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Research Article

A regional checklist of Alysiinae (Hymenoptera: Braconidae) from Iran

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Abstract: The present paper provides the updated checklist of the genera and species in the subfamily Alysiinae (Hymenoptera: Braconidae) from Iran. A total of 55 species belonging to 13 genera have been listed, that had been recorded from 15 provinces. The recorded species belong to the genera *Alloea* Haliday, 1833 (one species), *Aphaereta* Foerster, 1862 (two species), *Aspilota* Foerster, 1862 (two species), *Dinotrema* Foerster, 1862 (four species), *Idiasta* Foerster, 1862 (one species), *Orthostigma* Ratzeburg, 1844 (three species), *Phaenocarpa* Foerster, 1861 (one species), *Pseudopezomachus* Montero, 1905 (one species) and *Synaldis* Foerster, 1862 (four species) from the tribe Alysiini, and *Chorebus* Haliday, 1833 (28 species), *Coelinidea* Viereck 1913 (one species), *Dacnusa* Haliday, 1833 (five species) and *Protodacnusa* Griffiths, 1964 (two species) from the tribe Dacnusini.

Keywords: Alysiini, Dacnusini, fauna, biological control, parasitoids

Introduction

The subfamily Alysiinae is considered as a monophyletic group of parasitic braconids, on the basis of their broad exodont mandibles and the total loss of the occipital and epicnemal carinae (Wharton, 1997, 2002). All alysiines are koinobiont endoparasitoids of Cyclorrhaphous Diptera (Shaw and Huddleston, 1991). The adult female lays her eggs into the egg or larva of the host fly, and the progenies emerge from the host puparium. The outwardly directed and non-overlapping mandibles are used for emergence of the adults from the host puparium (Wharton, 1984). About 2,000 species and 104 genera have been recorded worldwide within Alysiinae, of which more than 65 genera and 1200 species occur in the Palaearctic region (Yu *et al.*, 2012). This subfamily is traditionally divided in two large and polymorphic tribes Alysiini Leach, 1815 and Dacnusini Foerster, 1862, which can be distinguished by the presence (Alysiini) or absence (Dacnusini) of the vein r in the fore wings (Shenefelt, 1974; Docavo *et al*., 2002).

From a biological point of view, members of the tribe Alysiini interact with a wide range of hosts from more than twenty families of Cyclorrhaphous Diptera, but the majority of the hosts belong to Anthomyiidae, Calliphoridae, Drosophilidae, Lonchopteridae, Muscidae, Phoridae, Sarcophagidae and Scathophagidae (Shenefelt, 1974; Belokobylskij and Kostromina, 2011; Yu *et al*., 2012). They are often found in humid habitats and ephemeral substrates (Wharton, 1984). On the contrary, member of the tribe Dacnusini are almost

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exclusively specialized in leaf and stem miners belonging to Agromyzidae, Chloropidae, Drosophilidae, Ephydridae and Pisilidae (Shaw and Huddleston, 1991; Belokobylskij and Kostromina, 2011; Peris-Felipo and Jiménez-Peydró, 2013).

Many species of the subfamily Alysiinae have been considered as biological control agents of economically important Diptera pests (Griffiths, 1968; Drea *et al*., 1986; Wharton, 1997; Achterberg *et al*., 2012). A few attempts have also been done for control of the synanthropic fly populations (Calliphoridae, Muscidae and Sarcophagidae) by rearing and release of the genera *Alysia* Laterille, 1804, *Aphaereta* Foerster, 1862 and *Gnathopleura* Fischer, 1975 (Wharton, 1984, 1997; Marchiori, 2007; Henrique, 2006).

While the subfamily Alysiinae is a rather common group of the braconids in various habitats, they were greatly ignored in previous Braconidae lists (Fallahzadeh and Saghaei, 2010), until recent faunistic and taxonomic studies (Ghahari *et al*., 2009; 2010a, b, 2011a, b, c, d; Ghahari and Fischer, 2011a, b; Fischer *et al*., 2011; Lashkari-Bod *et al*., 2011; Rastegar *et al*., 2012). Within this context, the present work offers the updated checklist of Alysiinae of Iran with the main objective to provide a framework for the subsequent studies on this group, which may lead to exploration and identification of many more species from other regions of Iran.

Materials and Methods

The checklist of previously recorded species was extracted from all available literature (Ghahari *et al*., 2009, 2010a, b, 2011a, b, c, d; Ghahari and Fischer, 2011a, b; Fischer *et al*., 2011; Lashkari-Bod *et al*., 2011; Rastegar *et al*., 2012; Sedighi *et al*., 2014). Some species were examined in the Naturhistorisches Museum Wien (Vienna, Austria; NHMW) and the British Natural History Museum (London, UK; BNHM). Classification, nomenclature and the distributional data of Braconidae followed Yu *et al*. (2012).

The species list of each tribe is sorted alphabetically based on the valid names. Data about the distribution in Iran and the general distribution in the world is also provided for each species, separately. A map is provided, indicating the distribution of Alysiinae species in different provinces of Iran (Fig. 1).

Results

In the current study, 55 species of Alysiinae belonging to 13 genera, including nine genera of the tribe Alysiini (*Alloea* Haliday, 1833, *Aphaereta* Foerster, 1862, *Aspilota* Foerster, 1862, *Idiasta* Foerster, 1862, *Dinotrema* Foerster, 1862, *Orthostigma* Ratzeburg, 1844, *Phaenocarpa* Foerster, 1861, *Pseudopezomachus* Montero, 1905 and *Synaldis* Foerster, 1862) and four genera of tribe Dacnusini (*Chorebus* Haliday, 1833, *Coelinidea* Viereck 1913, *Dacnusa* Haliday, 1833 and *Protodacnusa* Griffiths, 1964) are listed. The species list of Alysiinae of Iran is provided below.

Subfamily Alysiinae Leach, 1815
Tribe Alysiini Leach, 1815

1. *Alloea contracta* (Haliday, 1833)
Distribution in Iran: Mazandaran province: Ghaemshahr, Savadkooh (Ghahari *et al*., 2010a).
General distribution: Eastern Palaearctic and Western Palaearctic.

2. *Aphaereta difficilis* Nixon, 1939
Distribution in Iran: Ilam province: Moosiyan (Ghahari *et al*., 2011b).
General distribution: Eastern Palaearctic and Western Palaearctic.

3. *Aphaereta minuta* (Nees, 1811)
Material examined: Iran: Tehran province, viii.1989, 54♀ and 11♂, ex pupa of Diptera ex snails, sp.1, CIE A20881, leg.: A. Nasrollahi (BNHM).
Distribution in Iran: Isfahan province: Aran-Bidgol and Semirom (Ghahari *et al*., 2011a), Tehran province: Tehran.

General distribution: Eastern Palaearctic and Western Palaearctic.
Remark: This species has previously been recorded from Iran as *Asobara minuta* (Nees, 1811) (Ghahari *et al*., 2011a).

4. *Aspilota alfalfae* Fischer, Lashkari-Bod, Rakhshani & Talebi, 2011
Material examined: Iran: Fars province: Zarghan, 20.v.2008, 1♀, swept on *Medicago sativa* L., leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Zarghan (Fischer *et al*., 2011).
General distribution: Iran.

5. *Aspilota delicata* Fischer, 1973
Distribution in Iran: Ardabil province: Dashte Moghan (Ghahari *et al*., 2011c).
General distribution: Western Palaearctic.

6. *Dinotrema concinnum* (Haliday, 1838)
Distribution in Iran: Qazvin province: Danesfahan (Ghahari *et al*., 2011d).
General distribution: Eastern Palaearctic and Western Palaearctic.

7. *Dinotrema cratocerum* (Thomson, 1895)
Distribution in Iran: Golestan province: Minoodasht (Ghahari *et al*., 2010b).
General distribution: Eastern Palaearctic and Western Palaearctic.

8. *Dinotrema intermissum* (Fischer, 1974)
Distribution in Iran: Guilan province: Astara (Ghahari and Fischer, 2011a).
General distribution: Western Palaearctic.

9. *Dinotrema significarium* (Fischer, 1973)
Distribution in Iran: Sistan & Baluchestan province: Zabol (Ghahari *et al*., 2010a).
General distribution: Eastern Palaearctic and Western Palaearctic.

10. *Idiasta picticornis* (Ruthe 1854)
Distribution in Iran: Sistan & Baluchestan province (Sedighi *et al*., 2014).
General distribution: Eastern Palaearctic and Western Palaearctic.

11. *Orthostigma beyarslani* Fischer, 1995
Material examined: Iran: Fars province: Marvdasht, 09.v.2008, 2♀, swept on *Medicago sativa*, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Marvdasht (Fischer *et al*., 2011; Lashkari-Bod *et al*., 2011).
General distribution: Western Palaearctic.

12. *Orthostigma laticeps* (Thomson, 1895)
Distribution in Iran: Isfahan province: Isfahan (Ghahari *et al*., 2011a)
General distribution: Eastern Palaearctic and Western Palaearctic.

13. *Orthostigma maculipes* (Haliday, 1838)
Distribution in Iran: Isfahan province: Isfahan (Ghahari *et al*., 2011a)
General distribution: Eastern Palaearctic and Western Palaearctic.

14. *Phaenocarpa ruficeps* (Nees, 1812)
Distribution in Iran: Khorasan Razavi province: Mashhad (Ghahari *et al*., 2011c)
General distribution: Eastern Palaearctic, Nearctic, Oriental and Western Palaearctic.

15. *Pseudopezomachus masii* Nixon, 1940
Distribution in Iran: Ilam province: Ilam (Ghahari *et al*., 2011b).
General distribution: Western Palaearctic.

16. *Synaldis concolor* (Nees, 1812)
Material examined: Iran: Fars province: Neyriz, 13.iii.2009, 1♀, swept on *Triticum aestivum* L., leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Neyriz (Lashkari-Bod *et al*., 2011), Qazvin province: Danesfahan (Ghahari *et al*., 2011d), East Azarbaijan province: Oskoo (Rastegar *et al*., 2012).
General distribution: Eastern Palaearctic and Western Palaearctic.

17. *Synaldis distracta* (Nees, 1834)
Distribution in Iran: Isfahan province: Isfahan and Shahreza (Ghahari *et al*., 2011a).
General distribution: Eastern Palaearctic, Oriental and Western Palaearctic.

18. *Synaldis maxima* (Fischer, 1962)
Distribution in Iran: Ilam province: Darrehshahr (Ghahari *et al*., 2011b).
General distribution: Western Palaearctic.

19. *Synaldis megastigma* Fischer, 1967
Distribution in Iran: Guilan province: Minoodasht (Ghahari *et al*., 2011c).
General distribution: Western Palaearctic.

Tribe Dacnusini Foerster, 1862

20. *Chorebus* (*Chorebus*) *affinis* (Nees, 1812)
Material examined: Iran: Fars province: Maharlu, 31.iii.2008, 1♀, weed, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Mazandaran province: Chalous (Ghahari *et al*., 2010b), Fars province: Maharlou (Lashkari-Bod *et al*., 2011), Khorasan Razavi province: Kashmar (Ghahari *et al*., 2011c).
General distribution: Eastern Palaearctic and Western Palaearctic.
Remark: This species has previously been recorded from Iran as *Chorebus longicornis* (Nees, 1811) (Ghahari *et al*., 2010b).

21. *Chorebus* (*Stiphrocera*) *asphodeli* Griffiths, 1968
Distribution in Iran: Qazvin province: Moallem Keläyeh (Ghahari *et al*., 2011d), Ardabil province: Ardabil (Rastegar *et al*., 2012).
General distribution: Western Palaearctic.

22. *Chorebus* (*Chorebus*) *axillaris* Fischer, Lashkari-Bod, Rakhshani & Talebi, 2011
Material examined: Iran: Fars province: Bidzard, 30.iv.2006, 1♀, orchard, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Bidzard (Fischer *et al*., 2011).
General distribution: Iran.

23. *Chorebus* (*Phaenolexis*) *bathyzonus* (Marshall, 1895)
Distribution in Iran: Sistan & Baluchestan province (Sedighi *et al*., 2014).
General distribution: Eastern Palaearctic and Western Palaearctic.

24. *Chorebus* (*Phaenolexis*) *compressiiventris* (Telenga, 1935)
Distribution in Iran: Ardabil province: Pars Abad and Germi (Ghahari and Fischer, 2011b).
General distribution: Western Palaearctic.

25. *Chorebus* (*Stiphocera*) *cubocephalus* (Telenga, 1934)
Distribution in Iran: Sistan & Baluchestan province (Sedighi *et al*., 2014).
General distribution: Eastern Palaearctic and Western Palaearctic.

26. *Chorebus* (*Stiphrocera*) *diremtus* (Nees, 1834)
Distribution in Iran: East Azarbaijan province: Arasbaran (Ghahari and Fischer, 2011b).
General distribution: Eastern Palaearctic and Western Palaearctic.

27. *Chorebus* (*Phaenolexis*) *femoratus* Tobias, 1962
Distribution in Iran: Ilam province: Ilam (Ghahari *et al*., 2011b).
General distribution: Western Palaearctic.

28. *Chorebus* (*Stiphocera*) *flavipes* (Goureau, 1851)
Distribution in Iran: Guilan province: Astara (Ghahari and Fischer, 2011a), Ardabil province: Dashte Moghan (Ghahari *et al*., 2011c).
General distribution: Eastern Palaearctic and Western Palaearctic.

29. *Chorebus* (*Phaenolexis*) *fuscipennis* (Nixon, 1937)
Distribution in Iran: Isfahan province: Isfahan (Ghahari *et al*., 2011a).
General distribution: Eastern Palaearctic and Western Palaearctic.

30. *Chorebus* (*Chorebus*) *gracilipes* (Thomson, 1895)
Distribution in Iran: Kordestan province: Sanandaj (Ghahari *et al*., 2010a)
General distribution: Eastern Palaearctic and Western Palaearctic.

31. *Chorebus* (*Stiphocera*) *groschkei* Griffiths, 1967
Material examined: Iran: Fars province: Shiraz, 01.v.2007, 1♂, weed, leg.: A. Lashkari-Bod (NHMW); Fars province: Takhte-Rostam, 03.vi.2008, 1♂, weed, leg.: A. Lashkari-Bod (NHMW); Fars province: Neyriz, 13.iii.2009, 1♂, *Triticum aestivum*, leg.: A. Lashkari-Bod (NHMW); Fars province: Bidzard, 30.iv.2006, 1♂, orchard, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province (Lashkari-Bod *et al*., 2011).
General distribution: Western Palaearctic.

32. *Chorebus* (*Phaenolexis*) *iridis* Griffiths, 1968
Distribution in Iran: Qazvin province: Qazvin (Ghahari *et al*., 2011d).
General distribution: Western Palaearctic.

33. *Chorebus* (*Stiphrocera*) *lar* (Morley, 1924)
Distribution in Iran: Isfahan province: Anarak (Ghahari et al., 2011a), Sistan & Baluchestan province (Sedighi *et al*., 2014).
General distribution: Eastern Palaearctic and Western Palaearctic.

34. *Chorebus* (*Phaenolexis*) *leptogaster* (Haliday, 1839)
Distribution in Iran: Golestan province: Azadshahr (Ghahari *et al*., 2011c).
General distribution: Eastern Palaearctic and Western Palaearctic.

35. *Chorebus* (*Chorebus*) *longiarticulis* Fischer, Lashkari-Bod, Rakhshani & Talebi, 2011
Material examined: Iran: Fars province: Zarghan, 27.iv.2008, 1♀, swept on *Medicago sativa*, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Zarghan (Fischer *et al*., 2011).
General distribution: Iran.

36. *Chorebus* (*Stiphrocera*) *misellus* (Marshall, 1895)
Distribution in Iran: Semnan province: Shahrood (Ghahari *et al*., 2010a).
General distribution: Western Palaearctic.

37. *Chorebus* (*Stiphrocera*) *mucronatus* (Telenga, 1935)
Distribution in Iran: Mazandaran province: Ramsar (Ghahari *et al*., 2010a), Ilam province: Arkvaze Malekshahi (Ghahari *et al*., 2011b).
General distribution: Eastern Palaearctic and Western Palaearctic.

38. *Chorebus* (*Chorebus*) *nigridiremptus* Fischer, Lashkari-Bod, Rakhshani & Talebi, 2011
Material examined: Iran: Fars province: Zarghan, 20.v.2008, 1♀, swept on *Medicago sativa*, leg.: A. Lashkari-Bod (NHMW); same locality, 22.vi.2008, 1♀, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Zarghan (Lashkari-Bod *et al.*, 2011).
General distribution: Iran.

39. *Chorebus* (*Chorebus*) *nixoni* Burghele, 1959
Distribution in Iran: East Azarbaijan province: Jolfa (Ghahari and Fischer, 2011b).
General distribution: Western Palaearctic.

40. *Chorebus* (*Phaenolexis*) *ornatus* (Telenga, 1935)
Distribution in Iran: Qazvin province: Khoram Dasht (Ghahari *et al.*, 2011d).
General distribution: Western Palaearctic.

41. *Chorebus* (*Phaenolexis*) *posticus* Haliday, 1839
Distribution in Iran: Hamadan province: Hamadan (Ghahari *et al*., 2009).
General distribution: Eastern Palaearctic, Nearctic and Western Palaearctic.

42. *Chorebus* (*Chorebus*) *properesam* Fischer, Lashkari-Bod, Rakhshani & Talebi, 2011
Material examined: Iran: Fars province: Zarghan, 14.vii.2008, 1♂, weed, leg.: A. Lashkari-Bod (NHMW), same locality, 09.v.2008, 1♂, swept on *Medicago sativa*, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Zarghan (Fischer *et al*., 2011).
General distribution: Iran.

43. *Chorebus* (*Phaenolexis*) *stilifer* Griffiths, 1968
Material examined: Iran: Fars province: Marvdasht, 09.v.2008, 1♂, swept on *Medicago sativa*, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Marvdasht (Fischer *et al*., 2011; Lashkari-Bod *et al*., 2011).
General distribution: Western Palaearctic.

44. *Chorebus* (*Phaenolexis*) *tamsi* (Nixon, 1944)
Material examined: Iran: Fars province: Abadeh, 19.iv.2007, 1♀, weed, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Abadeh (Fischer *et al*., 2011; Lashkari-Bod *et al*., 2011).
General distribution: Western Palaearctic.

45. *Chorebus* (*Stiphrocera*) *uliginosus* (Haliday, 1839)
Distribution in Iran: Mazandaran province: Savadkooh (Ghahari *et al*., 2010b).
General distribution: Eastern Palaearctic and Western Palaearctic.

46. *Chorebus* (*Stiphrocera*) *venustus* (Tobias, 1962)
Distribution in Iran: Isfahan province: Ardestan (Ghahari *et al*., 2011a).
General distribution: Eastern Palaearctic and Western Palaearctic.

47. *Chorebus* (*Chorebus*) *zarghanensis* Fischer, Lashkari-Bod, Rakhshani & Talebi, 2011
Material examined: Iran: Fars province: Zarghan, 09.v.2008, 3♀ (including holotype), swept on *Medicago sativa*, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Zarghan (Fischer *et al*., 2011).
General distribution: Iran.

48. *Coelinidea gracilis* (Curtis, 1829)
Material examined: Iran: Fars province: Abadeh, 19.iv.2007, 3♂, weed, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Abadeh (Fischer *et al*., 2011, Lashkari-Bod *et al*., 2011), Ilam province: Dehloran (Ghahari *et al*., 2011b).
General distribution: Eastern Palaearctic and Western Palaearctic.
Remarks: This species has previously been recorded from Iran as *Lepton gracilis* (Curtis, 1829) (Fischer *et al*., 2011, Lashkari-Bod *et al*., 2011).

49. *Dacnusa* (*Pachysema*) *alpestris* Griffiths, 1967
Distribution in Iran: Ilam province: Abdanan (Ghahari *et al*., 2011b).
General distribution: Eastern Palaearctic and Western Palaearctic.

50. *Dacnusa* (*Dacnusa*) *confinis* Ruthe, 1859
Distribution in Iran: Qazvin province: Kouhin (Ghahari *et al*., 2011d).
General distribution: Western Palaearctic.

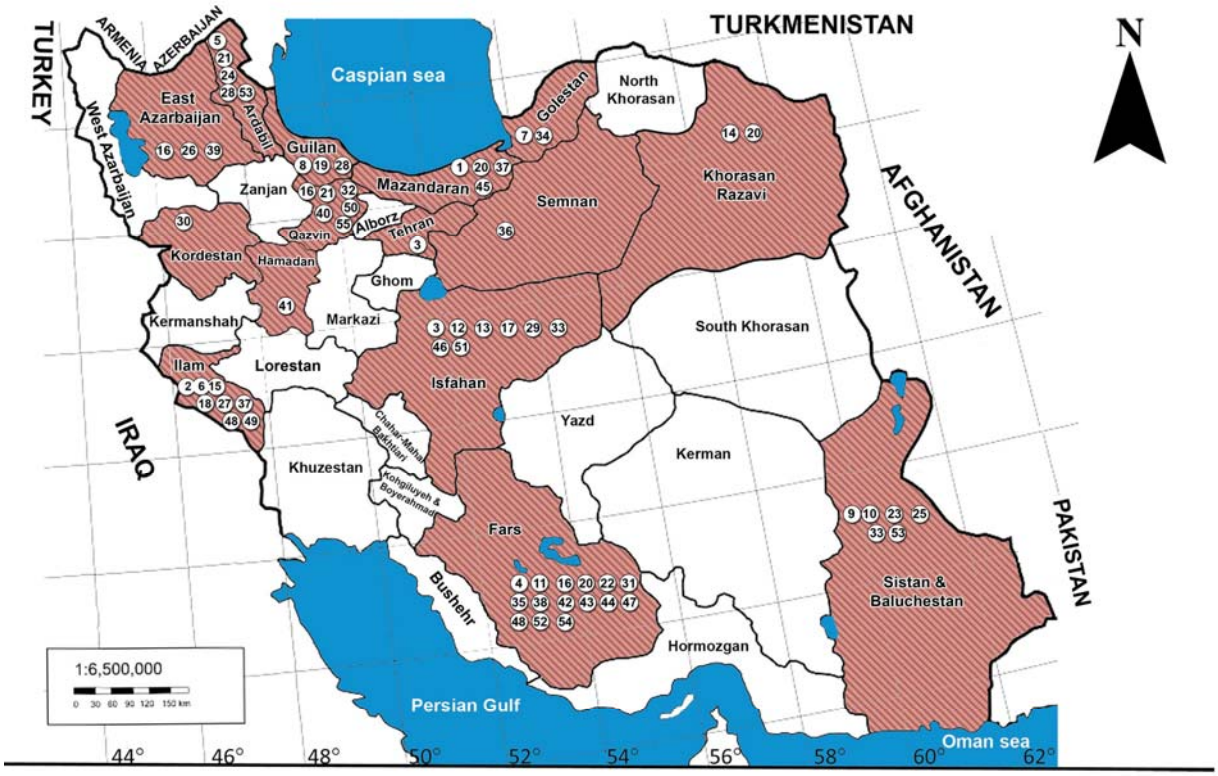
51. *Dacnusa* (*Dacnusa*) *gentianae* Griffiths, 1967
Distribution in Iran: Isfahan province: Golpayegan and Isfahan (Ghahari *et al*., 2011a).
General distribution: Western Palaearctic.

52. *Dacnusa* (*Aphanta*) *hospita* (Foerster, 1862)
Material examined: Iran: Fars province: Neyriz, 13.iii.2009, 1♀, swept on *Triticum aestivum*, leg.: A. Lashkari-Bod (NHMW).
Distribution in Iran: Fars province: Neyriz (Fischer *et al*., 2011, Lashkari-Bod *et al*., 2011).
General distribution: Eastern Palaearctic and Western Palaearctic.

53. *Dacnusa* (*Pachysema*) *sibirica* Telenga, 1935
Distribution in Iran: Ardabil province: Ardabil (Fathi, 2011), Sistan & Baluchestan province (Sedighi *et al*., 2014).
General distribution: Eastern Palaearctic, Oriental and Western Palaearctic.

54. *Protodacnusa aridula* (Thomson, 1895)
Distribution in Iran: Fars province: Shiraz (Ghahari *et al*., 2010a).
General distribution: Eastern Palaearctic and Western Palaearctic.

55. *Protodacnusa litoralis* Griffiths, 1964
Distribution in Iran: Qazvin province: Takestan (Ghahari *et al*., 2011d).
General distribution: Eastern Palaearctic and Western Palaearctic.



1. Alloea contracta
2. Aphaereta difficilis
3. Aphaereta minuta
4. Aspilota alfalfae
5. Aspilota delicata
6. Dinotrema concinnum
7. Dinotrema cratocerum
8. Dinotrema intermissum
9. Dinotrema significarium
10. Idiasta picticornis
11. Orthostigma beyarslani
12. Orthostigma laticeps
13. Orthostigma maculipes
14. Phaenocarpa ruficeps
15. Pseudopezomachus masii
16. Synaldis concolor
17. Synaldis distracta
18. Synaldis maxima
19. Synaldis megastigma
20. Chorebus affinis
21. Chorebus asphodeli
22. Chorebus axillaris
23. Chorebus bathyzonus
24. Chorebus compressiiventris
25. Chorebus cubocephalus
26. Chorebus diremtus
27. Chorebus femoratus
28. Chorebus flavipes
29. Chorebus fuscipennis
30. Chorebus gracilipes
31. Chorebus groschkei
32. Chorebus iridis
33. Chorebus lar
34. Chorebus leptogaster
35. Chorebus longiarticulis
36. Chorebus misellus
37. Chorebus mucronatus
38. Chorebus nigridiremptus
39. Chorebus nixoni
40. Chorebus ornatus
41. Chorebus posticus
42. Chorebus properesam
43. Chorebus stilifer
44. Chorebus tamsi
45. Chorebus uliginosus
46. Chorebus venustus
47. Chorebus zarghanensis
48. Coelinidea gracilis
49. Dacnusa alpestris
50. Dacnusa confinis
51. Dacnusa gentianae
52. Dacnusa hospita
53. Dacnusa sibirica
54. Protodacnusa aridula
55. Protodacnusa litoralis

Figure 1 Distribution map for Alysiinae species in different provinces of Iran. The numbers on the map correspond to the species names which are listed.

Discussion

Considering the vast number of the known Alysiinae species in Palaearctic region (Yu *et al*., 2012), occurrence of only 55 species is clearly indicating the poor knowledge about fauna of this group in Iran. Discrete and limited number of faunistic studies, mainly in the local sense (Ghahari *et al*., 2009, 2010, 2011, 2012a, b; Fischer *et al*., 2011 Lashkari-Bod *et al*., 2011; Rastegar *et al*., 2012) have yet to be expanded with explorations of many more areas in other parts of the country. An overall comparison of the fauna of Iranian Alysiinae with the neighboring countries (Tobias, 1986; Fischer and Beyarslan, 2012) may also be indicative of existence of many other genera and species to be detected.

While, number of the recorded genera was greater in the tribe Alysiini (9 genera and 19 species), more species were recorded from the tribe Dacnusini (4 genera and 36 species). Among the genera of the latter group, the genus *Chorebus* includes the majority of taxa (28 species). This genus with approximately 215 Holarctic species, is the largest genus of the Dacnusini (Tobias, 1986).

Except for a few endemic species (Fischer *et al*., 2011) it seems that the rest of the species are widely distributed in the Palaearctic region. A few species as *Phaenocarpa ruficeps* and *Synaldis distracta* have also been recorded from the Oriental region. There are some records of *Phaenocarpa ruficeps* and *Chorebus posticus* from the Nearctic region. Meanwhile, the occurrence of some species, including *Dinotrema intermissum* (Austria, Iran, Turkey), *Orthostigma beyarslani* (Iran, Spain, Turkey), *Pseudopezomachus masii* (Greece, Iran, Libya) and *Chorebus stilifer* (Germany, Iran) is documented in a very few countries in the western Palaearctic region (Yu *et al*., 2012). The fragmented type of the recorded localities, suggests a wider distribution of these species in the Western Palaearctic region, including the central Asian area.

In the same way, very little information is available about host association of the recorded species in Iran. *Dacnusa sibirica* was reared from the leafminer, *Chromatomyia horticola* (Goureau) (Diptera: Agromyzidae), one of the most important pests of canola, *Brassica napus* L., in Ardabil region (Fathi, 2011). This species is a commercially mass reared biological control agent of the agromyzid leafminers (Lenteren, 2003; Abd-Rabou, 2006).

In General, the limited number of the known Alysiinae from Iran reflects the paucity of the researches on this group, as well as their relative rarity. Further investigations both on the fauna and host association of the Iranian Alysiinae are necessary to provide the basis for biological control of the dipterous pests in agricultural and urban landscapes.

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چک‌لیست زنبورهای زیرخانواده Alysiinae (Hymenoptera: Braconidae) ایران

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چکیده: در این مقاله فهرست جنس‌ها و گونه‌های زیرخانواده Alysiinae (Hymenoptera: Braconidae) ایران ارایه شده است. در مجموع تعداد ۵۵ گونه متعلق به ۱۳ جنس از ۱۵ استان کشور فهرست شدند. گونه‌های ثبت شده متعلق به جنس‌های *Alloea* Haliday, 1833 (یک گونه)، *Aphaereta* Foerster, 1862 (دو گونه)، *Aspilota* Foerster, 1862 (دو گونه)، *Dinotrema* Foerster, 1862 (چهار گونه)، *Idiasta* Foerster, 1862 (یک گونه)، *Orthostigma* Ratzeburg, 1844 (سه گونه)، *Phaenocarpa* Foerster, 1861 (یک گونه)، *Pseudopezomachus* Montero, 1905 (یک گونه) و *Synaldis* Foerster, 1862 (چهار گونه) از قبیله Alysiini و جنس‌های *Chorebus* Haliday, 1833 (۲۸ گونه)، *Coelinidea* Viereck 1913 (یک گونه)، *Dacnusa* Haliday, 1833 (پنج گونه) و *Protodacnusa* Griffiths, 1964 (دو گونه) از قبیله Dacnusini بودند.

واژگان کلیدی: Alysiini، Dacnusini، فون، کنترل بیولوژیک، پارازیتوییید