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An Overview of the Subfamily Banchinae Wesmael, 1845 (Hymenoptera: Ichneumonidae) in Turkey, with the Addition of New Records

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Abstract: The fauna of the subfamily Banchinae Wesmael, 1845 (Hymenoptera: Ichneumonidae) in Turkey was studied in 1995-2019. Totally, 79 species belonging to three tribes have been recorded. Data about the geographical distribution and seasonal occurrence of each species are presented. *Syzeuctus turcator* Aubert, 1984, reported in previous studies, and *Exetastes curvator* Aubert, 1977, collected during the present study, are endemic to Northeastern Anatolia. Four species, *Glypta nigricornis* Thomson, 1889, *G. vulnerator* Gravenhorst, 1829, *Lissonota coracina* (Gmelin, 1790) and *L. digestor* (Thunberg, 1822), are reported for the first time from Turkey in this study. New data on distribution of 11 species, previously recorded from Turkey, are added. Zoogeographical characteristics are provided for all species of the subfamily Banchinae recorded in Turkey.

Key Words: biodiversity, zoogeography, parasitoids, host records

Introduction

The family Ichneumonidae, commonly known as ichneumon wasps or Darwin wasps, is a very large parasitoid group in terms of number of species in the insect order Hymenoptera. Ichneumonids help in controlling insect numbers by eliminating many insects before they reach the reproductive stage. With 25,285 described species of 1,601 genera, as listed in the catalogue of Yu et al. (2016), this group is one of the most diverse animal families (Grissell 1999).

To date, 1,309 species of Ichneumonidae have been reported from Turkey (Çaylak & Çoruh 2020a, Kolarov et al. 2020, Kiraç & Gürbüz 2020, Schwartz 2020, Çaylak & Çoruh 2020b; Teymuroğlu & Çoruh 2021, Kolarov et al. 2021, Yurtcan et al. 2021). Banchinae is a subfamily of Ichneumonidae containing 1,813 species and 67 genera worldwide (Yu et al. 2016). This subfamily comprises three tribes with a worldwide distribution: Banchini Wesmael, 1845, Glyptini Cushman & Rohwer, 1920, and Atrophini Seyrig, 1932 (Townes & Townes 1978, Brock 2017).

Members of the subfamily Banchinae range in size from small to large (fore wing 3-16 mm long) and are characterised by the following characteristics: clypeus convex, nearly always separated by a groove, the apical margin varying from rounded to pointed, thin, and evenly convex; upper tooth of mandible sometimes subdivided; sternaulus of mesopleuron absent or short; anterior part of submetapleural carina usually produced in a strong lobe; transverse carina of propodeum often present only

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in its posterior part or absent; metasomal segment 1 usually wide, with spiracle before its middle but sometimes slender, with spiracle near apex; glymma present or absent; terga 2-4 sometimes with conspicuous median pair of deep oblique grooves converging anteriorly and diverging posteriorly; female hypopygium large and triangular in lateral view, not extending beyond metasomal apex; the apex with median notch; ovipositor short to very long, with dorsal subapical notch (Wahl & Sharkey 1993).

All known Banchinae are koinobiont endoparasitoids of lepidopteran larvae (Çoruh & Özbek 2013). Glyptini and Atrophini parasitise caterpillars in leaf rolls, tunnel buds and other concealed environments, whereas Banchini parasitise on more exposed hosts, especially Noctuidae (Wahl & Sharkey 1993).

Prior to 1995, only 28 Banchinae species belonging to 7 genera were known from Turkey (Kolarov 1995). Subsequent studies (Kolarov & Beyarslan 1994, Özdemir 1996, Pekel 1999, Kolarov & Gürbüz 2006, Gürbüz et al. 2009a, b, Özdemir & Güler 2009, Pekel et al. 2000, Gürbüz et al. 2011, Çoruh & Çoruh 2012, Çoruh & Özbek 2013, Kolarov et al. 2016, Özdan & Gürbüz 2016, Özdan & Gürbüz 2019, Teymuroğlu & Çoruh 2021) added substantial amount of further data.

The aim of the present study is to provide additional information about the Turkish Banchinae, including new records and plant visited by insect. In addition, we provide a complete overview of the known Banchinae fauna of Turkey.

Materials and Methods

The Banchinae of Northeastern Anatolia were studied at five localities (Ağrı, Ardahan, Gümüşhane, Erzurum and Kars) in 1999-2019 (Fig. 1). The study area has rich faunistic and floristic features due to its geographic and topographic position. Continental climate is dominant in the region; winters are cold and snowy, and summers are generally hot and dry. The vegetation of the region is represented by steppe in the lowlands and plateau areas, and forest in hight-altitude areas.

In addition to our samples, all specimens preserved at the Entomological Museum, Erzurum, Turkey (EMET) that have been collected before 1995 were also examined. Most adult specimens were usually collected with an entomological hand net on flowering plants. Other samples were collected using Malaise and light traps. Only a small portion of

Fig. 1. Study area: 1. Erzurum. 2. Kars. 3. Ağrı. 4. Ardahan. 5. Gümüşhane.

banchine samples were obtained as parasitoids from different hosts under laboratory contitions.

Taxonomic categories are listed in an alphabetic order according to the recent Interactive Catalogue of World Ichneumonidae (Yu et al. 2016). The distributional records and asssociated plants were also referred to the data provided in the latter source. Information on localities, altitude, collecting date, number, and sex examined specimens is provided in Tables 1 and 2.

Results

In this study, we report 15 species belonging to 5 genera of the subfamily Banchinae from Northeastern Anatolia. Four species are reported for the first time for the Turkish fauna. Along with the 79 existing species, the number of Banchinae known from Turkey is increased to 83 species and 10 genera. The full list of the Banchinae from Turkey is presented in Tables 1 and 2. The new data are as follows.

***Banchus falcatorius* (Fabricius, 1775).** Material examined: **Kars:** Susuz District, Mezra Village, 1787 m a.s.l., 40°39'8.04" N 43°09'6.73" E, 5.VII.2017, 1 ♀, leg. M. Güdek. Associated plants: *Chaerophyllum aromaticum L. Chaerophyllum bulbosum* L., *Corylus avellana* L., *Daucus carota* L., *Ferulago sylvatica* (Besser) Rchb., *Heracleum sphondylium* L., *Juniperus communis* L., *Peucedanum oreoselinum* L. Global distribution: Eastern and Western Palaearctic.

***Exetastes curvator* Aubert, 1977.** Material examined: **Ağri:** Aktaş Village, 2163 m, 39°52'28.9" N 42°23'9.05" E, 1.VII.2017, 1 ♂, leg. M. Güdek. **Kars:** Susuz District, Mezra Village, 1789 m, 40°39'8.04" N 43°09'6.73" E, 5.VII.2017, 2 ♀♀, leg. M. Güdek; Aygır Lake side, 2198 m, 40°46'7.53" N 43°01'11.0" E, 6.VII.2017, 2 ♂♂, leg. M. Güdek. Global distribution: Endemic for Turkey. Remarks. *E. curvator* is collected on *Vicia craca* L. (locality Ağrı) and on *Onobrychis sativa* L. (locality Kars).

***Exetastes problematicus* Riedel, 2015.** Material examined: **Erzurum:** Ilıca, Atlıkonak, 1750 m, 39°56'44.8" N 41°6'

18.6'' E, 8.VII.1997, 1 ♀, leg. Ö. Çalmaşur. Global distribution: Armenia, Kyrgyzstan and Turkey.

***Exetastes robustus* Gravenhorst, 1829.** Material examined: **Kars:** Aygır Lake side, 2198 m, 40°46'7.53" N 43°01'11.0" E, 6.VII.2017, 1 ♂, leg. M. Güdek. Associated plants: *Chaerophyllum bulbosum* L., *Daucus carota* L., *Pastinaca graveolens* (L.) Bernh. Global distribution: Eastern and Western Palaearctic.

***Exetastes segmentarius* Perez, 1895.** Material examined: **Erzurum:** Ilıca, Atlıkonak, 1750 m, 39°56'44.8'' N 41°6' 18.6'' E, 23.VI.2002, 1 ♂, leg. S. Çoruh. Associated plants: *Alyssum borzeanum* Nyar*, Chaerophyllum aromaticum* L., *Chaerophyllum bulbosum* L.*, Corylus avellana* L.*, Ephedra distachya* L., *Euphorbia virgate* Waldst. & Kit.*; Heracleum sphondylium* L., *Quercus sessiliflora* Salisb., *Thapsia villosa* L., *Urtica dioica* L. Global distribution: Eastern and Western Palaearctic.

***Glypta bifoveolata* Gravenhorst, 1829.** Material examined: **Erzurum:** Ilıca, Atlıkonak, 1750 m, 40°46'7.53" N 43°01'11.0" E, 23.VI.2002, 1 ♀, leg. Ö. Çalmaşur. Associated plants: *Angelica sylvestris* L., *Betula nana* L., *Daucus carota* L., *Heracleum sphondylium* L., *Spiraea ulmaria* (L.). Global distribution: Eastern and Western Palaearctic.

***Glypta haesitator* (Gravenhorst, 1829).** Material examined: **Gümüşhane**: Güvercinlik Village, Vauk Mount Gate, 1861 m, 40°22'45.9" N 39°50'11.0" E,, 15.VII.2017, 1 ♀, leg. M. Güdek. Associated plants: *Adonis vernalis* L., *Listera ovata* (L.). Global distribution: Eastern and Western Palaearctic and and Nearctic.

****Glypta nigricornis* Thomson, 1889.** Material examined: **Ağri**: Aktaş Village, 2163 m, 39°52'28.9" N 42°23'9.05" E, 1.VII.2017, 1 ♀, leg. M. Güdek. Associated plants: *Prunus padus* L. Global distribution: Western Palaearctic. New for Turkey.

***Glypta salsolicola* Schmiedeknecht, 1907.** Material examined: **Erzurum**: Aşkale, 2250 m, 39°56'17.5" N 40°21'21.2" E, 16.VI.2001, 1 ♀, leg. S. Çoruh. Associated plants: *Daucus carota* L., *Peucedanum oreoselinum* L. Global distribution: Eastern and Western Palaearctic.

****Glypta vulnerator* Gravenhorst, 1829.** Material examined: **Ağri**: Aktas Village, 2163 m, 39°52'28.9" N 42°23'9.05" E, 1.VII.2017, 1 ♀, leg. M. Güdek. Global distribution: Eastern and Western Palaearctic. New for Turkey.

****Lissonota coracina* (Gmelin, 1790).** Material examined: **Ardahan:** Göle District, Durucasu Village, 2022 m, 40°50'7.30" N 42°42'9.99" E, 6.VII.2017, 1 ♂, leg. M. Güdek. Global distribution: Palaearctic and Nearctic. New for Turkey.

***Lissonota cruentator* (Panzer, 1809).** Material examined: **Ağri**: Hamur District, Seyhanbey Village, 1976 m, 39°31'6.42" N 43°07'8.55" E, 1.VII.2017, 2 ♂♂, leg. M. Güdek. **Erzurum:** Ilıca, Ağzıaçık Pass, 2000 m, 40°15'46.1" N 40°58'31.8" E, 1 ♂ 19.VII.2003, 1 ♂, leg. S. Çoruh. Associated plants: *Chaerophyllum bulbosum* L., *Daucus carota* L., *Heracleum sphondylium* L., *Pastinaca graveolens* (L.) Bernh., *Peucedanum oreoselinum* L. Global distribution: Eastern and Western Palaearctic.

****Lissonota digestor* (Thunberg, 1822).** Material examined: **Erzurum**: Oltu District, Ünlükaya Village, 40°26'33.9" N 41°58' 39.7" E, 20.VII.2015, 1 ♀, leg. S. Çoruh. Associated plants: *Daucus carota* L., *Pastinaca graveolens* (L.) Bernh. Global distribution: Eastern and Western Palaearctic. New for Turkey.

***Lissonota flavovariegata* (Lucas, 1849).** Material examined: **Erzincan:** Avcılar, 1276 m, 39°37'17.7" N 39°48'58.2" E, 25.VI.2010, 1 ♂, leg. S. Çoruh. **Erzurum:** Uzundere District, 1100 m, 40°31'58.4" N 41°32'52.5" E, 30.VII.2015, 2 ♀♀ 2 ♂♂, leg. M. Güdek; around of Desni, 1901 m, 39°56'8.08" N 41°23'13.4" E, 1.VII.2017, 1 ♂, leg. M. Güdek. **Gümüşhane:** Güvercinlik Village, 1770 m, 40°22'36.5" N 39°48'8.03" E, 15.VII.2017, 1 ♂, leg. M. Güdek. Global distribution: Eastern and Western Palaearctic.

***Syzeuctus irrisorius* (Rossi, 1794).** Material examined: **Kars:** Sarıkamıs, Karakurt, 1501 m, 40°07'54.3" N 42°20'9.41" E, 1 ♀, 1.VIII.2002, leg. S. Çoruh. Associated plants: *Peucedanum oreoselinum* L. Global distribution: Western Palaearctic.

Discussion

Totally, 79 species of nine genera in three tribes of of the subfamily Banchinae were registered in Turkey (Table 1). Of them, 45 species and 5 genera belong to the tribe Atrophini, 23 species and 3 genera to the Banchini, and 11 species and 2 genera to the tribe Glyptini. Among those, members of Atrophini were found to be more common in Turkey, with *Lissonota flavovariegata* (with 373 individuals recorded in total) and *Exetastes fornicator* (with 147 individuals recorded) being the most common taxa.

In Trukey, the subfamily Banchinae occurs at different altitudes – from 0 m to 2500 m a.s.l., with the majority of species recorded between 1001 m and 1250 m. The seasonal dynamics of the group covers March-November, with most of the species being active in June and July. The highest number of species (43) occur in Eastern Anatolia. The most common taxa are *Lissonota flavovariegata* (collected from seven regions), *L. pleuralis, L. cruentator*, *L. histrio, Banchopsis crassicornis* and *Exetastes adpressorius* (all collected from four regions). Most of the species (45), however, were collected from a single region.

According to their zoogeography, 79 species are West-Palaearctic elements, 73 species – European, 52 species – East-Palaearctic, 14 species – Holarctic, 4 species – Oriental, and one species has Neotropical origin. *Exetastes fornicator* has a cosmopolitan distribution.

The present study represents an updated summary of the fauna of the subfamily Banchinae in Turkey and a basis for developing a catalogue of this group in the country.

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Table 1. List of the Banchinae recorded in Turkey. **Legend:** Number of individual (NI), vertical distribution (VD), seasonal dynamics (SD), geographical regions (GR), zoogeographical regions (ZR), host records (HR), PVR: visited plant; first record of Turkey (FRT) of specimens ; * endemic. **Vertical distribution (VD) (m):** A: 0-500 m, B: 501-750 m, C: 751-1000 m, D: 1001-1250 m, E: 1251-1500 m, F: 1501-1750 m, G: 1751-2000 m, H: 2001-2250 m, I: 2251-2500. **Seasonal dynamics (SD):** Mr: March, Ap: April, M: May, J: June, Jl: July, A: August, S: September, O: October, N: November. **Geographical regions (GR)** (Fig. 2): AR: Aegean Region, BSR: Black Sea Region, CAR: Central Anatolia Region, EAR: Eastern Anatolia Region, MR: Marmara Region, MtR: Mediterranean Region. **Zoogeographical regions (ZR):** E: Europe, EP: East Palaearctic, NEAR: Nearctic Region, NEOR: Neotropical, WP: West Palaearctic, ORR: Oriental. **Note:** Abbreviations in parentheses refer to column names.

Names of Taxa	NI	VD	SD	GR	ZR	HR	PVR	FRT
Family Ichneumonidae Latreille, 1802								
Subfamily Banchinae Wesmael, 1845								
Tribe Atrophini Seyrig, 1932								
Genus *Alloplasta* Förster, 1869								
Alloplasta tomentosa (Gravenhorst, 1829)	2	C, E	M, J	EAR	EP, E, WP			Kolarov et al. 2014
Alloplasta piceator (Thunberg, 1824)	2	F	M	MtR	EP, E, NEAR, WP			Kolarov & Gürbüz 2006
Alloplasta plantaria (Gravenhorst, 1829)	2	C	Mr, A	SAR	EP, E, WP	x		Özdemir 1996
Genus *Lissonota* Gravenhorst, 1829								
Subgenus *Lissonota* Gravenhorst, 1829								
Lissonota accusatrix Schulz, 1906	4	A, C	M	EAR, MR	WP			Kolarov & Beyarslan 1994
Lissonota barbator Aubert, 1972	5	A, D	Mr	CAR, MtR	WP	x	x	Aubert 1972
Lissonota biguttata Holmgren, 1860	1	D	M	AR	E, WP			Özdemir & Güler 2009
Lissonota clypeator (Gravenhorst, 1829)	3	D	J, Jl	MR, MtR	EP, E, NEAR, WP		x	Kolarov 1995
Lissonota compar Fonscolombe, 1854	4	E, F	M	MtR	E, WP			Kolarov & Gürbüz 2006
Lissonota bivittata Gravenhorst, 1829	19	A, C, D, E, F,	M, J, Jl, A, S	CAR, EAR, mtR	EP, E, WP		x	Özdemir 1996
Lissonota bivittata gallicator Aubert, 1969	2	C	Jl, N	CAR	E, WP			Aubert 1969
Lissonota carbonaria Holmgren, 1860	9	A, C, D	Ap, M, Jl	AR, CAR, MtR	EP, E, WP			Özdemir 1996
Lissonota culiciformis Gravenhorst, 1829	6	D, F	M, J, Jl, S	EAR, CAR, MtR	EP, E, NEAR, WP			Pekel (Çoruh) et al. 2000
Lissonota folii Thomson, 1877	4	B, D	J	BSR, MtR	EP, E, NEAR, WP			Gürbüz et al. 2011
Lissonota fundator (Thunberg, 1822)	38	A, D, E, F, G, H, I	Ap, M, J, Jl, A, S	EAR, MtR	EP, E, NEAR, WP	x		Kolarov & Beyarslan 1994
Lissonota frontalis (Desvignes, 1856)	1	D	J	MtR	EP, E, WP			Özdan & Gürbüz 2019
Lissonota gracilipes Thomson, 1877	2	D	M	CAR	EP, E, WP	x	x	Özdemir 1996
Lissonota humerella Thomson, 1877	1	A	Ap	MtR	E, WP	x		Kolarov & Beyarslan 1994
Lissonota insignita Gravenhorst, 1829	2	A	Jl, S	MtR	EP, E, WP	x		Sedivy 1959
Lissonota linearis Gravenhorst, 1829	1	F	Jl	MtR	E, WP			Gürbüz et al. 2011
Lissonota mutator Aubert, 1969	4	C, D	M, J	CAR	E, WP		x	Kolarov 1989
Lissonota nigricoxis Habermehl, 1918	1	A	N	MR	E, WP			Kolarov 1995

Table 1. Continuation.

Names of Taxa	NI	VD	SD	GR	ZR	HR	PVR	FRT
Lissonota nitida Bridgman, 1886	1	H	J	EAR	E, WP			Kolarov et al. 2016
Lissonota perspicillator Gravenhorst, 1829	4	A, G	S, Jl	MtR, EAR	E, WP			Castillo 1992
Lissonota pimplator (Zetterstedt, 1838)	2	A, B	Ap, J	MR, MtR	E, WP			Kolarov et al. 1997b
Lissonota pleuralis Brischke, 1880	6	A, E, F	J, Jl	BSR, EAR, MtR, MR	EP, E, WP		x	Kolarov et al. 1997a
Lissonota proxima Fonscolombe, 1854	3	D	O, N	MtR	EP, E, WP			Özdan & Gürbüz 2016
Lissonota rufitarsis Szépligeti, 1899	1	D	M, H	MtR, MR	E, WP			Kolarov 1989
Lissonota saturator (Thunberg, 1822)	1	E	Jl	CAR	EP, E, WP			Özdemir 1996
Lissonota sector (Thunberg, 1822)	2	F, G	Jl, A	BSR, EAR	E, WP			Kolarov & Beyarslan 1994
Lissonota subaciculata Bridgman, 1886	2	D, H	Jl, A	BSR, CAR	EP, E, WP	x		Kolarov & Beyarslan 1994
Lissonota superbator Aubert, 1967	1	A	?	AR	E, WP	x	x	Öncüer 1991
Lissonota versicolor Holmgren, 1860	3	A, D	Mr, J	MtR	EP, E, WP			Gürbüz et al. 2009b
Lissonota variabilis Holmgren, 1860	9	C, F, H, I,	J, Jl	EAR	E, WP		x	Pekel 1999
Subgenus *Loxonota* Aubert, 1993								
Lissonota cruentator (Panzer, 1809)	34	A, D, F, I,	J, Jl, A	BSR, EAR, MR, MtR	EP, E, WP			Sedivy 1959
Lissonota flavovariegata (Lucas, 1849)	373	A, D, E, F, G, H,	J, Jl, A	AR, BSR, CAR, EAR, MtR, MR, SAR	EP, E, WP		x	Aubert 1972
Lissonota histrio (Fabricius, 1798)	21	A, D, G, I,	J, Jl, A, N	BSR, EAR, MtR, SAR	EP, E, NEAR, WP		x	Kohl 1905
Lissonota lineata Gravenhorst, 1829	25	A, D, E, F, G, I	J, Jl	Anatolia, EAR, MtR	EP, E, WP			Aubert 1978
Lissonota mediterranea Seyrig, 1927	9	A, D	J, Jl, A	AR, BSR, EAR	EP, E, WP			Pekel 1999
Lissonota parallela Gravenhorst, 1829	3	A, F	Jl	CAR, MR	EP, E, NEAR, WP			Kolarov 1989
Lissonota quadrinotata Gravenhorst, 1829	26	E, H, I	J, Jl	EAR	E, WP			Pekel 1999
Lissonota unicincta Holmgren, 1860	2	A, D	Ap, S	MtR	E, WP			Kolarov & Beyarslan 1994
Genus *Cryptopimpla* Taschenberg, 1863								
Cryptopimpla caligata (Gravenhorst, 1829)	1	I	A	EAR	EP, E, WP			Aubert 1977
Genus *Syzeuctus* Förster, 1869								
Syzeuctus irrisorius (Rossi, 1794)	3	E	J	EAR	E, WP			Çoruh 2008
Syzeuctus tenuifasciatus Schmiedeknecht, 1900	2	D?	M	AR	E, WP			Aubert 1978
**Syzeuctus turcator* Aubert, 1984	3	D	Ap, J, Jl	EAR	WP			Aubert 1984
Tribe Banchini Wesmael, 1845								
Genus *Banchopsis* Rudow, 1886								
Banchopsis crassicornis Rudow, 1886	9	B, F	Ap, M, Jl	CAR, MtR, MR, SAR	E, WP			Kolarov 1989

Table 1. Continuation.

Names of Taxa	NI	VD	SD	GR	ZR	HR	PVR	FRT
Genus *Banchus* Fabricius, 1798								
Banchus crefeldensis Ulbricht, 1916	1	?	?	Anatolia	E, WP			Kolarov 1995
Banchus falcatorius Fabricius, 1804	3	A, F	J, Jl	EAR, MtR	E, WP	x		Fahringer 1921
Banchus palpalis Ruthe, 1859	2	G	Jl	Anatolia, EAR	EP, E, NEAR, WP			Kolarov 1995
Banchus pictus Fabricius, 1798	2	C	M	AR	EP, E, WP			Kolarov 1995; Özdemir & Güler 2009
Banchus turcator Aubert, 1981	7	B, C, F, D, G	Ap, M, J	BSR, CAR, EAR	EP, WP			Fitton 1985
Banchus volutatorius (Linnaeus, 1758)	1	?	?	Anatolia	EP, E, NEAR, ORR, WP			Fitton 1985
Genus *Exetastes* Gravenhorst, 1829								
Exetastes adpressorius Thunberg, 1824	12	E, C, D, F, G, I	Mr, J, Jl, A, S	CAR, EAR, MR, MtR	EP, E, NEAR, WP	x		Aubert 1978
Exetastes alpius (Heinrich, 1952)	4	H	J, Jl	EAR	EP, WP			Pekel et al. 2000
Exetastes crassus Gravenhorst, 1829	3	G	Jl	EAR	EP, E, WP			Çoruh & Özbek 2013
**Exetastes curvator* Aubert, 1977	1	I	A	EAR	WP			Aubert 1977
Exetastes femorator Desvignes, 1856	2	?	?	Anatolia	EP, E, WP			Aubert 1978
Exetastes fornicator (Fabricius, 1781)	147	F, G, I	J, Jl, A, S	BSR, EAR	EP, E, NEAR, ORR, NEOR, WP			Pekel 1999
Exetastes gracilicornis Gravenhorst, 1829	22	D, E	J, Jl, A, O	CAR, MtR	EP, E, WP			Gürbüz et al. 2008
Exetastes inguisitor Gravenhorst, 1829	1	H	J	EAR	EP, E, WP			Kolarov & Beyarslan 1994
Exetastes illusor Gravenhorst, 1829	10	A, E, G	J, Jl	EAR, MR	EP, E, NEAR, ORR, WP		x	Fahringer 1922
Exetastes inquisitor Gravenhorst, 1829	1	G	Jl	EAR	EP, E, WP			Pekel et al. 2000
Exetastes laevigator (Villers, 1789)	5	A, G, H	J, Jl	CAR, EAR, MR	?		x	Fahringer 1922
Exetastes nigripes Gravenhorst, 1829	6	G, I	Jl, S	EAR	EP, E, ORR, WP			Pekel 1999
Exetastes robustus Gravenhorst, 1829	2	E, G	J, Jl	CAR, EAR	EP, E, WP			Özdemir 1996
Exetastes rufifemur Horstmann & Yu,1999	3	G	Jl	EAR	EP, E, WP			Çoruh & Özbek 2012
Exetastes rufipes (Gmelin, 1790)	4	F, H	Jl, A	EAR	EP, E, WP			Pekel 1999
Exetastes segmentarius Pérez, 1895	8	F, H	VI, VII	CAR, EAR	EP, E, WP		x	Özdemir 1996
Tribe Glyptini Cushman & Rohwer, 1920								
Genus *Apophua* Morley, 1913								
Apophua bipunctoria (Thunberg, 1822)	3	A, D	M,Jl	BSR, CAR	EP, E, NEAR, WP	x	x	Özdemir 1996
Genus Glypta Gravenhorst, 1829								
Glypta cylindrator (Fabricius, 1787)	12	H, I	M, J, JL	EAR, MtR	EP, E, WP			Castillo 1989

Table 1. Continuation.

Names of Taxa	NI	VD	SD	GR	ZR	HR	PVR	FRT
Glypta bifoveolata Gravenhorst, 1829	1	H, I	Jl	EAR	EP, E, WP			Pekel 1999
Glypta extincta Ratzeburg, 1852	2	C, D	A	CAR	EP, E, WP	x		Özdemir 1996
Glypta haesitator Gravenhorst, 1829	1	E	Jl	EAR	EP, E, NEAR, WP			Pekel 1999
Glypta mensurator (Fabricius, 1775)	1	I	A	EAR	EP, E, WP			Pekel et al. 2000
Glypta provincialis Fonscolombe, 1854	3	?	?	Anatolia	E, WP			Aubert 1978
Glypta rubricator Aubert, 1972	1	A	M	MR	EP, E, WP			Kolarov & Beyarslan 1994
Glypta salicis Thomson, 1889	5	I	Jl, A	Anatolia, EAR	E, WP			Aubert 1978
Glypta salsolicola Schmiedeknecht, 1907	12	G, H, I	Jl, A	EAR	EP, E, WP			Pekel 1999
Glypta similis Bridgman, 1886	3	E, I	Jl, A	EAR	EP, E, WP			Pekel 1999

Table 2. Distribution of the Banchinae species in Turkey

Names of Taxa	Provinces	References
Subfamily Banchinae Wesmael, 1845		
Tribe Atrophini Seyrig, 1932		
Genus *Alloplasta* Förster, 1869		
Alloplasta tomentosa (Gravenhorst, 1829)	Erzurum, Tunceli	Çoruh et al. 2014, Kolarov et al. 2014
Alloplasta piceator (Thunberg, 1824)	Isparta	Kolarov & Gürbüz 2006, Kirtay 2008
Alloplasta plantaria (Gravenhorst 1829)	Ankara, Kırşehir	Özdemir 1996
Genus *Lissonota* Gravenhorst, 1829		
Subgenus *Lissonota* Gravenhorst, 1829		
Lissonota accusator (Fabricius, 1793)	Kırklareli, Tunceli	Kolarov & Beyarslan 1994, Çoruh et al. 2014, Kolarov et al. 2014
Lissonota barbator Aubert, 1972	Adana, Ankara	Aubert 1972, Aubert 1978, Özdemir 1996
Lissonota biguttata Holmgren, 1860	Afyonkarahisar	Özdemir & Güler 2009
Lissonota clypeator (Gravenhorst, 1829)	İstanbul	Kolarov 1995
Lissonota compar Fonscolombe, 1854	Isparta	Kolarov & Gürbüz 2006, Gürbüz et al. 2009b
Lissonota bivittata bivittata Gravenhorst, 1829	Ankara, Elazığ, Erzincan, Erzurum, Hatay, Tekirdağ	Özdemir 1996, Pekel 1999, Akkaya 2005, Beyarslan et al. 2006; Gürbüz et al. 2011, Çoruh et al. 2014, Kolarov et al. 2014
Lissonota bivittata gallicator Aubert, 1969	Anatolia, Ankara	Aubert 1969, Özdemir 1996
Lissonota carbonaria Holmgren, 1860	Adana, Afyonkarahisar, Kırşehir	Özdemir 1996, Gürbüz et al. 2011
Lissonota culiciformis Gravenhorst, 1829	Burdur, Erzincan, Isparta, Kırşehir	Pekel (Çoruh) et al. 2000, Kolarov & Gürbüz 2006, Gürbüz et al. 2009b, Çoruh et al. 2014
Lissonota folii Thomson,1877	Osmaniye, Rize	Gürbüz et al. 2011, Kolarov et al. 2016
Lissonota fundator (Thunberg, 1822)	Burdur, Erzurum, Hatay, Isparta, Tunceli, Van	Kolarov & Beyarslan 1994, Pekel 1999, Kolarov & Gürbüz 2006, Gürbüz et al., 2009a, Gürbüz et al., 2009b, Gürbüz et al., 2011 Çoruh et al. 2014, Kolarov et al. 2014, Özdan & Gürbüz 2019
Lissonota frontalis (Desvignes, 1856)	Isparta	Özdan & Gürbüz 2019
Lissonota gracilipes Thomson, 1877	Konya, Niğde	Özdemir 1996, Özdemir & Özdemir 2002
Lissonota humerella Thomson, 1877	Adana	Kolarov & Beyarslan 1994
Lissonota insignita Gravenhorst, 1829	Anatolia, Edirne, Kırklareli	Sedivy 1959, Kolarov & Beyarslan 1994

Table 2. Continuation.

Names of Taxa	Provinces	References
Lissonota linearis Gravenhorst, 1829	Hatay	Gürbüz et al. 2011
Lissonota mutator Aubert, 1969	Ankara, Kayseri, Konya	Kolarov 1989, Özdemir 1996
Lissonota nigricoxis Habermehl, 1918	İstanbul	Kolarov 1995
Lissonota nitida Bridgman, 1886	Erzurum	Kolarov et al. 2016
Lissonota perspicillator Gravenhorst, 1829	Bursa, Erzurum	Castillo 1992, Kolarov & Beyarslan 1994, Kolarov 1995, Kolarov et al. 1997a
Lissonota pimplator (Zetterstedt, 1838)	Çanakkale, Hatay	Kolarov et al. 1997b, Gürbüz et al., 2011
Lissonota pleuralis Brischke, 1880	Çanakkale	Kolarov et al. 1997a
Lissonota proxima Fonscolombe, 1854	Isparta	Özdan & Gürbüz 2016, Özdan & Gürbüz 2019
Lissonota rufitarsis Szépligeti, 1899	Burdur, Isparta, Istanbul	Kolarov 1989, Kolarov & Gürbüz 2006
Lissonota saturator (Thunberg, 1822)	Kırşehir	Özdemir 1996
Lissonota sector (Thunberg, 1822)	Erzurum, Rize	Kolarov & Beyarslan 1994, Çoruh & Çoruh 2012
Lissonota subaciculata Bridgman, 1886	Kırşehir, Rize	Kolarov & Beyarslan 1994, Özdemir 1996
Lissonota superbator Aubert, 1967	İzmir	Öncüer 1991, Kolarov 1995
Lissonota versicolor Holmgren, 1860	Adana, Isparta	Gürbüz et al. 2009a, Gürbüz et al. 2009b, Gürbüz et al. 2011
Lissonota variabilis Holmgren,1860	Erzurum, Kars	Pekel 1999, Çoruh et al. 2014, Kolarov et al. 2017
Subgenus *Loxonota* Aubert, 1993		
Lissonota cruentator (Panzer, 1809)	Edirne, Erzincan, Erzurum, Isparta, Osmaniye, Kars, Zonguldak	Sedivy 1959, Kolarov 1995, Pekel et al. 2000 Gürbüz 2005, Gürbüz et al. 2011, Çoruh & Çoruh 2012, Çoruh et al. 2014, Gürbüz et al. 2011
Lissonota flavovariegata (Lucas, 1849)	Adıyaman, Ankara, Antalya, Bayburt, Bolu, Burdur, Çankırı, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Gümüşhane, Isparta, İzmir, Kars, Kırşehir, Konya, Nevşehir, Ordu, Yozgat	Aubert 1972, Kolarov & Beyarsan 1994, Kolarov 1995, Özdemir 1996, Pekel 1999, Kolarov et al. 2002, Kolarov & Gürbüz 2006, Çoruh et al. 2014, Kolarov et al. 2017, Sarı & Çoruh 2018
Lissonota histrio (Fabricius,1798)	Diyarbakır, Elazığ, Erzurum, Isparta, Ordu, Mardin, Rize	Kohl 1905, Pekel et al. 2000, Akkaya 2005, Kolarov & Gürbüz 2006, Gürbüz et al. 2009a, Gürbüz et al. 2009b, Çoruh et al. 2014 Kolarov et al. 2016, Özdan & Gürbüz 2016, Kolarov et al. 2017
Lissonota lineata Gravenhorst, 1829	Anatolia, Erzincan, Erzurum, Diyarbakır, Isparta, Hatay	Aubert 1978, Akkaya 2005, Gürbüz 2005, Gürbüz et al. 2011, Çoruh & Çoruh 2012, Kolarov et al. 2017
Lissonota mediterranea Seyrig, 1927	Afyonkarahisar, Erzincan, Ordu, Tunceli	Pekel 1999, Kolarov et al. 2002, Çoruh et al. 2014, Kolarov et al. 2014, Kolarov et al. 2016
Lissonota parallela Gravenhorst, 1829	İstanbul, Kayseri	Kohl 1905, Kolarov 1989
Lissonota quadrinotata Gravenhorst, 1829	Erzincan, Erzurum	Pekel 1999, Çoruh et al. 2014
Lissonota unicincta Holmgren,1860	Adana, Isparta	Kolarov & Beyarslan 1994, Özdan & Gürbüz 2019
Genus *Cryptopimpla* Taschenberg, 1863		
Cryptopimpla caligata (Gravenhorst, 1829)	Kars	Aubert 1977, Kolarov 1995
Genus *Syzeuctus* Förster, 1869		
Syzeuctus irrisorius (Rossi, 1794)	Kars	Çoruh 2008, Çoruh et al. 2014, Çoruh & Çalmaşur 2016
Syzeuctus tenuifasciatus Schmiedeknecht, 1900	Anatolia, Afyonkarahisar	Aubert 1978, Özdemir & Güler 2009
**Syzeuctus turcator* Aubert, 1984	Konya	Aubert 1984, Kolarov 1995
Tribe Banchini Wesmeal, 1845		
Genus *Banchopsis* Rudow ,1886		
Banchopsis crassicornis Rudow, 1886	Ankara, Batman, İstanbul, Erzurum, Hatay	Kolarov 1989, Pekel et al. 2000, Gürbüz et al. 2011, Çoruh et al. 2014

Table 2. Continuation.

Names of Taxa	Provinces	References
Genus *Banchus* Fabricius, 1798		
Banchus crefeldensis Ulbricht, 1916	Anatolia	Kolarov 1995
Banchus falcatorius Fabricius, 1804	İstanbul, Erzurum	Fahringer 1921, Kolarov 1995, Pekel et al. 2000, Çoruh et al. 2014
Banchus palpalis Ruthe, 1859	Anatolia, Erzurum, Rize	Fitton 1985, Kolarov 1995, Pekel et al. 2000, Çoruh et al. 2014, Kolarov & Çalmaşur 2011
Banchus pictus Fabricius, 1798	Anatolia, Afyonkarahisar	Fitton 1985, Kolarov 1995, Özdemir & Güler 2009
Banchus turcator Aubert, 1981	Ankara, Antalya, Erzurum, Gümüşhane, Istanbul, Nevşehir, Sivas	Fitton 1985, Kolarov 1995
Banchus volutatorius (Linnaeus, 1758)	Anatolia	Fitton 1985, Kolarov 1995
Genus *Exetastes* Gravenhorst, 1829		
Exetastes adpressorius Thunberg, 1824	Ankara, Bayburt, Edirne, Erzurum, Isparta, Kırıkkale, Kırşehir	Aubert 1978, Kolarov & Beyarslan 1994, Kolarov 1995, Özdemir 1996, Pekel 1999, Çoruh et al. 2014, Kolarov et al. 2014, Çoruh & Çalmaşur 2016, Çoruh et al. 2018, Özdan & Gürbüz 2019
Exetastes alpius (Heinrich, 1952)	Erzurum	Pekel et al. 2000, Çoruh et al. 2014
Exetastes crassus Gravenhorst, 1829	Erzurum	Çoruh & Özbek 2013, Çoruh et al. 2014
**Exetastes curvator* Aubert, 1977	Kars	Aubert 1977, Gürbüz 2005
Exetastes femorator Desvignes, 1856	Anatolia	Aubert 1978, Gürbüz 2005
Exetastes fornicator (Fabricius, 1781)	Bayburt, Erzurum, Rize	Pekel 1999, Gürbüz et al. 2011, Çoruh & Çoruh 2012
Exetastes gracilicornis Gravenhorst, 1829	Eskişehir, Osmaniye	Eroğlu et al. 2011, Gürbüz et al. 2011, Riedel 2015
Exetastes inguisitor Gravenhorst, 1829	Erzurum	Kolarov & Beyarslan 1994; Pekel et al., 2000; Çoruh et al. 2014.
Exetastes illusor Gravenhorst, 1829	Erzurum, İstanbul	Fahringer 1922, Pekel et al. 2000, Çoruh et al. 2014
*Exetastes inquisitor G*ravenhorst, 1829	Erzuruum	Pekel et al. 2000, Çoruh et al. 2014, Riedel 2015
Exetastes laevigator (Villers, 1789)	İstanbul, Siirt	Fahringer 1922
Exetastes nigripes Gravenhorst, 1829	Erzurum	Pekel 1999, Çoruh & Çoruh 2012, Çoruh et al. 2014, Riedel 2015
Exetastes robustus Gravenhorst, 1829	Ankara, Erzincan	Özdemir 1996, Pekel et al. 2000, Çoruh et al. 2014, Riedel 2015
Exetastes rufifemur Horstmann & Yu, 1999	Erzurum	Çoruh & Çoruh 2012
Exetastes rufipes (Gmelin, 1790)	Erzurum	Pekel 1999
Exetastes segmentarius Pérez, 1895	Aksaray, Erzurum	Pekel 1999, Özdemir 1996, Çoruh et al. 2014, Riedel 2015
Tribe Glyptini Cushman & Rohwer, 1920		
Genus *Apophua* Morley, 1913		
Apophua bipunctoria (Thunberg, 1822)	Ankara, Ordu	Özdemir 1996, Özdemir & Özdemir 2002, Kolarov et al. 2016, Sarikaya & Avci 2004
Genus *Glypta* Gravenhorst, 1829		
Glypta cylindrator (Fabricius, 1787)	Anatolia, Erzurum	Castillo 1989, Fahringer 1922, Pekel 1999, Çoruh et al. 2014
Glypta bifoveolata Gravenhorst, 1829	Erzurum	Pekel 1999
Glypta extincta Ratzeburg, 1852	Ankara, Konya	Özdemir 1996, Özdemir & Özdemir 2002
Glypta haesitator Gravenhorst, 1829	Erzurum	Pekel 1999, Çoruh et al. 2014
Glypta mensurator (Fabricius, 1775)	Erzurum	Pekel 1999, Çoruh et al. 2014
Glypta provincialis Fonscolombe, 1854	Anatolia	Aubert 1978
Glypta rubricator Aubert, 1972	Tekirdağ	Kolarov & Beyarslan, 1994
Glypta salicis Thomson, 1889	Bayburt, Erzurum	Aubert 1978, Pekel 1999, Çoruh et al. 2014
Glypta salsolicola Schmiedeknecht, 1907	Erzurum	Pekel 1999, Çoruh et al. 2014
Glypta similis Bridgman, 1886	Bayburt, Erzurum	Pekel 1999, Pekel et al. 2000, Çoruh et al. 2014

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