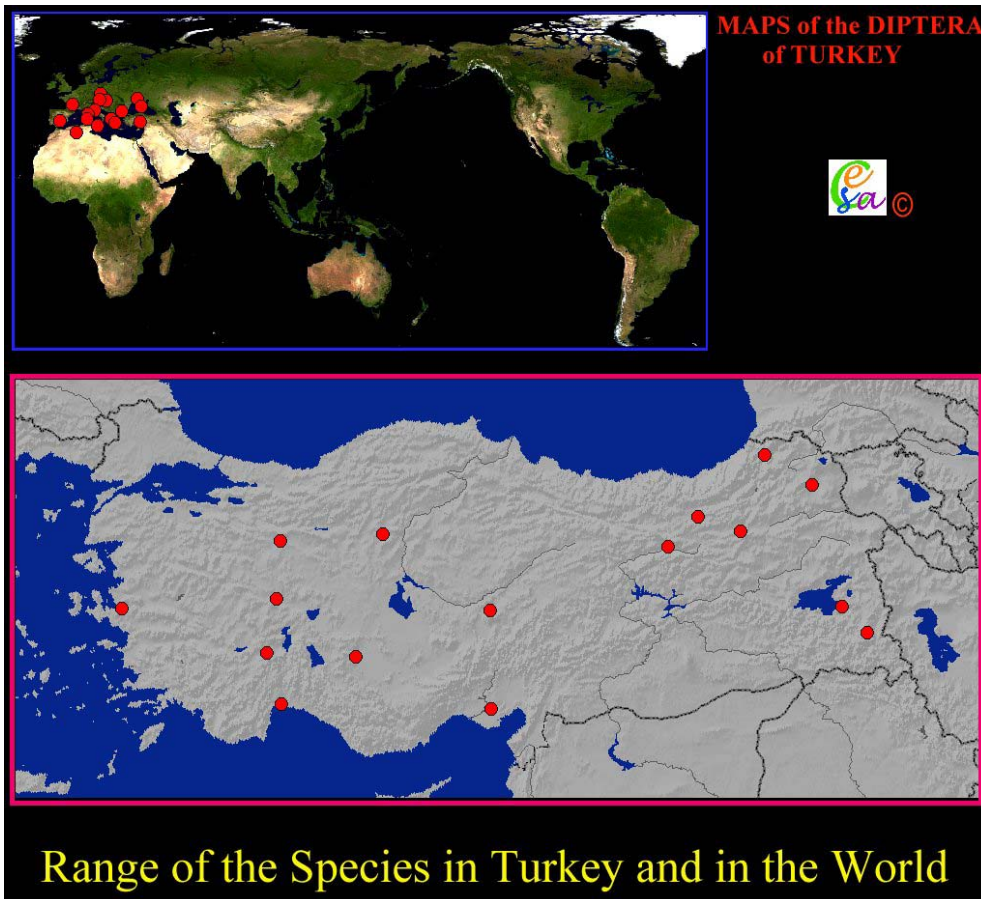
Map 10 - *Tephritis hurvitzi* Freidberg,1980

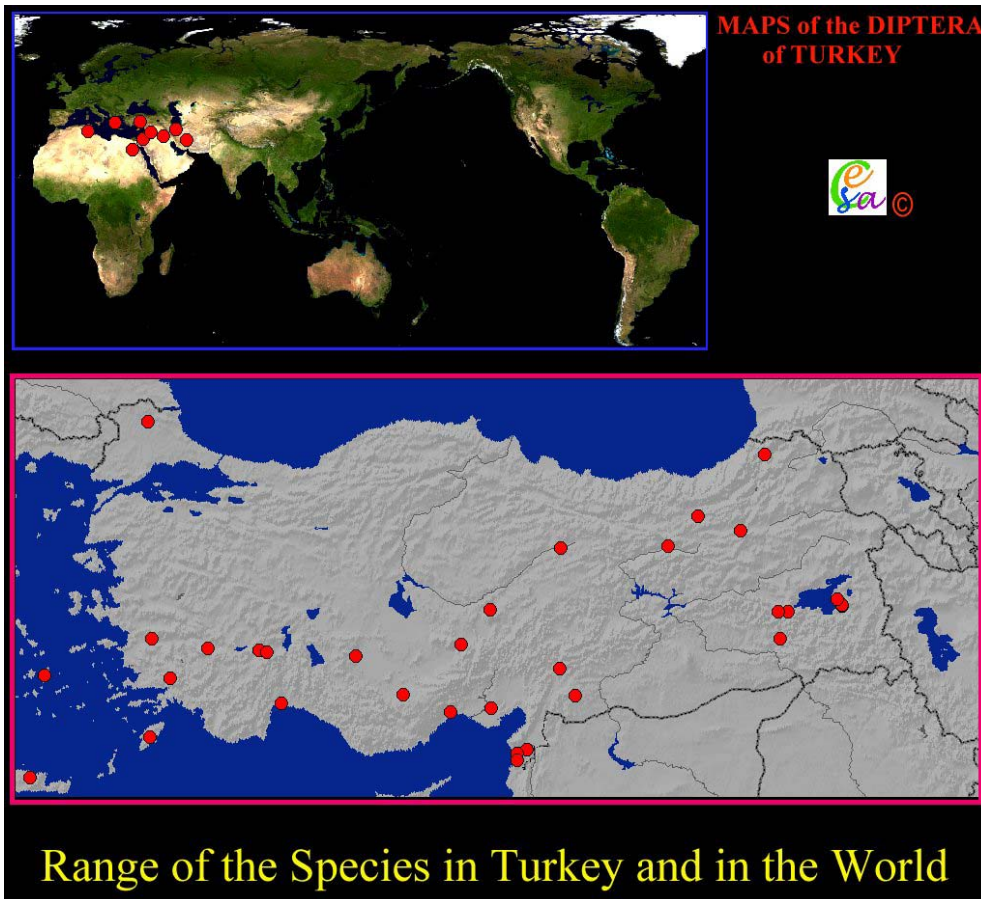


Map 11 - *Tephritis merzi* Freidberg & Kütük, 2002

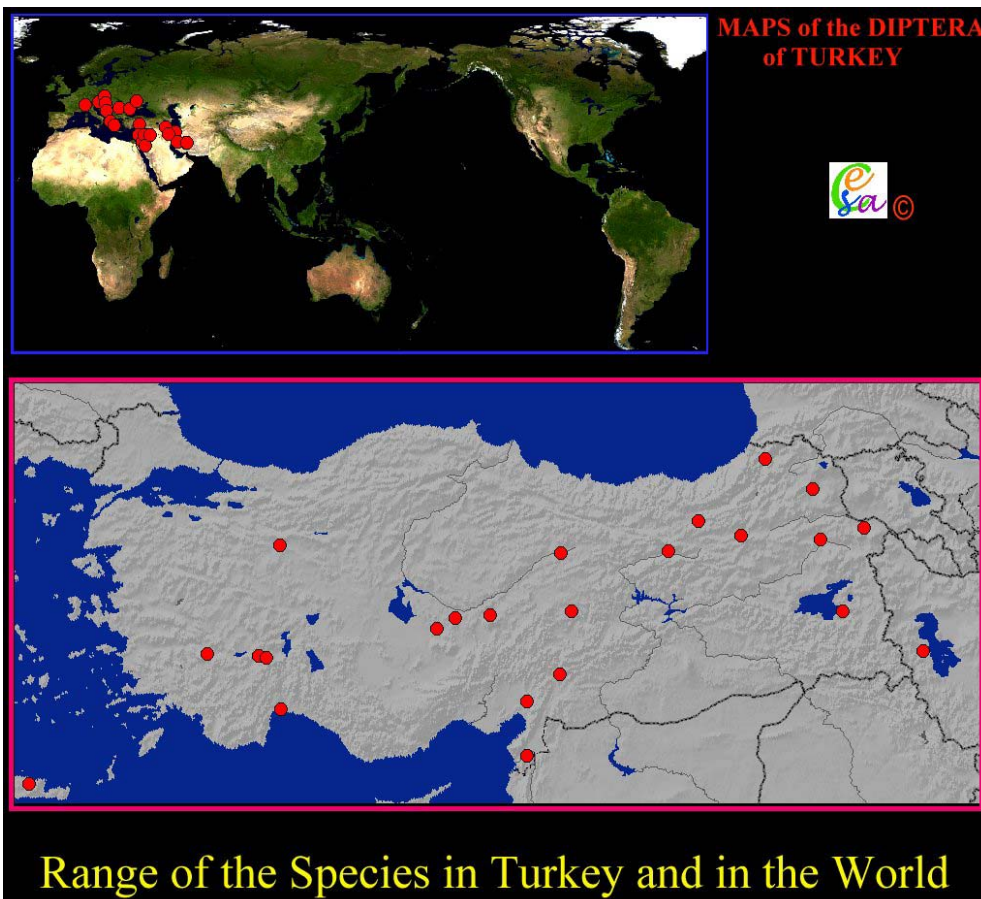


Map 12 - *Tephritis postica* (Loew, 1844)

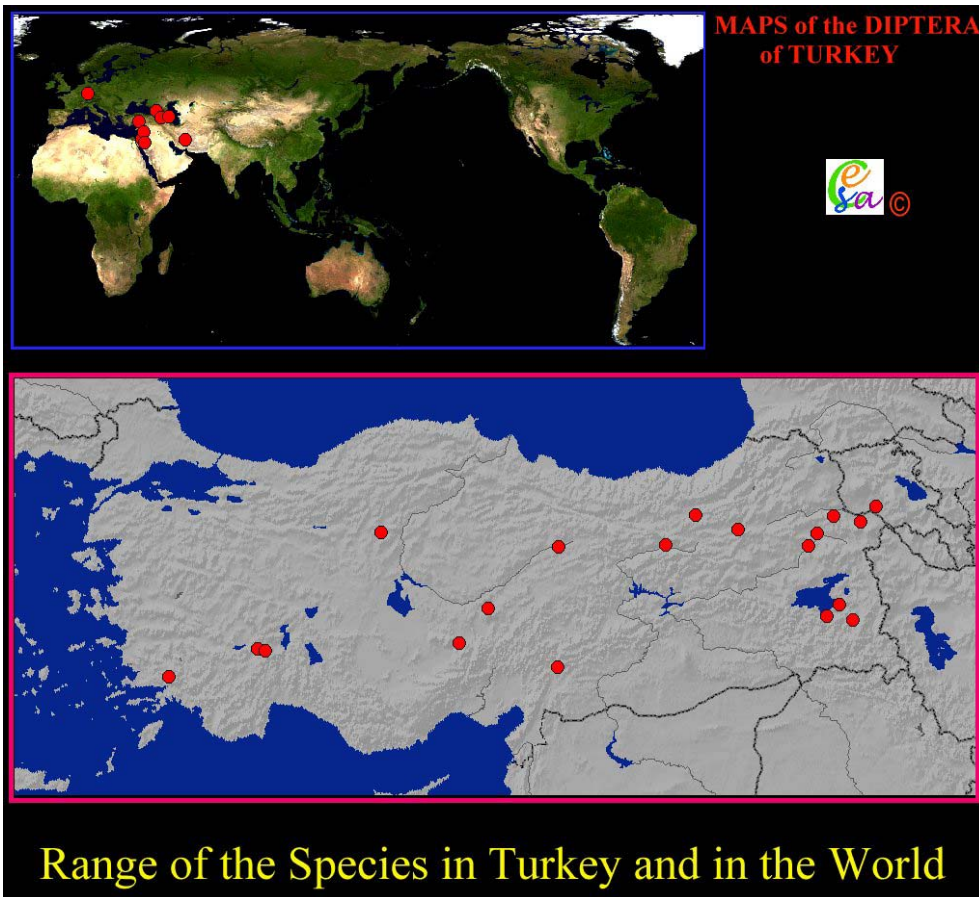




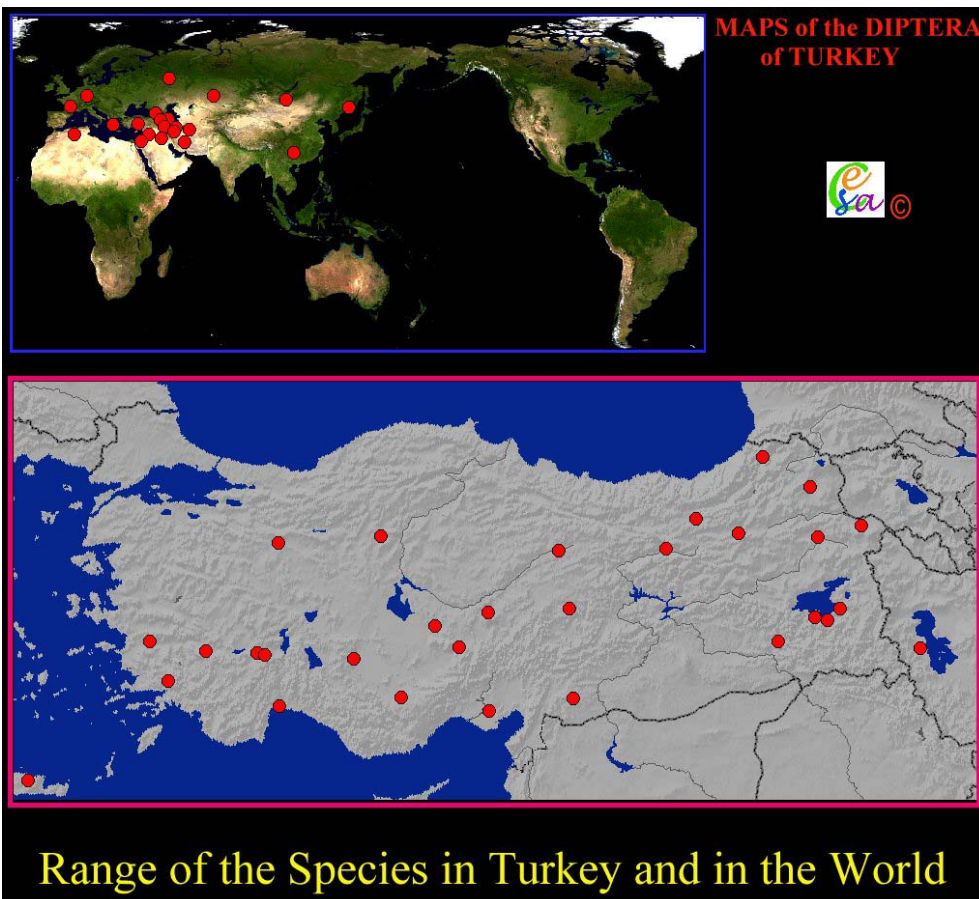
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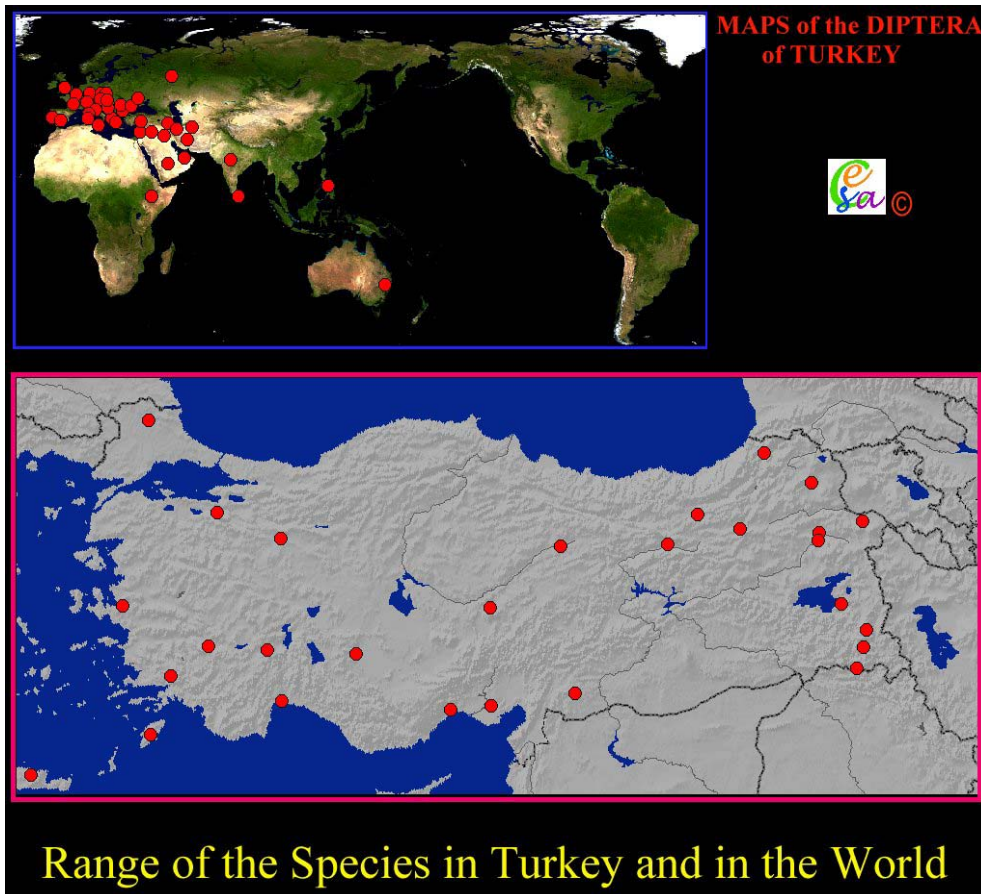
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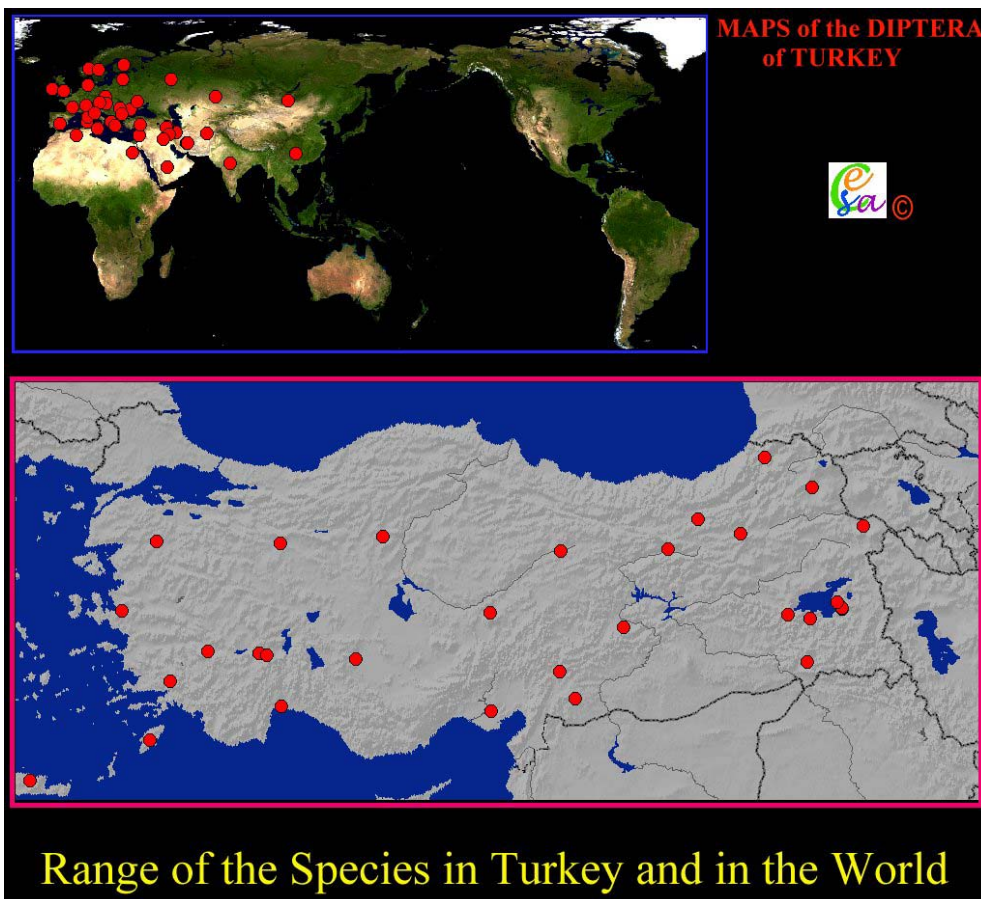
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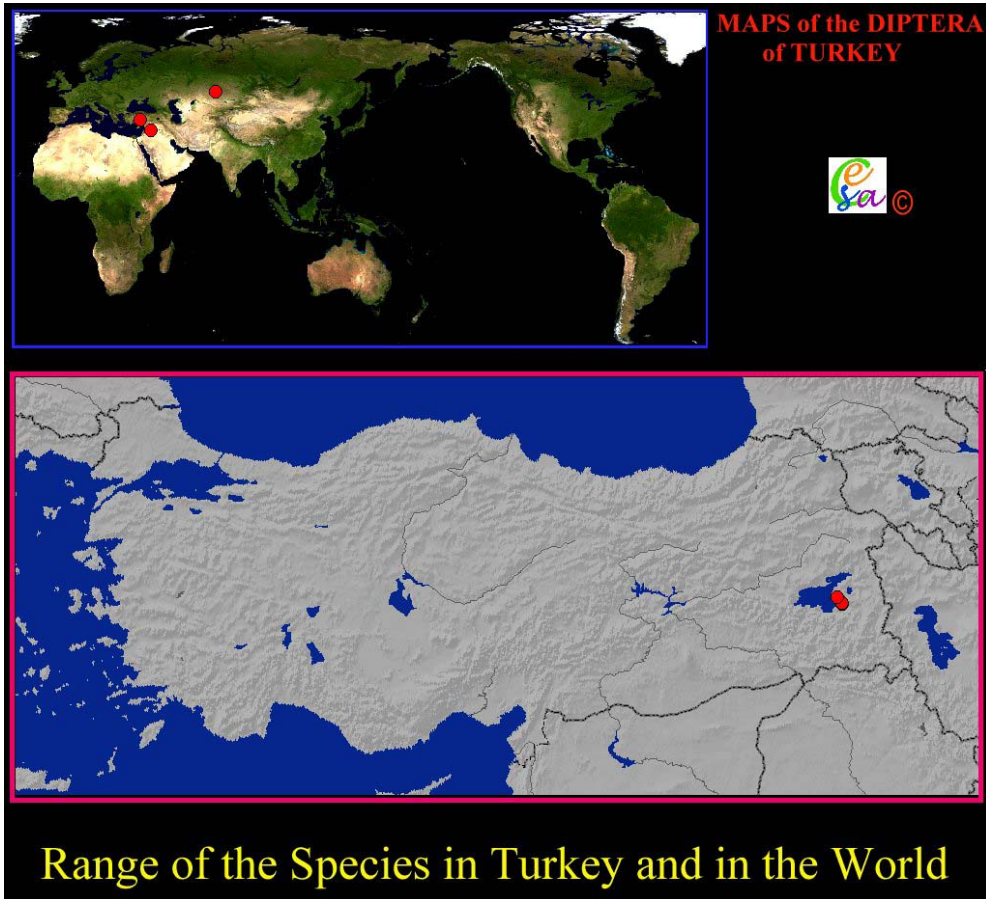
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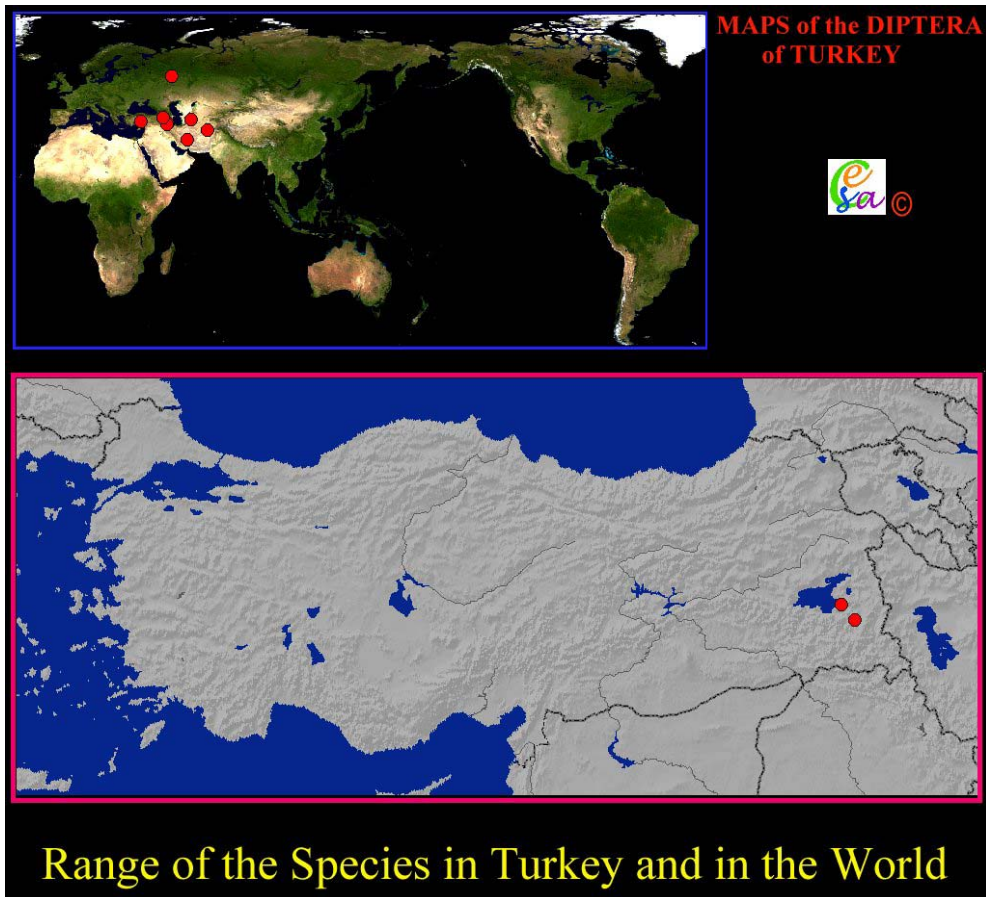
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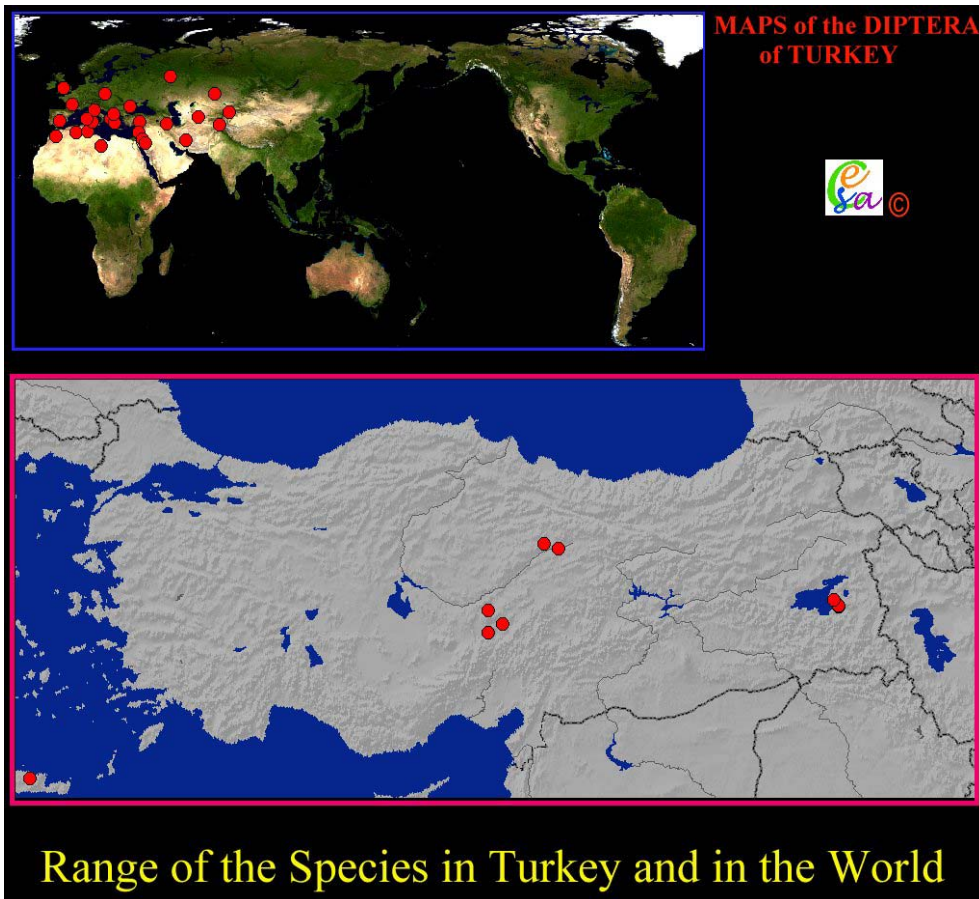
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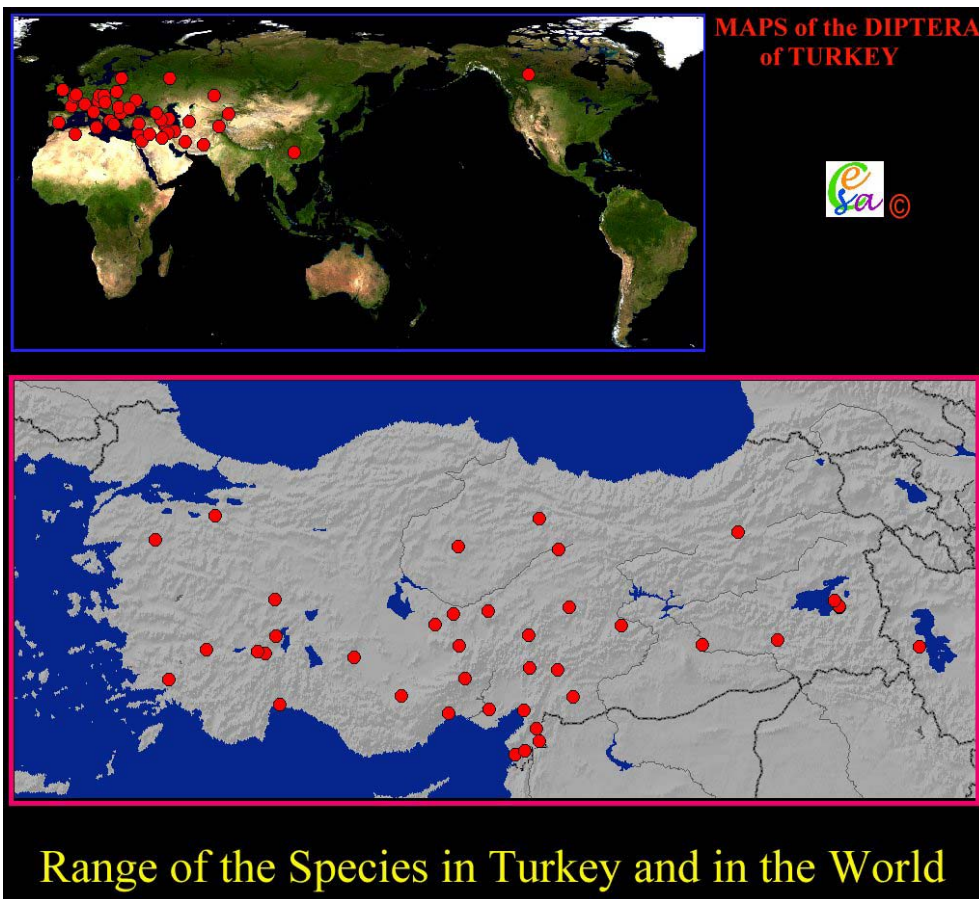
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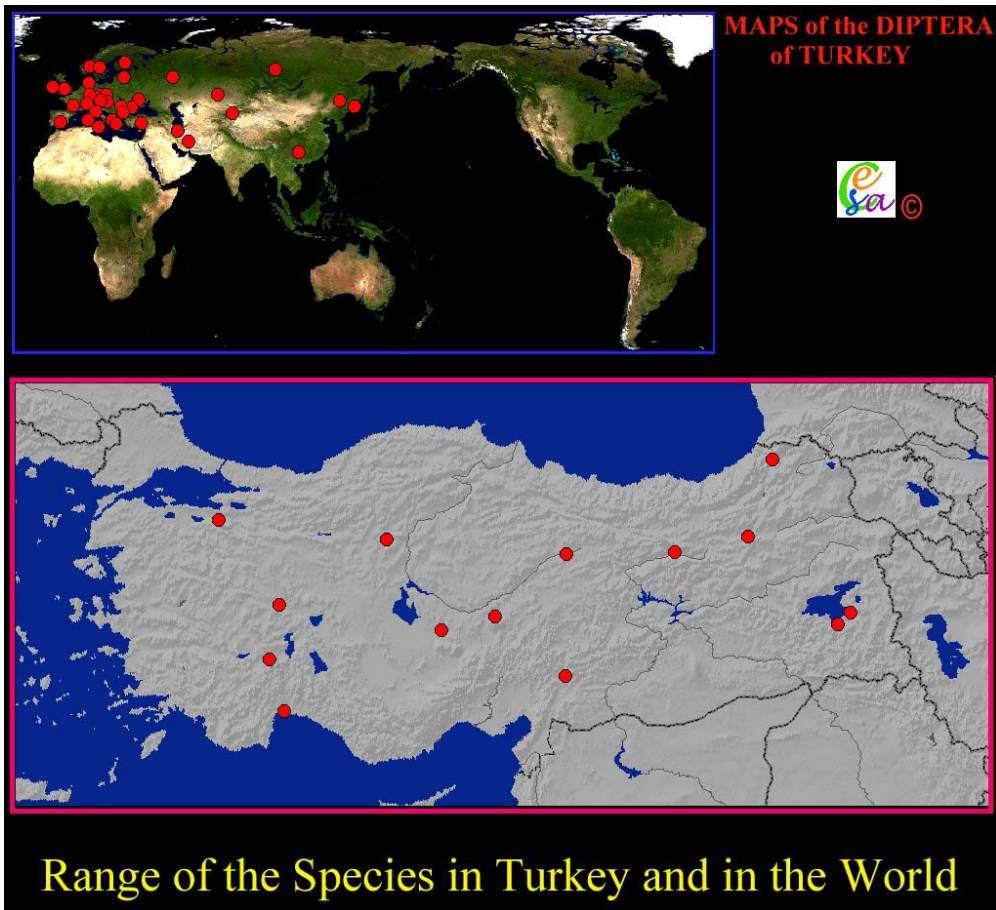
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