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Study of the tribe Phaeogenini (Hymenoptera: Ichneumonidae, Ichneumoninae) in northern Iran, with two new genera and four new species records for the fauna of Iran

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Abstract
This survey was conducted as a taxonomic work on the species of the tribe Phaeogenini (Hymenoptera: Ichneumonidae, Ichneumoninae) in North central Iran during March to November 2010 and 2011. Nine species belonging to six genera were identified, of which two genrea (i.e. *Oronotus* Wesmael, 1845 and *Stenodontus* Berthoumieu, 1897) and four species, *Dicaelotus erythrostoma* Wesmael, 1845, *Dicaelotus pudibundus* (Wesmael, 1845), *Oronotus binotatus* (Gravenhorst, 1829), *Stenodontus marginellus* (Gravenhorst, 1829) are newly recorded from Iran. This work raises the number of Phaeogenini of Iran to 27 species and 13 genera. An updated list of the species in tribe Phaeogenini and detailed morphological characters of newly recorded species are also provided.
Key words: Phaeogenini, *Oronotus*, *Stenodontus*, new record, taxonomy.

مطالعه زنبورهای قبیله Phaeogenini (Hymenoptera: Ichneumonidae, Ichneumoninae) در شمال ایران همراه با گزارش دو جنس و چهار گونه جدید برای کشور

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چکیده
تحقیق حاضر جهت تعیین گونه‌های قبیله Phaeogenini (Hymenoptera: Ichneumonidae, Ichneumoninae) در شمال ایران طی ماه‌های اسفند تا آبان سال های ۱۳۸۹-۱۳۸۸ انجام گرفت. ۹ گونه متعلق به شش جنس شناسایی شدند که دو جنس (*Oronotus* Wesmael, 1845، *Stenodontus* Berthoumieu, 1897) و چهار گونه (*Dicaelotus erythrostoma* Wesmael, 1845، *Dicaelotus pudibundus* (Wesmael, 1845)، *Oronotus binotatus* (Gravenhorst, 1829)، *Stenodontus marginellus* (Gravenhorst, 1829)) برای فون ایران جدید هستند. این تحقیق تعداد اعضای قبیله Phaeogenini ایران را به ۲۷ گونه و ۱۳ جنس افزایش داد. فهرست به روز شده قبیله Phaeogenini و صفات مرفولوژیک گونه‌های جدید ارائه گردید.
واژگان کلیدی: Phaeogenini، *Oronotus*، *Stenodontus*، گزارش جدید، رده‌بندی.

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Introduction

The Ichneumonidae with 25292 described species is the largest family of Hymenoptera and of the class Insecta (Yu *et al*., 2016). It almost has 9000 described species in the

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Palaearctic region (Riedel & Hansen, 2007). The Ichneumoninae is the second largest subfamily of Ichneumonidae, which many species are sexually different coloured and well known as endoparasitoids of Lepidoptera. The females lay their eggs into the larvae (koinobionts) or pupae (idiobionts) of hosts (Goulet & Huber, 1993). The Phaeogenini is a relatively large tribe of the subfamily Ichneumoninae including the species that are mostly small sized. They can be separated from closely related tribes of the subfamily Ichneumoninae by having circular or semicircular propodeal spiracles (a feature which is also present in some Platylabini), and also combination with morphology of head in female specimens (Tereshkin, 2009). This tribe currently includes 32 genera and about 400 species, worldwide (Yu *et al*., 2016). Prior to this study, 13 genera and 23 species of the tribe Phaeogenini had been recorded from Iran (Diller & Schönitzer, 2003; Kolarov & Ghahari, 2005, 2008; Masnadi & Jussila, 2008b; Ghahari & Jussila, 2010b,c; Ghahari & Jussila, 2011b,c,d,e; Klopfstein & Baur, 2011; Akbarzadeh, 2011; Ghahari, 2012; Ghahari *et al*., 2012; Firuzi Jahantighi *et al*., 2012; Barahoei *et al*., 2013a; Kazemi *et al*., 2014; Ghahari, 2014; Mohebban *et al*., 2015; Diller & Riedel, 2015). In this study, we report two genera and four species of the tribe Phaeogenini for the first time from Iran. We also provide diagnostic characters, photographs and distributional data for the newly recorded species.

Materials and methods

Materials used for this work were collected by the Malaise traps installed in natural habitats in Alborz, Guilan and Tehran provinces of Iran during March to November 2010 and 2011. External morphology of the specimens were examined using an Olympus TM SZX9 stereomicroscope and diagnostic characters were illustrated on the basis of photographs taken with a Sony™ digital camera. A series of 10–15 captured images were merged into a single in-focus image using the image-stacking software Zerene Stacker version 1.04. The first, second and third authors contributed to identification of the species. The specimens are deposited in the Collection of Department of Entomology, Tarbiat Modares University (TMUC), Tehran, Iran. Morphological terminology follows Tereshkin (2009).

Results

A total of 73 specimens of the tribe Phaeogenini were collected and identified. Among them two genera (e. g. *Oronotus* Wesmael, 1845 and *Stenodontus* Berthoumieu, 1897) and four species *Dicaelotus erythrostoma* Wesmael, 1845, *Dicaelotus pudibundus* (Wesmael, 1845), *Oronotus binotatus* (Gravenhorst, 1829), *Stenodontus marginellus* (Gravenhorst, 1829), are new for the Iranian fauna. The species are listed alphabetically and diagnostic characters presented for the newly recorded species.

***Centeterus confector* (Gravenhorst, 1829)**

Material examined: Iran, Guilan province, Astaneh Ashrafiyeh, Eshamn Kamchal (37°22′06″ N, 49° 57′ 54″ E, 1 m a.s.l.), 29.VIII.2010, 1♂, Leg.: M. Khayrandish.

General distribution: Palaearctic region (Yu *et al*., 2016).

Distribution in Iran: Ardabil (Kolarov & Ghahari, 2008), Guilan province (current study).

***Colpognathus celerator* (Gravenhorst, 1807)**

Material examined: Iran, Guilan province, Rudsar, Ghazichak (36°45′54″ N, 50° 19′ 36″ E, 1803 m a.s.l.), 28.VI.2010, 4♂, 5.VII.2010, 1♀, 23♂, 12.VII.2010, 3♂; Rudsar, Orkom (36°45′42″ N, 50° 18′ 12″ E, 1235 m a.s.l.), 24.V.2010, 2♂, 31.V.2010, 3♂, leg.: M. Khayrandish.

General distribution: Palaearctic region (Yu *et al*., 2016).

Distribution in Iran: Guilan (Kolarov & Ghahari, 2005; current study), Mazandaran (Kolarov & Ghahari, 2008); Not exactly defined (Diller & Schönitzer, 2003),

***Colpognathus grandiculus* Diller & Riedel, 2015**

Material examined: Iran, Alborz province, Karaj, Arangeh (35°55′06″ N, 51°05′12″ E, 1891 m a.s.l.), 24.V.2010, 1♀; Karaj (35°46′18″ N, 50°56′42″ E, 1278 m a.s.l.), 08.VI.2010, 2♂; Tehran province, Shahriar (35°40′06″ N, 50°56′54″ E, 1168 m a.s.l.), 11.V.2010, 2♂, 8.VI.2010, 1♂; Guilan province, Rudsar, Ghazichak (36°45′54″ N, 50° 19′ 36″ E, 1803 m a.s.l.), 26.VII.2010, 1♀, 2♂; leg.: M. Khayrandish.

General distribution: Palaearctic region (Yu *et al*., 2016).

Distribution in Iran: Golestan (Diller & Riedel, 2015), Alborz, Guilan and Tehran provinces (current study).

***Dicaelotus erythrostoma* Wesmael, 1845** (Fig. 1; Figs 2A–F)

Material examined: Iran, Alborz province, Karaj, Shahrestanak (35°57′36″ N, 51°22′18″ E, 2301 m a.s.l.), 20.VII.2010, 1♂; leg.: M. Khayrandish.

Diagnosis – female: Body length 5.0 mm; Head almost cubical with convex vertex (Fig. 2, A); clypeus convex, 2.33 X as wide as long, its surface with sparse punctures; face 2.6 X as wide as long, its surface densely but superficially punctured (Fig. 2, B); malar space 0.5 X as long as basal width of mandible; hypostomal and occipital carinae connected almost at mandibular base; flagellum with 27 flagellomeres and with tyloides on flagellomeres 7-14; mesonotum slightly convex, notauli absent (Fig. 2, A); scutellum slightly convex with lateral carinae (Fig. 2, E); mesopleuron densely punctured, sternaulus developed up to middle of mesopleuron (Fig. 2, D); area superomedia heart-shaped, receiving the costula behind the middle (Fig. 2, E); hind femur 3.46 X as long as its maximum width; hind tibia 1.83 X longer than hind basitarsus; postpetiole rather broad, its surface densely punctured (Fig. 2, F); length

of second metasomal tergite almost equal to its width; gastrocoeli not developed; thyridia absent; lunulae distinct (Fig. 2, F).

Coloration: body black; lateral field of face, clypeus, mandibles (excepting darkened teeth) light yellow; scape and pedicel marked with light yellow; legs red, hind femur and tibiae black apically; hind tarsi darkened; abdominal tergites narrowly reddish banded apically.

General distribution: Europe (Yu *et al*., 2016), Western Asia – Iran (new record).

Distribution in Iran: Alborz province (current study).

Fig. 1. *Dicaelotus erythrostoma* Wesmael, 1845; male habitus, lateral view.

Fig. 2. *Dicaelotus erythrostoma* Wesmael, 1845, male; A. Head and mesonotum, dorsal view; B. Head, frontal view; C. Head, lateral view; D. Mesopleuron, lateral view; E. Scutellum and propodeum, dorsal view; F. Metasoma, dorsal view.

***Dicaelotus montanus* (de Stefani, 1885)**

Material examined: Iran, Guilan province, Astaneh Ashrafiyeh, Eshman Kamchal (37°22′06″ N, 49° 57′ 54″ E, 1 m a.s.l.), 29.VIII.2010, 1♀; leg.: M. Khayrandish.

General distribution: Western Palaearctic region (Yu *et al*., 2016).

Distribution in Iran: Kerman (Kazemi *et al*., 2014), Guilan province (current study).

***Dicaelotus pudibundus* (Wesmael, 1845)** (Fig. 3; Figs 4A–G)

Material examined: Iran, Guilan province, Rudsar, Orkom (36°45′42″ N, 50° 18′ 12″ E, 1235 m a.s.l.), 19.VII.2010, 1♀, leg.: M. Khayrandish.

Diagnosis – female: Body length 5.0 mm; Head almost cubical with convex vertex (Fig. 4, A); clypeus convex, 2.22 X as wide as long, its surface punctures; face 2.36 X as wide as long, its surface punctured and shining (Fig. 4, B); malar space about as long as basal width of mandible (Fig. 4, C); hypostomal carina connected to occipital carina at mandibular base; flagellum with 22 flagellomeres and without tyloides; mesonotum slightly convex; notauli distinct only at base of mesonotum (Fig. 4, A); scutellum slightly convex with lateral carinae; surface of mesopleuron wrinkly-punctured, shining (Fig. 4, E); area superomedia rather elongate, strongly narrowed anteriorly where it fuses into the area basalis, 1.45 X as long as wide at middle (Fig. 4, D); area dentipara of propodeum with small tooth (Fig. 4, E); hind femur 3.23 X as long as its maximum width (Fig. 4, G); hind tibia 1.76 X longer than hind basitarsus; postpetiole broad, its surface with superficial punctures; gastrocoeli and thyridia absent (Fig. 4, F).

Coloration: Head and mesosoma black; face, clypeus, antenna brown-red; pronotal rige, pronotal base, subalarum, tegula brown-ivory; scutellum brown laterally; all legs red with the coxae and the trochanters more or less infuscate; abdominal tergites red excepting darkened petiol.

General distribution: Western Palaearctic region including Iran (new record), Lebanon and Syria (Yu *et al*., 2016).

Distribution in Iran: Guilan province (current study).

Fig. 3. *Dicaelotus pudibundus* (Wesmael, 1845); female habitus, lateral view.

Fig. 4. *Dicaelotus pudibundus* (Wesmael, 1845), female; A. Head and mesonotum, dorsal view; B. Head, frontal view; C. Head, lateral view; D. Scutellum and propodeum, dorsal view; E. Mesopleuron, lateral view; F. Metasoma, dorsal view; G. Metesoma, lateral view.

***Heterischnus truncator* (Fabricius, 1798)**

Material examined: Iran, Tehran province, Shahriar (35°40′06″ N, 50°56′54″ E, 1168 m a.s.l.), 18.VIII.2010, 1♀, 07.IX.2010, 1♂, 14.IX.2010, 2♀, 28.IX.2010, 2♀, 2♂; Guilan province, Astaneh Ashrafiyeh, Eshman Kamchal (37°22′06″ N, 49° 57′ 54″ E, 1 m a.s.l.), 13.III.2010, 1♀; Rudsar, Ghazichak (36°45′54″ N, 50° 19′ 36″ E, 1803 m a.s.l.), 24.V.2010, 1♂; leg.: M. Khayrandish.

General distribution: Palaearctic region (Yu *et al*., 2016).

Distribution in Iran: Golestan, Mazandaran, Semnan (Kolarov and Ghahari, 2008), Golestan (Ghahari & Jussila, 2010b, c), Ardabil, West Azerbaijan (Ghahari & Jussila, 2011c), Tehran and Guilan provinces (current study).

Remark: This species has previously been recorded as *Rhexidermus truncator* Förster, 1889 (Ghahari & Jussila, 2010b, 2011c), which is a synonym of *Heterischnus truncator*.

***Oronotus binotatus* (Gravenhorst, 1829)** (Fig. 5, 7; Figs 6A–F, 8A–G)

Material examined: Iran, Guilan province, Astaneh Ashrafiyeh, Eshman Kamchal (37°22′06″ N, 49° 57′ 54″ E, 1 m a.s.l.), 13.III.2010, 1♀, 2♂, 12.IV.2010, 2♀, 27.IX.2010, 2♂, 04.X.2010, 1♀, 1♂, 11.X.2010, 1♀, 1♂; Rudsar, Ziaz (36°52′30″ N, 50° 13′ 24″ E, 490 m a.s.l.), 17.V.2010, 1♀, 07.VI.2010, 1♂; Leg.: M. Khayrandish.

Fig. 5. *Oronotus binotatus* (Gravenhorst 1829); female habitus, lateral view.

Diagnosis – female: Body length 7.0 mm; clypeus convex, 2.18 X as wide as long, its surface with sparse punctures; face 2.58 X as wide as long, its surface wrinkly-punctured (Fig. 6, B); malar space equal to width of mandible (Fig. 6, C); temple behind eyes sharply and straightly narrowed in dorsal view (Fig. 6A); flagellum with 26 flagellomeres and with white annelus on flagellomeres 8-10, first flagellomere 3 X as long as apical width in lateral view; collar of pronotum moderately long (Fig. 6, A); mesonotum slightly wider than long, notauli absent (Fig. 6, A); scutellum slightly convex, laterally carinated up to middle; surface of mesopleuron densely punctured (Fig. 6, E); area superomedia long, 2.5 X as long as its width; costulae distinct (Fig. 6, D); hind femur 4.3 X as long as its maximum width; hind tibia 2.05 X longer than hind basitarsus; postpetiole square, shining and smooth; tergite 2 strongly striated basally; gastrocoeli not developed; thyridia distinct, interspace between them longitudinally striated (Fig. 6, F).

Fig. 6. *Oronotus binotatus* (Gravenhorst 1829), female; A. Head and mesonotum, dorsal view; B. Head, frontal view; C. Head, lateral view; D. Propodeum, dorsal view; E. Mesopleuron, lateral view; F. Metasoma, dorsal view.

Fig. 7. *Oronotus binotatus* (Gravenhorst 1829); male habitus, lateral view.

Diagnosis – male: Body length 7.5-9.0 mm; similar to female but flagellum with 31 flagellomeres; metasoma with a pair of fuscous spots on tergite 2 (Fig. 8, F).

Coloration (female): Head and mesosoma black; legs red, front and middle legs basally pale, hind femur apically black, hind tibia black basally and apically, the apical tarsal segments of all legs black; tergite 1-4 red, tergite 4 sometimes black apically.

General distribution: Europe (Yu *et al*., 2016), Western Asia – Iran (new record).

Distribution in Iran: Guilan province (current study).

Fig. 8. *Oronotus binotatus* (Gravenhorst 1829), male; A. Mesonotum and scuteluum, dorsal view; B. Head, frontal view; C. Head, lateral view; D. Propodeum, dorsal view; E. Mesopleuron, lateral view; F. First and second tergites, dorsal view; G. Metasoma, lateral view.

***Stenodontus marginellus* (Gravenhorst, 1829)** (Fig. 9; Figs 10A–E)

Material examined: Iran, Guilan province, Rudsar, Ghazichak (36°45′54″ N, 50° 19′ 36″ E, 1803 m a.s.l.), 24.VI.2010, 1♂; leg.: M. Khayrandish.

Diagnosis – male: Body length 7.0 mm; clypeus 1.77 X as wide as long; face 2.13 X as wide as long (Fig. 10, A); malar space 0.41 X as long as basal width of mandible (Fig. 10, B); temple 1.13 X as wide as transverse diameter of the eye in lateral view, roundly narrowed behind eyes in dorsal view; flagellum with 27 flagellomeres and with tyloides on

flagellomeres 3-14; mesonotum rather coarsely and sparsely punctate; scutellum slightly convex (Fig. 10, D); surface of mesopleuron punctured and shining (Fig. 10, C); area superomedia approximately with equal length and width at its middle; costulae distinct (Fig. 10, D); hind femur 3.9 X as long as its maximum width; hind tibia 1.66 X longer than hind basitarsus; postpetiole square, shining and smooth; gastrocoeli not developed; thyridia distinct (Fig. 10, E).

Fig. 9. *Stenodontus marginellus* (Gravenhorst 1829), male habitus, lateral view.

Coloration: Main color of body black; ivory or yellow: spots on middle field of face, facial orbits, frontal orbits and genal orbits, mandibles, excepting darkened teeth, hind corner of pronotum, tegula and subalarum; scutellum with lateral ivory stripes; legs reddish-brown front and middle coxae marked with ivory, hind coxa black; trochanters usually infuscate; abdominal tergites with narrow apical yellowish band.

General distribution: Palaearctic region, Iran (new record) (Yu *et al*., 2016).

Distribution in Iran: Guilan province (current study).

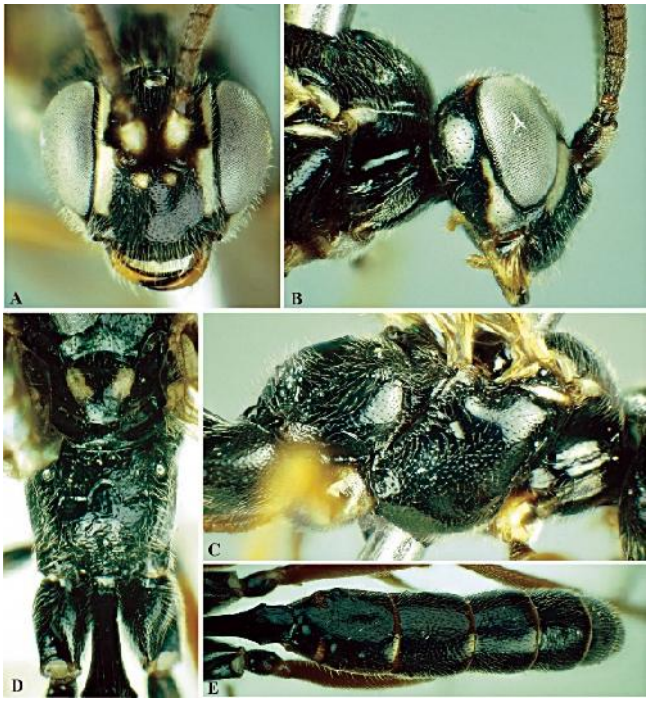

Fig. 10. *Stenodontus marginellus* (Gravenhorst 1829), male; A. Head, frontal view; B. Head, lateral view; C. Mesopleuron, lateral view; D. Scutellum and propodeum, dorsal view; E. Metasoma, dorsal view.

Discussion

On the basis of this study and review of the previously published literature, 27 species belonging to 13 genera of the tribe Phaeogenini are known to occur in Iran (Table 1). The number of species recorded in Iran is still low in comparison to the known species of subfamily Ichneumoninae in the West Palaearctic region (1297 species) (Yu *et al.*, 2016). In this research, two genera (e.g. *Oronotus* Wesmael, 1845; *Stenodontus* Berthoumieu, 1897) and four species (e.g. *Dicaelotus erythrostoma* Wesmael, 1845, *Dicaelotus pudibundus* (Wesmael, 1845), *Oronotus binotatus* (Gravenhorst, 1829), *Stenodontus marginellus* (Gravenhorst, 1829)) are recorded for the first time from Iran. The genus *Oronotus* Wesmael contains ten species worldwide (Yu *et al.*, 2016). Species of this genus are parasitoids of the lepidopteran families Pterophoridae, Plutellidae and Noctuidae (Yu *et al.*, 2016). The genus *Stenodontus* Berthoumieu contains 12 species in the world (Yu *et al.*, 2016). Species of this genus are parasitoids of the lepidopteran families Tortricidae, Pyralidae and Lymantriidae (Yu *et al*., 2016). The number of species of the tribe Phaeogenini in the adjacent countries of Iran is recorded as: 440 species in former USSR (Mocsáry & Szépligeti, 1901; Roman, 1927; Uchida, 1933; Meyer, 1933; Townes, 1965; Siytan, 1977, 1979; Gokhman, 1988, 1991, 1994,1995; Sebald *et al*., 2000; Diller & Schönitzer, 2003; Schönitzer *et al*., 2006), 23 species in Turkey (Diller, 1993, 1995; Kolarov, 1989,1995b; Özdemir, 1996; Yurtcan *et al*., 1999; Diller & Schönitzer, 2003; Gençer, 2003; Özbek, 2003; Sarıkaya & Avcı, 2005; Schönitzer *et al*., 2006; Kolarov *et al*., 2014b), 18 species in Azerbaijan (Aliyev, 1999), three species in Turkmenistan (Meyer, 1933; Rasnitsyn & Siytan, 1981), two species in Tajikistan (Siytan, 1977), two species in Armenia (Siytan, 1977; Diller & Schönitzer, 2003), two species in Pakistan (Diller, 1983) and one species in Afghanistan (Šedivý, 1968). Since many areas of Iran remain unexplored, we expect that the tribe Phaeogenini fauna of Iran will be substantially increased.

Table 1. Updated list of the tribe Phaeogenini (Hymenoptera: Ichneumonidae, Ichneumoninae) of Iran.

Phaeogenini species	Distribution in Iran (provinces)	References
Aethecerus persicator Aubert, 1970	Tehran	Kolarov & Ghahari, 2005; Klopfstein & Baur, 2011
Centeterus confector (Gravenhorst, 1829)	Ardabil; Guilan	Kolarov & Ghahari, 2008; current study
Centeterus major Wesmael, 1845	West Azerbaijan	Kolarov & Ghahari, 2008
Centeterus rubiginosus (Gmelin, 1790)	East Azerbaijan	Kolarov & Ghahari, 2008; Ghahari & Jussila, 2011e
Colpognathus celerator (Gravenhorst, 1807)	Not defined; Guilan; Mazandaran	Diller & Schönitzer, 2003; Current study; Kolarov & Ghahari, 2005, Kolarov & Ghahari, 2008

Colpognathus divisus Thomson, 1891	Fars	Diller & Schönitzer, 2003
Colpognathus grandiculus Diller & Riedel, 2015	Golestan; Alborz, Guilan, Tehran	Diller & Riedel, 2015; current study
Diadromus collaris (Gravenhorst, 1829)	Golestan; Sistan and Baluchestan; Semnan; Kerman	Kolarov & Ghahari, 2008; Ghahari & Jussila, 2011d; Firuzi Jahantighi *et al*., 2012; Barahoei *et al*., 2013a; Ghahari, 2012; Mohebban *et al*., 2015
Diadromus subtilicornis (Gravenhorst, 1829)	Kermanshah	Kolarov & Ghahari, 2008; Ghahari *et al.*, 2012
Diadromus ustalatus Holmgren, 1890	East Azerbaijan	Kolarov & Ghahari, 2008
Diadromus varicolor Wesmael, 1845	West Azerbaijan	Kolarov & Ghahari, 2008; Ghahari *et al.*, 2012
Dicaelotus inflexus Thomson, 1891	West Azerbaijan	Akbarzadeh, 2011
Dicaelotus erythrostoma Wesmael, 1845*	Alborz	current study
Dicaelotus montanus (de Stefani, 1885)	Kerman; Guilan	Kazemi *et al*., 2014; current study
Dicaelotus pudibundus (Wesmael, 1845)*	Guilan	current study
Dirophanes invisor (Thunberg, 1824)	Guilan; West Azerbaijan	Kolarov & Ghahari, 2008; Ghahari and Jussila, 2011e
Hemichneumon subdolus Wesmael, 1857	Semnan; West Azerbaijan	Kolarov & Ghahari, 2008; Ghahari & Jussila, 2011b, d
Herpestomus arridens (Gravenhorst, 1829)	West Azerbaijan	Kolarov & Ghahari, 2008
Herpestomus brunnicornis (Gravenhorst, 1829)	East Azerbaijan; Tehran	Kolarov & Ghahari, 2008; Ghahari *et al*., 2012; Masnadi & Jussila, 2008b
Heterischnus filiformis (Gravenhorst, 1829)	Isfahan	Mohebban *et al*., 2015
Heterischnus nigricollis (Wesmael, 1845)	Kermanshah; Golestan	Kolarov & Ghahari, 2008; Ghahari & Jussila, 2011e
Heterischnus truncator (Fabricius, 1798)	Golestan, Mazandaran, Semnan; Golestan; Ardabil, West Azerbaijan; Tehran, Guilan	Kolarov and Ghahari, 2008; Ghahari & Jussila, 2010b, c; Ghahari & Jussila, 2011c; current study
Oronotus binotatus (Gravenhorst, 1829)*	Guilan	current study
Phaeogenes heterogonus Holmgren, 1860	Chaharmahal-o-Bakhtiari, Isfahan, Markazi	Kolarov & Ghahari, 2008
Phaeogenes melanogonos (Gmelin, 1790)	Ardabil	Kolarov & Ghahari, 2008
Stenodontus marginellus (Gravenhorst, 1829)*	Guilan	current study

Tycherus ophtalmicus (Wesmael, 1845)	Mazandaran; East Azerbaijan	Kolarov & Ghahari, 2008; Ghahari & Jussila, 2011d

* New records for the Iranian insect fauna.

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