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A contribution to the knowledge of the fauna of Ichneumonidae in Rafsanjan county of Kerman province, Iran

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Abstract

A survey was conducted to study the fauna of Ichneumonidae (Hymenoptera) in Rafsanjan county of Kerman province, southeastern Iran during 2014. A total of 238 specimens were collected using Malaise traps and sweep net representing 19 species from 10 subfamilies of Ichneumonidae. Two genera and four species are newly recorded from Iran:*Mesochorus pictilis*, *Phradis vinosus*, *Enicospilus kokujevi* and *Picrostigeus recticauda*. A list of known species of Ichneumonidae from Kerman province is provided. Their distribution is briefly discussed.

Zusammenfassung

Vorliegende Studie behandelt die Fauna der Ichneumonidae (Hymenoptera) im Bezirk Rafsanjan der südiranischen Provinz Kerman, resultierend aus Aufsammlungen mit Netzfang und Malaise-Fallen im Jahre 2014. 238 Exemplare sind 19 Arten und 10 Unterfamilien zuzuordnen. 2 Gattungen und vier Arten konnten als neu für die Fauna des Irans nachgewiesen werden: *Mesochorus pictilis*, *Phradis vinosus*, *Enicospilus kokujevi* and *Picrostigeus recticauda*.

Introduction

The family Ichneumonidae with about 24281 described species is the most diverse family of Hymenoptera in the world (YU et al. 2012). All members of the family parasitize hosts in many different habitats and thus affect and control their hosts populations in both agricultural and natural ecosystems (BELSHAW & QUICKE 2002; BENNETT 2008).

Iran is a relatively large country with four distinct mountains and seven deserts that provide a set of climatologically and topographically diverse conditions. This could, in principle, lead to very diverse natural ecosystems (ZEHZADI et al. 2002). Based on the latest catalogue of the family Ichneumonidae, 502 species have been recorded from Iran (BARAHOEI et al. 2012). This is much less than the number of species known from the Palaearctic (YU et al. 2012). A recent intensive and long term sampling in the north of Iran showed that the fauna of Ichneumonidae still presents a number of new records (MOHAMMADI-KHORAMABADI & TALEBI 2013; MOHAMMADI-KHORAMABADI et al. 2013a, b).

Kerman province in the southeast of Iran, is the second largest province of Iran. Rafsanjan county is in the north of Kerman province and known as the largest place of cultivating pistachio in the world (http://en.wikipedia.org/wiki/Rafsanjan). The aim of this study was to survey fauna of the family Ichneumonidae in Rafsanjan region.

Material and Methods

The study was conducted in Rafsanjan county of Kerman province, Iran (N= 30°01′-30°34′ E= 55°33′-56°11′) (Fig. 1). Materials for the study were collected using Malaise traps and sweep net in 5 localities. Table 1 shows the geographical characteristics, elevation above sea level and vegetation of the sampled localities. Alcohol 75% was the killing and preservation agent in Malaise traps. The bottle of each trap was emptied once every two weeks. The specimens were then extracted, dried, card mounted and labeled. They were identified using keys and descriptions provided in KASPARYAN (1973), KASPARYAN (1974), KASPARYAN (1981), KLOPFSTEIN (2014), HORSTMANN (1994), SCHWENKE (1999), KHALAIM et al. (2009), KHALAIM & YURTCAN (2011). The specimens have been deposited in the insect museum of College of Agriculture and Natural Resources of Darab, Shiraz University, Iran.

Results

A total of 238 (187♀♀51♂♂) specimens of the family Ichneumonidae were collected and identified representing 19 species from 10 subfamilies. One species of the subfamily Cryptinae and two species of Ichneumoninae are not on the list below. The newly recorded species and genus are marked with one and two asterisks respectively.

Subfamily C a m p o p l e g i n a e

***Compoletis rapax* (GRAVENHORST, 1829)**

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, AhmadAbad, 1♀, 11. May 2014, swept on *Medicago sativa*; Raviz, 6♀♀4♂♂, 14. May 2014. swept on *Mentha longifolia*; Davaran, 3♀♀, 20. June 2014, malaise trap.

D i s t r i b u t i o n w i t h i n I r a n : Golestan province (MASNADI et al. 2010), new record for Kerman province.

G e n e r a l d i s t r i b u t i o n : Austria; Azerbaijan; Bulgaria; Croatia; Czechoslovakia; Finland; France; Germany; Hungary; Iran; Ireland; Italy; Latvia; Netherlands; Norway; Poland; Romania; Russia; Spain; Sweden; Switzerland; Ukraine; United Kingdom (YU et al. 2012).

***Bathyplectes* sp.**

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Raviz, 1♀, 14. May 2014, swept on *Mentha longifolia*.

***Hyposoter* sp.**

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, AhmadAbad, 3♀♀1♂, 11. May 2014, swept on *Medicago sativa*.

***Hyposoter* sp.**

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Raviz, 1♀, 14. May 2014, swept on *Mentha longifolia*.

***Diadegma semiclausom* (HELLEN, 1949)**

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Ahmad Abad, 13♀♀, 11. May 2014, swept on *Medicago sativa*; Raviz, 3♀♀, 14. May 2014, swept on *Mentha longifolia*.

D i s t r i b u t i o n w i t h i n I r a n : Esfahan (BAGHERI et al. 2004) and Sistan and Baluchestan (BARAHOEI et al. 2013) provinces, new record for Kerman province.

G e n e r a l d i s t r i b u t i o n : Armenia; Australia; Austria; Azores; Bulgaria; Canary Islands; China; Cyprus; Czech Republic; Czechoslovakia; Egypt; Fiji; Finland; France; Germany; Greece; India; Iran; Ireland; Israel; Italy; Japan; Kenya; Korea; Madeira Islands; Malaysia; Malta; Moldova; Nepal; Netherlands; New Zealand; Pakistan; Papua New Guinea; Philippines; Poland; Romania; Spain; Sri Lanka; St. Helena; Sweden; Switzerland; Syria; Tanzania; Thailand; Turkey; Uganda; United Kingdom (YU et al. 2012).

***Diadegma majale* (GRAVENHORST, 1829)**

Material examined: Iran, Rafsanjan, Raviz, 1♀, 14. May 2014, swept on *Mentha longifolia*.

Distribution within Iran: Fars province (MASNADI et al. 2010), new record for Kerman province.

General distribution: Austria; Belgium; Bulgaria; Croatia; Czech Republic; Finland; France; Germany; Greece; Hungary; Iran; Ireland; Italy; Latvia; Netherlands; Norway; Poland; Russia; Spain; Sweden; Ukraine; United Kingdom; Yugoslavia (YU et al. 2012).

***Diadegma armillatum* (GRAVENHORST, 1829)**

Material examined: Iran, Rafsanjan, Sarcheshmeh, 8♀♀, Ahmad Abad, 13. August 2014, malaise trap.

Distribution within Iran: Azarbaijan-e-Sharghi province (MASNADI et al. 2010) and new record for Kerman province.

General distribution: Afghanistan; Australia; Austria; Azerbaijan; Belgium; Bulgaria; China; Croatia; Czech Republic; Czechoslovakia; Egypt; Estonia; Finland; France; Georgia; Germany; Greece; Hungary; Iran; Ireland; Israel; Italy; Kazakhstan; Korea; Latvia; Lithuania; Luxembourg; Moldova; Netherlands; Norway; Poland; Portugal; Romania; Russia; Serbia & Montenegro; Slovakia; Spain; Sweden; Switzerland; Tajikistan; Turkey; Ukraine; United Kingdom; Uzbekistan; Yugoslavia; Yugoslavia-Serbia (YU et al. 2012).

Subfamily Cremastinae

***Temelucha decorata* (GRAVENHORST, 1829)**

Material examined: Iran, Rafsanjan, Davaran, 1♀, 20. June 2014, malaise trap.

Distribution within Iran: Golestan, Qom, Markazi, Mazandarn, Khorasan-e-Razavi provinces (BARAHOEI et al. 2012; GHAHARI & JUSSILA 2010), new record for Kerman province.

General distribution: Afghanistan; Algeria; Austria; Azerbaijan; Bulgaria; Canary Islands; Croatia; Cyprus; Czech Republic; Czechoslovakia; Egypt; Finland; France; Germany; Greece; Hungary; Iran; Israel; Italy; Latvia; Macedonia; Madeira Islands; Moldova; Morocco; Romania; Russia; Serbia & Montenegro; Spain; Sweden; Turkey; U.S.A.; Ukraine; United Kingdom; Uzbekistan; Yugoslavia (YU et al. 2012).

Subfamily D i p l a z o n t i n a e

***Diplazon laetatorius* (FABRICIUS, 1781)**

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Ahmadabad, 3♀♀, 11. May 2014, swept on *Medicago sativa*; Raviz, 1♀, 14. May 2014, swept on *Mentha longifolia*; Davaran, 1♀, 20. June 2014, malise trap; Ahmadabad, 1♀, 13. August 2014, malaise trap.

D i s t r i b u t i o n w i t h i n I r a n : Mazandaran, Kerman, Sistan and Balouchestan, Chaharmahal-Bakhtiari and Yazd provinces (BARAHOEI et al. 2012; MOHAMMADI-KHORAMABADI et al. 2013b).

G e n e r a l d i s t r i b u t i o n : cosmopolite (YU et al. 2012).

***Homotropus signatus* (GRAVENHORST, 1829)**

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Raviz, 1♂, 14. May 2014, swept on *Mentha longifolia*; Ahmad Abad, 2♀♀1♂, 13. August 2014, malaise trap.

D i s t r i b u t i o n w i t h i n I r a n : Kerman province (SARAFI et al. 2014).

G e n e r a l d i s t r i b u t i o n : Austria; Belgium; Bulgaria; Canada; Czech Republic; Czechoslovakia; Denmark; Estonia; Faeroe Islands; Finland; France; Germany; Hungary; Iceland; Ireland; Italy; Japan; Latvia; Lithuania; Moldova; Mongolia; Netherlands; Norway; Poland; Romania; Russia; Spain; Sweden; Switzerland; Turkey; U.S.A.; United Kingdom (YU et al. 2012).

***Enizemum ornatum* (GRAVENHORST, 1829)**

Material examined: Iran, Rafsanjan, Ahmad Abad, 1♀, 13. August 2014, malaise trap; Sarcheshmeh, 1♂, 18. July 2014, swept on *Mentha longifolia*.

D i s t r i b u t i o n w i t h i n I r a n : Qazvin (MOHAMMADI-KHORAMABADI et al. 2013b), Sistan and Baluchestan (BARAHOEI et al. 2013) and Kerman provinces (MOHAMMADI-KHORAMABADI et al. 2014).

G e n e r a l d i s t r i b u t i o n : Afghanistan; Austria; Belgium; Bulgaria; Canada; China; Czech Republic; Czechoslovakia; Finland; France; Germany; Greenland; Hungary; Iceland; India; Ireland; Italy; Latvia; Lithuania; Moldova; Mongolia; Netherlands; Norway; Poland; Romania; Russia; Spain; Sweden; Switzerland; Turkey; U.S.A.; United Kingdom (YU et al. 2012).

Subfamily M e s o c h o r i n a e

Mesochorus pictilis* HOLMGREN, 1860*

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Ahmadabad, 2♀♀, 11. May 2014, malaise trap.

D i s t r i b u t i o n w i t h i n I r a n : Kerman province, Rafsanjan

G e n e r a l d i s t r i b u t i o n : Austria; Bulgaria; Canada; Czechoslovakia; Finland; France; Germany; Hungary; Ireland; Lithuania; Norway; Poland; Romania;

Russia-Adygeyskaya; Sweden; U.S.A.; United Kingdom (YU et al. 2012) and Iran (new record).

Subfamily O p h i o n i n a e

Enicospilus kokujevi* VIKTOROV, 1957

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Daeefe, 2♂♂, 31. August 2014, malaise trap.

D i s t r i b u t i o n w i t h i n I r a n : Kerman province, Rafsanjan.

G e n e r a l d i s t r i b u t i o n : China; Kazakhstan; Turkmenistan (YU et al. 2012) and Iran (new record).

Subfamily O r t h o c e n t r i n a e

Picrostigeus recticauda* (THOMSON, 1897)

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Raviz, 1♀, 14. May 2014, swept on *Mentha longifolia*.

D i s t r i b u t i o n w i t h i n I r a n : Kerman province, Rafsanjan.

G e n e r a l d i s t r i b u t i o n : Austria; Bulgaria; Canary Islands; Denmark; Finland; France; Germany; Ireland; Latvia; Norway; Poland; Russia; Spain; Sweden; United Kingdom (YU et al. 2012) and Iran (new record).

Subfamily P i m p l i n a e

***Pimpla turionella* (LINNAEUS, 1758)**

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Davaran, 24♂♂, 26. August 2014, malaise trap.

D i s t r i b u t i o n w i t h i n I r a n : Azerbaijan-e-Sharghi province (KASPARYAN 1974), new record for Kerman province.

G e n e r a l d i s t r i b u t i o n : Afghanistan; Algeria; Armenia; Austria; Azerbaijan; Azores; Belarus; Belgium; Bulgaria; Canada; Canary Islands; China; Croatia; Czech Republic; Czechoslovakia; Denmark; Estonia; Finland; France; Germany; Greece; Greenland; Hungary; Iceland; India; Iran; Ireland; Isle of Man; Israel; Italy; Japan; Kazakhstan; Korea; Kyrgyzstan; Latvia; Lithuania; Luxembourg; Macedonia; Madeira Islands; Moldova; Mongolia; Morocco; Myanmar; Netherlands; Norway; Poland; Romania; Russia; Serbia & Montenegro; Slovakia; Spain; Sweden; Switzerland; Tajikistan; Tunisia; Turkey; Ukraine; United Kingdom; Uzbekistan; Yugoslavia; Yugoslavia-Serbia (YU et al. 2012).

***Itoplectis tunetana* (SCHMIEDEKNECHT, 1914)**

M a t e r i a l e x a m i n e d : Iran, Rafsanjan, Davaran, 1♂, 26. August 2014, malaise trap.

Distribution within Iran: Azerbaijan-e-Sharghi (KASPARYAN 1973), Guilan, Tehran and Kerman provinces (MOHAMMADI-KHORAMABADI et al. 2013a; MOHAMMADI-KHORAMABADI et al. 2014).

General distribution: Algeria; Armenia; Austria; Azerbaijan; Bulgaria; Canary Islands; China; Czech Republic; France; Greece; Hungary; Iran; Italy; Kazakhstan; Kyrgyzstan; Macedonia; Moldova; Mongolia; Poland; Romania; Russia; Serbia & Montenegro; Spain; Switzerland; Tajikistan; Tunisia; Turkey; Turkmenistan; Ukraine; Uzbekistan; Yugoslavia; Yugoslavia-Montenegro (YU et al. 2012).

***Schizopyga podagrica* GRAVENHORST, 1829**

Material examined: Iran, Rafsanjan, Ahmadabad, 1♀, 13. August 2014, malaise trap.

Distribution within Iran: Guilan, Golestan, Mazandaran, Khorasan-e-Razavi provinces (BARAHOEI et al. 2012), new record for Kerman province.

General distribution: Albania; Armenia; Austria; Azerbaijan; Belgium; Denmark; Finland; France; Georgia; Germany; Hungary; Iran; Ireland; Italy; Kazakhstan; Kyrgyzstan; Latvia; Moldova; Mongolia; Poland; Romania; Russia; Spain; Sweden; Turkey; United Kingdom (YU et al. 2012).

Subfamily Tersilochinae

Phradis vinosus* KHALAIM, 2007*

Material examined: Iran, Rafsanjan, Raviz, 2♀♀, 14. May 2014, swept on *Mentha longifolia*; Davaran, 18♀♀1♂, 20. June 2014, malaise trap; Sarcheshmeh, 96♀♀5♂, 18. July 2014, swept on *Mentha longifolia*.

Distribution within Iran: Kerman province, Rafsanjan.

General distribution: Georgia (KHALAIM et al. 2009; YU et al. 2012) and Iran (new record).

Discussion

The study increased the number of known species of the family Ichneumonidae from Kerman province to 44 species into 35 genera and 14 subfamilies. Kerman province has an area of 180.726 km^2 (about 11% of Iran) (http://en.wikipedia.org/wiki/Kerman_Province) and comprises parts of the main mountains of Iran that provides topographically and climatologically very heterogenus and diverse natural habitats (ZEHZAD et al. 2002). It is also located near the border of western and eastern palaearctic zoogeographic zone. Thus, more sampling is needed to get a more complete picture of the ichneumonid fauna of this region.

Tersilochinae, Campopleginae and Pimplinae with 121, 65 and 26 individuals were respectively the most abundant subfamilies in this study.

Phradis vinosus (Tersilochinae) was the most dominant species in this study. Tersilochines are mainly koinobiontendoparasitoids of Coleoptera and some species of the genus *Phradis* are known as parasitoids of beetles of the genus *Meligethes* (Col.: Nitidulidae) (KHALAIM et al. 2009; KHALAIM & YURTCAN 2011). Flight period of *Ph. vinosus* in Rafsanjan, Iran was from spring to summer and from an altitude of 1757 m in Davaran to 2433 m a.s.l. in Sarcheshmeh..

The subfamily Campopleginae was the most speciose (7 species) subfamily in this study. They are mostly primary koinobiontendoparasitoids of Lepidoptera and less commonly of Coleoptera, Symphyta and Rhaphidioptera (BENNETT 2009). Among the campoplegines that were identified here, the host of *D. semiclausum* (*Plutella xylostella* (Linnaeus, 1758) (Lep.: Plutellidae) and some species of the genus *Bathyplectes* (Col.: Curculionidae) are known in Iran (BAGHERI et al. 2004; BARAHOEI et al. 2012).

Pimplinae was the third abundant subfamily in Rafsanjan. This subfamily is known as the most biologically diverse subfamily of Ichneumonidae (GAULD et al. 2002). Some of the tribes Pimplini and Ephialtini that are recorded from Kerman province are known as biological control agents of important fruit pests in Iran (RADJABI 2011), but host associations for the Polysphincta genus-group have not yet been recorded in Iran (MOHAMMADI-KHORAMABADI et al. 2013a).

Diplazontinae was represented by three species in Rafsanjan. Their number comprises 5% of all captured specimens. Our other samplings showed that at least 4 species of the subfamily and with a relatively high population are present in Kerman province (MOHAMMADI-KHORAMABADI et al. 2014). In Iran, a total of 22 species of Diplazontinae have been recorded (BAKHTIARI et al. 2014; BARAHOEI et al. 2012; KLOPFSTEIN 2014; MOHAMMADI-KHORAMABADI et al. 2014; MOHAMMADI-KHORAMABADI et al. 2013b). Diplazontines are primary koinobiont endoparasitoids of aphidophagous syrphid flies (Diptera: Syrphidae) (KLOPFSTEIN 2014). A high population level of Diplazontinae species may decrease the population of their beneficial hosts in agricultural ecosystems of Iran.

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Table 1: Geographical and vegetation characteristics of sampled localities in Rafsanjan county of Kerman province during 2014

Vegetation sampled	Sampling procedure	Elevation (m a.s.l.)	Geographical characteristics	locality
Mentha longifolia	Sweep net	1757	N=30˚28′57.75″ E= 55˚33′33.43″	Rafsanjan, Raviz
Pasture and *Medicago sativa*	Sweep net and Malaise trap	1453	N=30˚28′20.03″ E= 55˚41′27.22″	Rafsanjan, Ahmadabad
Mentha longifolia	Sweep net	2433	N=30˚01′32.13″ E= 55˚54′51.70″	Rafsanjan, Sarcheshmeh
pasture	Malaise trap	1457	N=30˚28′01.29″ E=55˚41′31.54″	Rafsanjan, Daeefe
pasture	Malaise trap	1896	N=30˚34′38.08″ E= 56˚11′26.40″	Rafsanjan, Davaran

Table 2: Known species of Ichneumonidae from Kerman province, southeastern Iran.

Reference	Name	Subfamily	
(MASNADI et al. 2010)	*Coleocentrus caligatus* GRAVENHORST, 1829	Acaenitinae	1
(SCHWARZ 2009)	*Heteropelma signatum* (GRAVENHORST, 1829)	Anomaloninae	2
New record for Kerman province	*Campoletis rapax* (GRAVENHORST, 1829)	Campopleginae	3
New record for Kerman province	*Bathyplectes* sp.		4
New record for Kerman province	*Diadegma armillatum* (GRAVENHORST, 1829)		5
New record for Kerman province	*Diadegma majale* (GRAVENHORST, 1829)		6
New record for Kerman province	*Diadegma semiclausum* (HELLEN, 1949)		7
New record for Kerman province	*Hyposoter* spp.		8

Reference	Name	Subfamily	
(KOLAROV & GHAHARI 2005)	*Venturia canescens* (GRAVENHORST, 1829)		9
(KOLAROV & GHAHARI 2005)	*Collyria coxator* (VILLERS, 1789)	Collyriinae	10
New record for Kerman province	*Temelucha decorata* (GRAVENHORST 1829)	Cremastinae	11
(KOLAROV & GHAHARI 2005)	*Meringopus sogdianus* (MALJAVIN, 1968)	Cryptinae	12
(KLOPFSTEIN & BAUR1 2011)	*Bathythrix maculate* (HELEN, 1957)		13
(VAN ACHTERBERG & MEHRNEJAD 2002)	*Gelis exareolatus* (FORSTER, 1850)		14
(SCHWARZ 2009)	*Gelis kermaniae* SCHWARZ, 2009		15
(VAN ACHTERBERG & MEHRNEJAD 2002)	*Gelis liparae* (GIRAUD, 1863)		16
(KOLAROV & GHAHARI 2005)	*Diplazon laetatorius* (FABRICIUS, 1781)	Diplazontinae	17
(MOHAMMADI-KHORAMABADI et al. 2014)	*Enizemum ornatum* (GRAVENHORST, 1829)		18
(MOHAMMADI-KHORAMABADI et al. 2014)	*Homotropus signatus* (GRAVENHORST, 1829)		19
(BAKHTIARI et al. 2014)	*Homotropus elegans* (GRAVENHORST, 1829)		20
(KOLAROV & GHAHARI 2008)	*Cratichneumon semirufus* (GRAVENHORST, 1820)	Ichneumoninae	21
(KOLAROV & GHAHARI 2008)	*Eutanyacra picta* (SCHRANK, 1776)		22
New record for Iran	*Mesochorus pictilis* HOLMGREN, 1860	Mesochorinae	23
New record for Iran	*Enicospilus kokujevi* VIKTOROV, 1957	Ophioninae	24
(MASNADI et al. 2010)	*Ophion obscuratus* FABRICIUS, 1798		25
(MOHAMMADI-KHORAMABADI et al. 2014)	*Megastylus cruentator* SCHIOTE, 1838	Orthocentrinae	26

Reference	Name	Subfamily	
(MOHAMMADI-KHORAMABADI et al. 2014)	*Orthocentrus winnertzii* FORSTER, 1850		27
New to Iran	*Picrostigeus recticauda* (THOMSON 1897)		28
(KOLAROV & GHAHARI 2005)	*Exeristes roborator* (FABRICIUS, 1793)	Pimplinae	29
(MOHAMMADI-KHORAMABADI et al. 2014)	*Itoplectis tunetana* (SCHMIEDEKNECHT 1914)		30
(SCHWARZ 2009)	*Itoplectis viduata* (GRAVENHORST, 1829)		31
(MOHAMMADI-KHORAMABADI et al. 2014)	*Liotryphon caudatus* (RATZEBURG, 1848)		32
(KOLAROV & GHAHARI 2006)	*Paraperithus gnathaulax* (THOMSON, 1877)		33
(MOHAMMADI-KHORAMABADI et al. 2014)	*Pimpla flavicoxis* THOMSON, 1877		34
(MOHAMMADI-KHORAMABADI et al. 2014)	*Pimpla rufipes* (MILLER, 1759)		35
(MOHAMMADI-KHORAMABADI et al. 2014)	*Pimpla spuria* GRAVENHORST, 1829		36
New record for Kerman province	*Pimpla turionella* (LINNAEUS 1758)		37
(KOLAROV & GHAHARI 2006)	*Scambus nigricans* (THOMSON, 1877)		38
New record for Kerman province	*Schizopyga podagrica* GRAVENHORST 1829		39
(MOHAMMADI-KHORAMABADI et al. 2014)	*Zabrachypus* sp.		40

Reference	Name	Subfamily	
(KOLAROV & GHAHARI 2006)	*Zaglyptus multicolor* (GRAVENHORST, 1829)		41
(BARAHOEI et al. 2013)	*Aneuclis incidens* (THOMSON, 1889)	Tersilochinae	42
New record to Iran	*Phradis vinosus* KHALAIM 2007		43
(KOLAROV & GHAHARI 2006)	*Netelia* (*Toxochiloides*) *tunetana* (HABERMEHL, 1923)	Tryphoninae	44

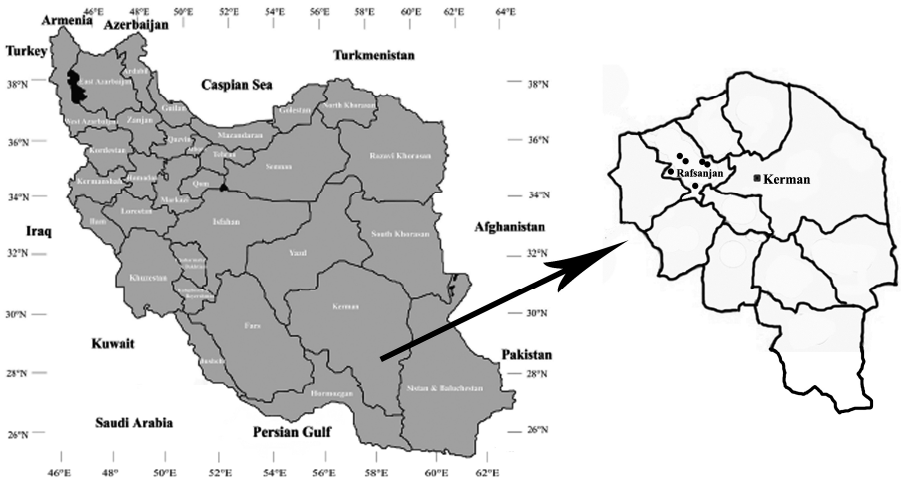

Fig. 1: Map of Iran and Kerman province, circles show the sampling localities in Rafsanjan county

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