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New data and biogeographic analysis on species of the genus *Longitarsus* Latreille in Iran (Coleoptera: Chrysomelidae, Galerucinae, Alticini)

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Abstract
In this paper, we provide detailed data on the distribution of 43 *Longitarsus* species reported so far for the Iranian fauna. Three of these species, *Longitarsus gracilis* Kutschera, *L. helvolus* Kutschera, and *L. parvulus* (Paykull), collected in the northern provinces, are reported for the first time for Iran. For them, the photos of the habitus, aedeagus and spermatheca are also reported. In addition, the presence of *L. succineus* (Foudras) is confirmed with new records. Finally, a biogeographical analysis of the *Longitarsus* species in Iran is provided.

Key words: Iran, flea beetles, new records, taxonomy, host plants, biogeographic analysis.

Introduction

The flea beetle genus *Longitarsus* Latreille, 1829 is the most speciose of the supertribe Alticitae with more than 700 species (Gómez-Rodríguez et al. 2015; Nie et al. 2018). It is distributed in all zoogeographical regions and represents as one of the most hyperdiverse taxa in the leaf beetle family Chrysomelidae, especially in the Palearctic region (Biondi 1996; Konstantinov & Lopatin 2000; Furth 2007; Biondi & D'Alessandro 2008, 2010, 2012; Prathapan & Viraktamath 2011; Salvi et al. 2019, 2020; Bezděk & Konstantinov 2024). *Longitarsus* differs from other genera of Alticini mainly by their first metatarsomere, that is longer than half-tibial length, and the irregular punctation on apparently glabrous elytra (cf. Warchalowski 2010; Biondi & D'Alessandro 2012).

The larval stages of *Longitarsus* mainly feed on roots and the adults eat the leaves of the host plants, generally preferring the underside (Furth 1980). Many studies show that most of the *Longitarsus* species are monophagous and oligophagous, usually associated with host plants belonging to a single genus or to a single family respectively; a smaller percentage is represented instead by the polyphagous species (Biondi 1996; Salvi et al. 2019).

Although the flea beetle fauna of Iran has been the subject of several contributions, we can assume that the knowledge of the genus *Longitarsus* in this country is still relatively poor (Warchalowski 1967, 1973; Berti & Rapilly 1973; Medvedev 1975; Doguet 1976; Rapilly 1978; Furth 1980b; Gruev & Döberl 1997; Boroumand 2000; Gruev 2003, 2004a,b; Gruev & Tomov 2007; Serri & Naserzadeh 2008; Döberl 2010a,b; Guskova 2010, 2016; Ghahari

& Hawkeswood 2011; Aslan & Ghahari 2017; Bezděk & Konstantinov 2024).

In recent years, some of us have started some research projects on Alticini in Iran which have significantly increased the faunistic data on different flea beetle genera, including *Longitarsus*.

In the present paper, we provide updated data with new distributional records on the 43 *Longitarsus* species known so far in Iran, included three species, *Longitarsus gracilis* Kutschera, 1864, *L. helvolus* Kutschera, 1863, and *L. parvulus* (Paykull, 1799), here reported for the first time for the Iranian fauna.

Material and Methods

Material

This study is mainly based on the results of recent decades of fieldwork. Moreover, the numerous material collected by Antoine Senglet in Iran in the 1970s, preserved in the Muséum d'Histoire Naturelle of Genève and recently studied by the last author (M. Biondi), was also added. In the compilation of the material examined, label data often are not cited verbatim but completed by province and/or district name. Literature records for each species are mentioned in a section named "Records from literature". The studied material is deposited at the Hayk Mirzayans Insect Museum (HMIM) in the Iranian Research Institute of Plant Protection, Tehran, Iran, and at the Muséum d'Histoire Naturelle of Genève (MHNG).

Methods

The specimens of *Longitarsus* species were examined using an Olympus SZH and Leica M205C stereomicroscopes, photographed using a Canon 650D digital camera and combined by the Helicon Focus 7 software. The male and female genitalia, aedeagus or spermatheca, were dissected, photographed and mounted on cards. The terminology used for the morphological, aedeagic and spermathecal characters follows Döberl (1986) and D'Alessandro et al. (2016).

The distributional types are mainly referred to Biondi (1996), as follows: Asiatic-European (ASE), Central Asiatic (CAS), Central Asiatic-European (CAE), Central Asiatic-European-Mediterranean (CEM), Central Asiatic-Mediterranean (CAM), Central European (CEU), E-Mediterranean (EME), E-European (EEU), European (EUR), European-Mediterranean (EUM), Palaeartic (PAL), Turanian (TUR), Turanian-European (TUE), Turanian-Mediterranean (TUM). Due to their eastern distribution, five species were not reported in Biondi (1996): *Longitarsus asperifoliarum* and *Longitarsus violentus*, which we consider as Central Asiatic distribution type (CAS); *L. grandis* and *L. reconditus,* Iranian endemics that we attribute to the South-West Asiatic type (SWA), and *Longitarsus hoberlandti*, attributed by us to the Indo-Central Asiatic type (ICA).

The 16 geographical subdivisions of Iran used for the biogeographical analysis (Fig. 1) are abbreviated as follows: C - Caspian wet forest region, D - deserts and salt marshes, G - Golestan region, Gh - Ghohrud Mountains, Hm - mountains of Hormozgan, Khu - Khuzestan Plain, NB - North Baluchestan Mountains, NKh - North Khorasan Mountains, NNW - northern part of North Zagros Mountains, NZ - North Zagros Mountains, SB - South Baluchestan Mountains, SC - coast of Persian Gulf and Oman Sea, SE - southern slopes of Elburz Mountains, SKh - southern Khorasan Mountains, SZ – southern Zagros Mountains in Fars, Z - Zagros Mountains.

Statistical analyses were performed using the Multi-Variate Statistical Package (MVSP) version 3, and NCSS Statistical Software version 23.0.5. The qualitative data for the cluster analysis were coded as "1" for presence and "0" for absence of the species in each geographical subdivision of Iran considered. The association index by Baroni Urbani and Buser (cf. Biondi 1985) was used to calculate the similarity between the different geographical units. Finally, the clustering analysis was performed according to the unweighted pair group with arithmetic average linkage method (UPGMA).

Results

The commented list of the species of *Longitarsus* in Iran

Order Coleoptera Linnaeus, 1758
Suborder Polyphaga Emery, 1886
Family Chrysomelidae Latreille, 1802
Subfamily Galerucinae Latreille, 1802
Supertribe Alticitae Newman, 1834
Genus *Longitarsus* Latreille, 1829

***Longitarsus aeneicollis* (Faldermann, 1837)**

New material examined. **Ardabil province**: 2♀, Ardabil, Arallu, N 38°10'16.4" E 48°23'28.9", 1328 m, 29–30.x.2019, leg. Soheili; 1♀, Meshkinshahr, Ilandu, 1800 m, 3.vii.1997, leg. Barari & Mofodi; 1♀, Neor lake road, N 38°01'07" E 48°27'49.3", 1692 m, 4.viii.2005, leg. Serri and Frisch; 18 exx, E of Nir, Shahne, N 38°5'6.7" E 47°57'21.1", 6.vii.2005, leg. Serri and Frisch; 1♂, Sabalan Mt., after Moil village, N 38°17'28.4" E 47°42'01.9", 2247 m, 6.viii.2005, leg. Serri. **Chaharmahal and Bakhtiari province**: 1♂, Ardal, Dopolan, Gandomkar, Dehdari, 2700 m, 26.vi.2005, leg. Zahiri, Montreuil, Falsafi and Nematian; 1 ex, Kūhrang, N 32°29› E 50°04', 2700 m, 9.viii.1973, leg. A. Senglet; 1 ex, NE de Zardeh-Kūh, N 32°23› E 50°07›, 2700 m, 20.vi.1974, leg. A. Senglet. **East Azarbaijan province**: 2♀, Kaleybar, Youzband, 1500 m, 4.vii.1997, leg. Barari & Mofidi; 2 exx, NO de Sofian, N 38°21' E 45°51'21.ix.1975, leg. A. Senglet**. Esfahan province**: 1♀, Kashan, Qamsar, 3 km SW of Qohroud, N 33°38'54.1" E 51°24'02.01", 2489 m, 17.v.2009, leg. Serri; 1♀, Semirom, Siwar, 2150 m, 9.viii.1978, leg. Pazuki and Borumand. **Fars province**: 1♀, Abadeh, 14 km

Table 1. List of the *Longitarsus* species in the geographical subdivisions of Iran. Abbreviations are reported in Material and methods section. Species new to Iran are indicated with*.

Species\Subdivisions	NZ	NNW	C	G	SE	NKh	Z	SZ	Gh	Hm	SB	Khu	SC	SKh	D
Longitarsus aeneicollis	1	1	1	0	1	0	1	1	1	0	0	1	0	0	0
L. albineus	0	1	1	1	1	1	1	1	0	0	0	1	0	0	0
L. alfierii	0	0	1	1	0	0	1	0	0	0	0	0	0	0	0
L. anatolicus	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
L. aphthonoides	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
L. asperifoliarum	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0
L. atricillus	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
L. ballotae	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
L. bertii	1	1	1	0	1	1	1	1	0	0	0	0	0	0	0
L. corynthius	0	0	0	0	0	0	?	0	0	0	0	0	0	0	0
L. desertorum	0	0	0	0	0	1	1	1	0	0	0	0	0	0	0
L. eminus	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0
L. exsoletus	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0
L. fallax	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0
L. fuscoaeneus	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0
L. gracilis *	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
L. grandis	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0
L. helvolus	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0
L. hoberlandti	1	0	0	1	1	1	1	1	1	0	0	0	1	0	1
L. karlheinzi	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
L. lewisii	?	?	?	?	?	?	?	?	?	?	?	?	?	?	?
L. linnaei	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
L. luridus	1	1	1	0	1	0	1	0	0	0	0	1	0	0	0
L. lycopi	1	1	1	1	1	1	1	1	1	0	1	0	0	1	0
L. melanocephalus	1	0	1	1	1	1	1	0	0	0	0	0	0	0	0
L. membranaceus	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
L. nigrofasciatus	0	0	1	0	1	1	1	0	1	0	0	0	0	0	0
L. obliteratus	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
L. ochroleucus	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0
L. parvulus *	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
L. pellucidus	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1
L. picicollis	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
L. pratensis	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0
L. pulmonariae	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
L. reconditus	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
L. rectilineatus	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
L. reichei	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
L. rubiginosus	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
L. succineus	0	0	1	0	1	1	1	0	0	0	0	0	0	0	0
L. tabidus	1	0	0	1	1	1	0	0	0	0	0	0	0	0	0
L. trepidus	1	1	0	0	0	0	1	0	1	0	0	0	0	0	0
L. violentus	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
L. weisei	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Number of species	13	14	23	9	15	23	22	9	9	1	2	3	2	2	2

NE of Khosrow-Shirin, Kuhe Abian, 2560 m, 19.viii.1978, leg. Pazuki and Borumand; 1♂ and 2♀, Ardakan to Komehr road, 2820 m, 17.viii.1978, leg. Pazuki and Borumand; 1♀, Komehr road, 8 km N of Sepidan, N 30°21'27.4" E 51°55'40.7", 2791 m, 8.v.2007, leg. Serri and Frisch; 4 exx, Sivand, N 30°07' E 52°58', 22.viii.1973, leg. A. Senglet. **Gilan province**: 1 ex, Tarazān, Lowshān, N 36°28' E 49°31', 3.ix.1973, leg. A. Senglet; 1♂, Shirkuh-e Paieen, N 36°54'0.418" E 49°32'35.222", 258 m, 1.i.2020, leg. Mojib. **Hamedan province**: 5♂ and 2♀, E of Malayer, Zangeneh, Lashgardar protected region, Golparabad area, N 34°11'42" E 49°01'41", 2224 m, 6.VII.2017, leg. Serri; 2♂, N of Razan, E of Mahnian, Garmak, N 35°33'47.3" E 49°06'59.3", 2464 m, 24.vii.2008, leg, Serri and Nasserzadeh. **Ilam province**: 1 ex, Sarāb Eyvān, N 33°45' E 46°22', 26.vi.1974, leg. A. Senglet. **Kermansgah province**: 1 ex, Kangāvār, N 34°29› E 47°55›, 1.viii.1973, leg. A. Senglet; 1 ex, Kermanshah, Sahneh, N 34°28' E 47°36', 2.viii.1973, leg. A. Senglet; 13 exx, Māhī Dasht, N 34°14› E 46°42›, 4.viii.1973, leg. A. Senglet. **Kohgiluyeh and Boyerahmad province**: 1 ex, Arow, N 30°35' E 50°43", 24.v.1974, leg. A. Senglet; 2♀, Yasuj, Ganjegun, 18.vi.2005, leg. Falsafi, Nematian and Zahiri. **Kordestan province**: 1 ex, Hoseynābād, N 35°33' E

Table 2. Distribution types of the *Longitarsus* species in each geographical subdivision in Iran.

Distribution type	NZ	NNW	C	G	SE	NKh	Z	SZ	Gh	Hm	SB	Khu	Sc	SKh	D
Asiatic-European (ASE)	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Central Asiatic (CAS)	1	2	1	0	0	3	4	1	2	0	0	0	0	0	0
Central Asiatic- European (CAE)	0	1	3	2	0	3	0	0	0	0	0	0	0	0	0
Central Asiatic-European-Mediterranean (CEM)	0	2	1	0	1	2	2	1	1	0	0	0	0	0	0
Central Asiatic-Mediterranean (CAM)	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0
Central European (CEU)	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
E- Mediterranean (EME)	0	0	1	1	0	0	2	1	0	0	0	0	0	0	0
European (EUR)	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0
European-Mediterranean (EUM)	1	0	3	0	1	1	2	1	1	0	0	1	0	0	0
Indo-Central Asiatic (ICA)	1	0	0	1	1	1	1	1	1	0	0	0	1	0	1
Iranian endemic [SW Asiatic] (SWA)	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0
Palearctic (PAL)	5	3	5	3	6	5	5	1	2	1	2	1	1	2	1
Turanian (TUR)	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0
Turanian-European (TUE)	2	2	4	1	3	3	3	1	0	0	0	0	0	0	0
Turanian-Mediterranean (TUM)	0	1	1	1	1	1	1	1	0	0	0	1	0	0	0
Number of species	13	14	23	9	15	23	22	9	9	1	2	3	2	2	2

47°08', 17.ix.1975, leg. A. Senglet; 2 exx, E. de Marivān, N 35°32› E 46°30›', 16.ix.1975, leg. A. Senglet; 1♀, Sanandaj to Divandarreh road, 33 km S of Divandarreh, N 35°40'22.7″ E 47°07'23.3″, 2106 m, 9.ix.2008, leg. Serri and Frisch. **Khuzestan province**: 1♂, Haft Tappeh, 1973, leg. Daniali. **Lorestan province**: 1♀, Aligudarz, Qalikuh, 2300 m, 30–31.VI.1990, leg. Hashemi and Ebrahimi; 1 ex, E de Khorramābād, N 33°29' E 48°28'', 10.ix.1975, leg. A. Senglet; 5 exx, Hātemvand, N 33°28› E 48°07›, 9.ix.1975, leg. A. Senglet. **Markazi province:** 1♀, Ashtian, Ahu, Darreh-e Bidsukhteh, 2000 m, 29.vii.1997, leg. Barari and Mofidi; 33 exx, Ashtian to Tafresh road, Abdolabad-e Bala, 2500 m, 20.vii.1981, leg. Pazuki and Borumand; 2♂ and 1♀, Haftad Qolleh protected area, Latteh dar-e Bala, N 33°56'49'' E 50°09'2.9'', 2633 m, 11.vi–2.ix.2020, malaise trap, leg. Gilasian and Parchami-Araghi. **Mazandaran province**: 2♂ and 1♀, Sari, Shevilasht, Khalkheyl, N 36°18′39″ E 52°21′42″, 821 m; 1♂, Qadikola, N 36°20′08″ E 53°23′15″, 633 m, 10.xii.2018, leg. Barari. **Qazvin province:** 1 ex, Col sur Ghazvin, N 36°23' E 50°12', 2200–2300 m, 1.vii.1975, leg. A. Senglet. **Tehran province:** 1 ex, Delichāl, N 35°40' E 52°30', 24.vii.1973, leg. A. Senglet. **West Azarbaijan province:** 1♂ and 4♀, Orumieh, after Silvaneh, 18 km S of Ziveh, N 37°07'10.6" E 44°52'26.3", 3114 m, 1.ix.2008, leg. Serri and Frisch; 1♀, NW of Orumieh, Senji, 15.vi.1970, leg. Pazuki. **Zanjan province:** 2♂ and 4♀, S of Geydar, Paskuhan, N 36°04'48.7" E 48°32'41.5", 2055 m, 13.vii.2006, leg. Serri.

Records from literature. **Rapilly (1978 as *L. suturalis* (Marsham))**: Kermanshah province: Sar-e Pol-e Zahab, 1500 m, 17.vi.1975, Shahabad, 16.vi.1975. **Döberl (2010a)**: Esfahan province: S of Fereydun Shahr, Sibak Kamran, 2600 m, N 32°44'27" E 50°00'43", 1.vii.2004; N 32°44'27" E 50°00'43", 30.vi–02.vii.2004; Gukan, 2260 m, N 32°42'36" E 50°05'16", 2.vii.2004; leg. Frisch. Fars province: Margoon, 2040 m., N 30°31'35" E 51°54'47", 9.vii.2004, leg. Frisch; Sepidan-Komehr road, 9 km NW of Sepidan, 2790 m, N 30°21'30" E 51°55'40", 8.v.2007, leg. Frisch & Serri. Lorestan province: SE of Dorud, Saravand (Oshtoran Kuh), 2000 m, light trap, N 33°22'33" E 49°09'56", 26.vi. 2004; Saravand (Oshtoran Kuh), 2000 m, light trap, N 33°22'33" E 49°09'56", 25–27.vi.2004, leg. Frisch. **Farina (2025)**: East Azarbaijan province: NW Iran, Marand, 20.VI.1970.

Remarks. Following the recent revision by Farina (2025), *Longitarsus aeneicollis* mainly shows a Central Asiatic-European-Mediterranean distribution type. The species belonging to the *Longitarsus atricillus* group are polyphagous and feed mainly on Asteraceae, Boraginaceae and Lamiaceae (Salvi et al., 2019).

***Longitarsus albineus* (Foudras 1860)**

New material examined. **Ardabil province**: 1♀, Neor lake road, N 38°01'07" E 48°27'49.3", 1692 m, 4.viii.2005, leg. Serri and Frisch. **East Azarbaijan province**: 1♀, Ahar,

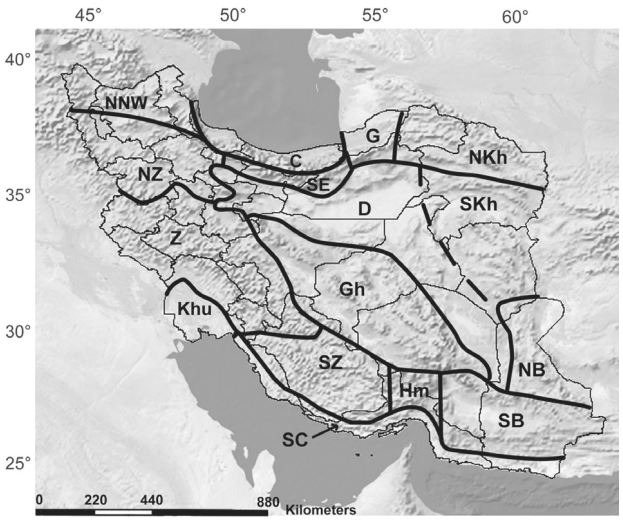

Fig. 1 – Geographical subdivisions of Iran modified after Petrov (1955) and taken from Serri & Frisch (2016). Abbreviations are reported in the text.

1.vi.1983, leg. Akrami; 1♀, Marand, 4.IV.1970; 1♀, Elikhchi, 22.v.1978, leg. Damanabi. **Fars province**: 1♀, Jahanabad road, in rice field, 14.x.1973, leg. Sharifi; 1♂ and 1♀, Malekabad road, in rice field, 29.x.1973, leg. Askari; 1♀, Shahijan, in rice field, 21.x.1973, leg. Sharifi. **Golestan province**: 1♂, NE of Kalaleh, Zav, Tutlitamak village, N 37°28'47.6" E 55°44'05", 676 m, 14.x.2009, leg. Serri and Gilasian; 1 ex, s/ Tang-e-Rāh, N 37°25' E 55°45', 28.vii.1974, leg. A. Senglet. **Kordestan province**: 1 ex, N de Saghez, N 36°23 E 46°12, 18.ix.1975, leg. A. Senglet. **Khuzestan province:** 6 exx, Ahvaz, 25.vi.1975; 1♂ and 4♀, Shoush, Karkheh National Park, Persian yellow dear sanctuary, N 32°04'40.1" E 48°14'12.6", 53 m, malaise trap, v–iv.2014, leg. Parchami-Araghi and Gilasian. **Mazandaran province**: 1♂ and 1♀, Juybar, Pahnab, N 36°36′56″ E 52°57′17″, -12 m, 4.xi/10.xii.2019; 3♀, Neka, Bayekola, N 36°44′25″ E 53°48′52″, -8 m, 21/28.x.2019; Sari, Farim, Mohammadabad, 5.v.2021, leg. Barari. **Razavi Khorasan province**: 1♀, Astan-e Qods farm, 280 m, 18–20. iv.1997, leg. Badii, Barari and Sarafrazi. **Tehran province**: 1♂ and 1♀, Evin, 15.vi.1971.

Records from literature. **Berti & Rapilly (1973)**: Fars province: Dasht-Arzhan, 18.v.1969, leg. M. Rapilly. **Warchalowski (1967)**: North Khorasan province: Shirvan, Atrek Tal, winter 1962/1963; Razavi Khorasan province: Fariman, Tagyabad, winter 1962/1963. **Warchalowski (1973)**: North Khorasan province: Bigan, Alla Dag Mt., winter 1962/1963; Mashad, Shirin, winter 1967/1968; Lorestan province: Borujerd, winter 1970/1971.

Remarks. Longitarsus albineus shows mainly a Turanian-Mediterranean distribution type (TUM) (Biondi 1996). This flea beetle has a monophagous trophic range, being almost associated with *Heliotropium* plants (Boraginaceae) (Biondi 1996). In Australia, this species is used as a potential biological agent against *H. europaeum*

(Huber 1981). So, *L. albineus* could also be used effectively against the spread of *Heliotropium* plants in many crop fields in Iran.

***Longitarsus alfierii* Pic, 1923**

New material examined. **Golestan province**: 1♂, NE of Kalaleh, Zav, Tutlitamak village, N 37°28'47.6" E 55°44'05", 676 m, 14.x.2009, leg. Serri and Gilasian; 1 ex, s/Tang-e-Rāh, N 37°25› E 55°45›, 28.vii.1974, leg. A. Senglet. **Ilam province:** 1 ex, Tchaharmelleh, N 33°57' E 46°17', 28.vi.1974, leg. A. Senglet. **Mazandaran province:** 11 exx, Alamdeh to Baladeh road, Kalej Royan village, 1542 m, 7.vii.2005; 24 exx, route de Djavāherdeh, N 36°55' E 50°33', 1200 m, 7.viii.1974, leg. A. Senglet; 1 ex, Sari, Kiasar to Tarkam road, N 36°14'49.8" E 53°35'13.0", 1215 m, 3.vii.2005, leg. Moghaddam, Hajiesmailian and Serri.

Records from literature. **Lopatin (1990)**: Golestan province: Golestan National park near Dasht, 650 m, 27–30.vii.1970.

Remarks. According to Biondi (1996), *L. alfierii* shows an E-Mediterranean (EME) distribution type. Three subspecies are attributed to this species: *L. alfierii alfierii* Pic, occurring in eastern Mediterranean and Central Asia; *L. alfierii antineae* Peyerimhoff, occurring in Algeria; *L. alfierii furthi* Gruev, occurring in the eastern part of south Europe (Bezděk & Konstantinov 2024; Döberl 2010b). Based on the current records, this species appears to be limited to northern Iran.

***Longitarsus anatolicus* Weise 1900**

New material examined. **East Azarbaijan province**: 2 exx, Azerbaijan Or., Zaradjābād, N 37°38' E 48°03', 8.vi.1975, leg. A. Senglet.

Fig. 2 – *Longitarsus gracilis* Kutschera, **A**, general habitus; **B–C**, aedeagus (**B**, ventral view; **C**, lateral view); **D**, spermatheca. Scale bar 1 mm.

Records from literature. **Berti & Rapilly (1973, as *Longitarsus anchusae anatolicus* Weise)**: Mazandaran province: Babol, 7.vi.1969.

Remarks. This species is distributed in central and eastern Turkey, and also northwest of Iran. It is a species strictly associated with Boraginaceae and shows a Central Asiatic (CAS) distribution type (Biondi, 1996). The record from Babol represents the easternmost distributional limit of *L. anatolicus* till now known. However, the eastern records of *L. anchusae* from Afghanistan by Madar & Madar (1969) could also refer to *L. anatolicus*. This species is very similar to *L. anchusae*, but the shape of aedeagus is different and it has larger sizes of body parts both in male and in females (Biondi, 1995).

***Longitarsus aphthonoides* Weise, 1887**
New material examined. No new records from Iran.

Records from literature. **Warchalowski (1967, as L. *callidus* Warchalowski)**: Gilan province: Talysch.

Remarks. Farina (2021) synonymized this species with *Longitarsus callidus* Warchalowski, 1967. *Longitarsus aphthonoides* was described from Talysh Mountains in Iran on a single specimen and later reported from central Europe, Asia Minor, Central Asia and North Africa (Bezděk & Konstantinov 2024). It is an oligotopic-mesophilous species, probably oligophagous on Lamiaceae and shows a Central Asiatic-European (CAE) distribution type (Biondi 1996; Farina 2021).

***Longitarsus asperifoliarum* Weise, 1887**
New material examined. **Razavi Khorasan province**: 1 ex, val de Shandiz, N 36°22' E 59°15", 20.viii.1975, leg. A. Senglet.

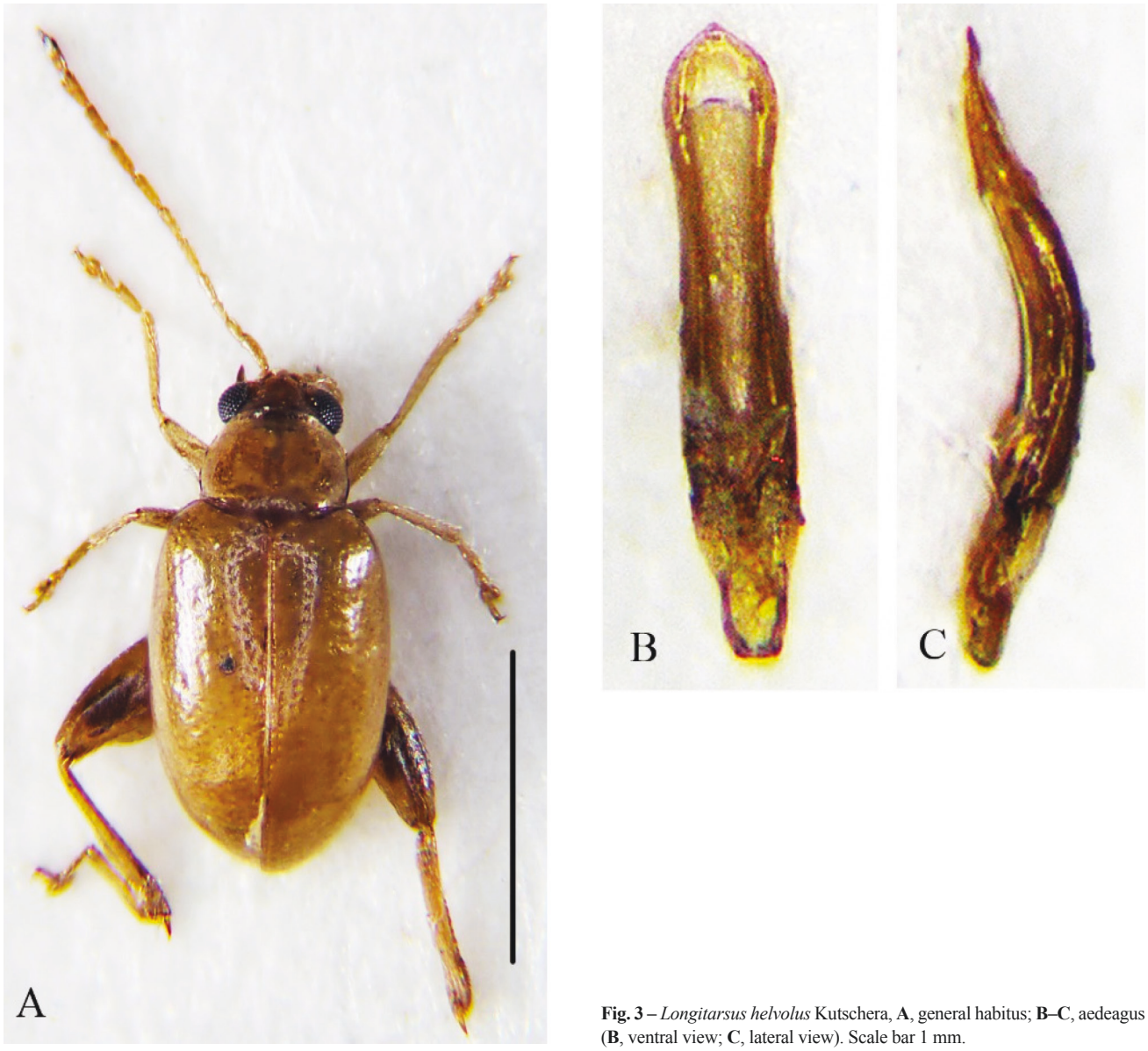

Fig. 3 – *Longitarsus helvolus* Kutschera, **A**, general habitus; **B–C**, aedeagus (**B**, ventral view; **C**, lateral view). Scale bar 1 mm.

Records from literature. **Warchalowski (1967)**: Razavi Khorasan province: Fariman, Tagyabad, Kuh-E Sorkh, 19.xii.1965 and 1.i.1966. **Warchalowski (1973)**: Razavi Khorasan province: Mashad, Kuh-e Binalud, 30.xii.1967; Lorestan province: Borujerd, 30.ix.1970. **Döberl (2010a)**: Yazd province: Yazd, Shir Kuh, 5 km S of Taft, 1600–1700 m, 23.v.2008, leg. Mühle.

Remarks. Longitarsus asperifoliarum have many similarities with *L. violentus*, but can be distinguished by the dark apex of first antennomere and clearly by the different shape of the aedeagus (Konstantinov & Lopatin 2000). Our record from Yazd represents the most western and also southern distribution limit of this Central Asiatic (CAS) species. It is occurring in Far East Russia, Central Asia, Afghanistan and Iran (Döberl 2010b; Bezděk & Konstantinov 2024).

***Longitarsus atricillus* (Linnaeus 1761)**
New material examined. **Kohgiluyeh and Boyerahmad province**: 1♀, 20 km Yasuj to Ardakan road, Tange Sorkh, 2380 m, 16.viii.1978, leg. Pazuki & Borumand.

Records from literature. **Warchałowski (1967)**: North Khorasan province: Fariman, Kuh-E Sorkh, 14.i.1966. **Warchalowski (1973)**: Lorestan province: Borujerd, 30.ix.1970 and 4.x.1970.

Remarks. This species is very close to *L. aeneicollis*, but generally it can be distinct by the different shape of the spermatheca, the aedeagus less elongate, and the larger size (Farina 2025).This polyphagous species is associated with many host plants of the families Ranunculaceae, Fabaceae, Asteraceae and Lamiaceae. *L. atricillus*, based on the recent data, shows a Central Asiatic-European-Mediterranean (CEM) distribution type (Farina 2025).

***Longitarsus ballotae* (Marsham 1802)**
New material examined. No new records from Iran.

Records from literature. **Lopatin (1990)**: Fars province: Tang-e Chogan-e Olia valley, 1000 m, 10–11.vi.1973.

Remarks. Longitarsus ballotae is an oligophagous species associated with Lamiaceae. It shows a Central Asiatic-European-Mediterranean (CEM) distribution type (Biondi 1996). Although this species is common and abundant in Turkey (Aslan & Alkan 2015), no records from Iran were obtained in the recent field trips in Iran.

***Longitarsus bertii* Leonardi, 1973**
New material examined. **East Azarbaijan province**: 1 ex, Azerbaijan Or., Zaradjābād, N 37 38' E 48 03', 8.vi.1975, leg. A. Senglet. **Chaharmahal & Bakhtiari province**: 2 exx, Farsān, N 32°17' E 50°31', 11.viii.1973, leg. A. Senglet. **Esfahan province**: 1♀, 15 km N of Semirom, N 31°32 05.3" E 51 37°24.4", 2858 m, 12.iv.2007, leg. Serri and Frisch; 5 exx, Eskandari, N 32°49‘ E 50°26‘, 8.viii.1973, leg. A. Senglet; 2 exx, Nowghān, N 33°14‘ E 49°59‘, 7.viii.1973, leg. A. Senglet; 6 exx, Riz-e-Landjān, N 32°24' E 51°19', 1600 m, 11.viii.1973, leg. A. Senglet. **Fars province**: 1 ex, Aliābād, N 30°01' E 53°00'', 9.vi.1974, leg. A. Senglet; 3 exx, Izad Khāst, N 31°31› E 52°09›, 16.viii.1973, leg. A. Senglet; 1 ex, Ghader-Ābād, N 30°21' E 53°19', 17.viii.1973, leg. A. Senglet. **Gilan province**: 1 ex, Fowmen, N 37°12' E 49°12', 7.ix.1973, leg. A. Senglet. **Kermanshah province**: 1 ex, N de Kāmyārān, N 34°48' E 46°57', 14.ix.1975, leg. A. Senglet; 8 exx, Kenesht/Kermānshāh, N 34°29' E 47°9', 3.viii.1973, leg. A. Senglet; 3 exx, Māhī Dasht, N 34°14› E 46°42›, 4.viii.1973, leg. A. Senglet; 2 exx, Kangāvār, N 34°29‘ E 47°55‘, 1.viii.1973, leg. A. Senglet; 1 ex, Māhī Dasht, N 34°4› E 48°42›, 29.vi.1974, leg. A. Senglet. **Kohgiluyeh & Boyerahmad province**: 1 ex, Arow, N 30°35' E 50°43', 24.v.1974, leg. A. Senglet. **Kordestan province**: 1 ex, S de Divāndarreh, N 35°45' E 47°05', 23.vi.1975, leg. A. Senglet; 1 ex, Hoseynābād, N 35°33' E 47°08', 17.ix.1975, leg. A. Senglet; 1 ex, E de Nyābād, N 35°20' E 46°39', 14.ix.1975, leg. A. Senglet; 3 exx, N de Saghez N 36°23' E 46°12', 18.ix.1975, leg. A. Senglet; 2♂ and 4♀, E of Sanandaj, Damigan village, N 35°20'10.5» E 47°09'06.6», 2101 m, 5.ix.2008, leg. Serri and Frisch; 1♀, Sanandaj to Divandarreh road, 21 km S of Divandarreh, N 35°45'40.6" E 47°04'43.0", 1861 m, 6.ix.2008, leg. Serri and Frisch. **Lorestan province**: 4 exx, Aligudārz, N 33°21' E 49°48', 7.viii.1973, leg. A. Senglet; 1 ex, E de Khorramābād, N 33°29' E 48°28', 10.ix.1975, leg. A. Senglet; 1 ex, Veisiān, N 33°29' E 48°04', 8. ix.1975, leg. A. Senglet. **Mazandaran province**: 1 ex, Hamsehkola, N 36°30' E 52°31', 19.vii.1973, leg. A. Senglet; 1 ex, W de Kiyasar, N 36°16' E 53°25', 10.vii.1975, leg. A. Senglet; 7 exx, Nashtārūd, N 36°43' E 51°08', 1500 m, 10.vii.1973, leg. A. Senglet; 3 exx, Tonekabon, Dohezar road, 400 m; 3 exx, Ramsar, Eshkatechal, 1220 m, vii.2005, leg. Serri. **North Khorasan province**: 1 ex, E de Badrānlū, N 37°31' E 57°08', 18.vii.1975, leg. A. Senglet; 2 exx, Bodjnourd, N 37°29‘ E 57°26‘, 20.viii.1975, leg. A. Senglet; 2 exx, NO de Esfarayen, N 37°12‘ E 57°27‘, 1200 m, 20.vii.1975, leg. A. Senglet; 4 exx, N de Qoutchan, N 37°12› E 58°29›, 15.vii.1974, leg. A. Senglet**. Qazvin province**: 1 ex, Shahrak, N 36°25‘' E 50°30‘, 1500 m, 27.vii.1975, leg. A. Senglet. **West Azarbaijan province**: 2♂, W of Bazargan, N 39°21‘02.5“ E 44°07‘08.4“, 2157 m, 27.viii.2008, leg. Serri and Frisch; 2 exx, Qarazia-ed-Din, N 38°56' E 45°03', 21.ix.1975, leg. A. Senglet. **Zanjan province**: 1 ex, Zendjān, N 37°43' E 48°1', 15.ix.1973, leg. A. Senglet.

Records from literature. **Warchalowski (1967 as *L. ferrugineus*)**: North Khorasan province: Shirvan, Alla Dag, 23.ii.1963; Razavi Khorasan province: Fariman, Tagyabad, 19.xii.1965. **Warchalowski (1973 as *L. ferrugi-***

***neus*)**: Lorestan province: Borujerd, 30.ix.1970, 4.x1970, and 4.i.1971; Mazandaran province: Chalus, 18.viii.1967; Razavi Khorasan province: Mashad, Shirin, 22.xi/16. xii.1967 and 24.i.1968; Kuh-e Binalud, 9.ii.1968.

Remarks. *Longitarsus bertii* is an oligotopic-hygrophilous species associated with Lamiaceae. It shows a Turanian-European (TUE) distribution type (Biondi 1996). According to Leonardi (1973), specimens collected around Fariman in Khorasan, which Warchalowski (1967) reported as *Longitarsus ferrugineus* (Foudras, 1860), are to attribute to *L. bertii* (new name for *L. ferrugineus* sensu Kazsab). *Longitarsus bertii* is very similar to *L. ferrugineus,* but it is easily distinguishable by clear genitalia differences (Leonardi 1973). This species shows an eastern distribution ranges from Balkans and west coast of Black Sea to northeast of Iran. Our recent records extend its range in Iran, also from an altimetric point of view.

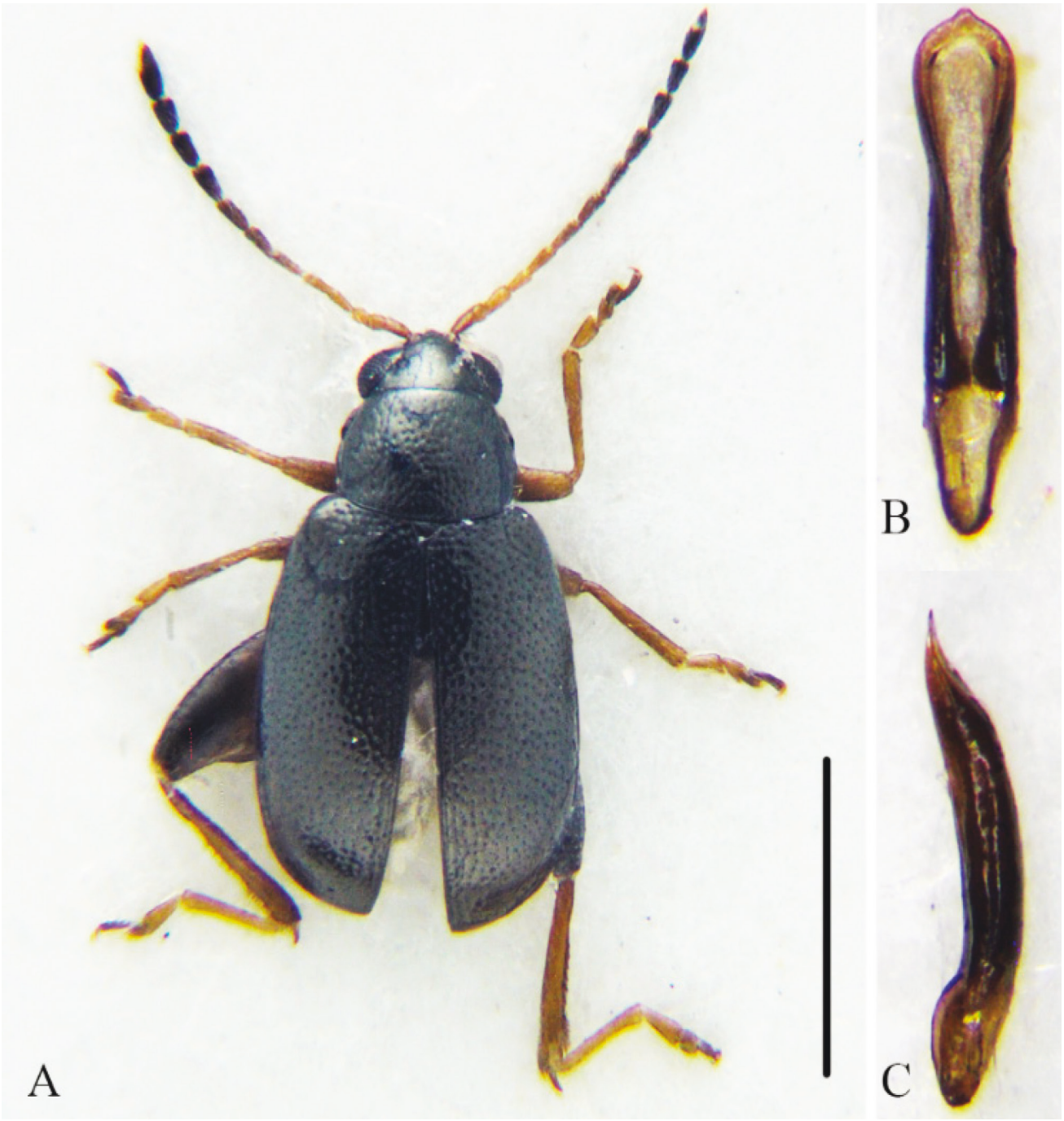

Fig. 4 – *Longitarsus parvulus* (Paykull), A, general habitus; B–C, aedeagus (B, ventral view; C, lateral view). Scale bar 1 mm.

***Longitarsus corynthius* (Reiche et Saulcy, 1858)**
New material examined. No new records from Iran.

Records from literature. **Ghahari & Hawkeswood (2011)**: Kurdistan province: Sanandaj, vii.2007; Kermanshah province: Songhor, 16.iv.2009.

Remarks. The records of this Mediterranean species in Iran are, in our opinion, questionable. We believe that the presence of *L. corynthius* in Iran needs further confirmation. This species was not considered in our statistical analyses.

***Longitarsus desertorum* Heikertinger, 1913**
New material examined. **Fars province**: 1 ex, Ghader-Ābād, N 30°21› E 53°19›, 17.viii.1973, leg. A. Senglet. **Lorestan province**: 1 ex, Aligudārz, N 33°21' E 49°48', 7.viii.1973, leg. A. Senglet.

Records from literature. **Warchalowki (1967)**: North Khorasan province: Bigan, 29.x/3.xi/ 26.xii.1962 and 18.ii.1963; Allah Dag Mts., 23.i/23.ii.1963; Razavi Khorasan province: Tagyabad, 25.x.1965, 3.ii/13.ii.1966.

Remarks. This species of the *Longitarsus pratensis* group is distributed in Afghanistan, Turkmenistan, Uzbekistan, Kazakhstan, Kyrgizstan, Tajikistan, and Mongolia (Döberl 2010; Bezděk & Konstantinov 2024), showing a Central Asiatic (CAS) distribution type. *Longitarsus desertorum* is very similar to *L. heinigi* Döberl, 2002 from Transcaspia, but is somehow bigger and its pronotum is longer than wide (Döberl 2002).

***Longitarsus eminus* Warchalowski, 1967**
New material examined. **Esfahan province**: 2 exx, Eskandari, N 32°49' E 50°26', 8.viii.1973, leg. A. Senglet. **Fars province**: 1 ex, Ghader-Ābād, N 30°21' E 53°19', 17.viii.1973, leg. A. Senglet. **Lorestan province**: 2 exx, Aligudārz, N 33°21' E 49°48', 7.viii.1973, leg. A. Senglet. **Tehran province**: 2♀, Tehran, Tar, 2700 m, 15.ix.1987, leg. Hashemi.

Records from literature. **Warchalowski (1967)**: Razavi Khorasan province: Fariman, Tagyabad, 29.x/19.xii.1965 and 23.i.1966. **Warchalowski (1973 as *L. obliteratus eminus*)**: Razavi Khorasan province: Shirin, 24.ix/3.x/16.x/22.xi.1967; Kuh-e Binalud, 14.x/30.xii.1967, and 9.ii.1968; Lorestan province: Borujerd, 30.ix/4.x.1970. **Rapilly (1978)**: Kerman province: Saqdar, 2200 m, 11.xi.1973.

Remarks. *Longitarsus eminus* is very close to *L. obliteratus* (Rosenhauer, 1847), of which it was previously considered a subspecies (Warchalowski 1973). However, these two taxa show clear differences in the shape of the aedeagus, and mainly in the ductus spermathecae (cf. Warchalowski, 2010). This species is associated with Lamiaceae and shows mainly a Turanian (TUR) distribution type (Biondi 1996).

***Longitarsus exsoletus* (Linnaeus, 1758)**
New material examined. **Mazandaran province**: 2♀, Alamdeh to Baladeh road, Kalej Royan village, 1542 m, 7.vii.2005, leg. Moghaddam, Hajiesmailian and Serri; 5 exx, Chorteh, N 36°46' E 50°35', 1600 m, 8.vii.1973, leg. A. Senglet. **Tehran province**: 1 ex, Gadjereh, N 36°05' E 51°22', 2500 m, 13.vii.1973, leg. A. Senglet. **West Azarbaijan province**: 2♀, Rezaieh, 18.vii.1974, light trap; 2♀, Orumieh to Silvaneh road, 1950 m, 25.vii.1976, leg. Borumand and Pazuki.

Records from literature. **Warchalowski (1973)**: Lorestan province: Borujerd, 30.ix.1970.
Remarks. Two only species of the *Longitarsus exsoletus* group, *L. exsoletus* and *L. pulmonariae*, have been recorded so far from Iran. The species attributed of this group have longer pronotum, longer protarsomere of forelegs, sinuous aedeagus in lateral view, and spermatheca relatively large (cf. Warchałowski 2010). *Longitarsus exsoletus* is a eurytopic species with a Palearctic (PAL) distribution type, with restricted feeding preferences to the Boraginaceae plants (Biondi 1996).

***Longitarsus fallax* Weise, 1888**
New material examined. **Ardabil province**: 1♂ and 3♀, Ardabil, Arallu, N 38°10'16.4" E 48°23'28.9", 1328 m, 3.ix/3.x.2019; 2 ♂, Alaroq Agricultural Research Station, N 39°36'10" E 47°49'22", 24.xi/24.xii.2019, leg. Soheili. **Gilan province:** 1♀, Rudbar, Shikuh-e Bala, N36°53'29.1" E49°32'9.0", 252 m, 25.xi.2020, leg. Mojib. **Mazandaran province:** 1♂ and 2♀, Joybar, Pahnab, N 36°36′56″ E 52°57′17″, -12 m, 16/30.xii.2019; 2♂ and 1♀, Neka, Bayekola, N 36°44′25″ E 53°48′52″, -8 m, 3/15.xii.2019; 5♂ and 4♀, Sari, Shevilasht, Khalkheyl, N 36°18′39″ E 52°21′42″, 821 m, 25.xi/9/21.xii.2019; 3♂ and 4♀, Kiasar, Karsam, N 36°20′30″ E 53°20′39″, 455 m, 9.xii.2019; 2 exx, Kiasar, Mazarostaq, N 36°15′30″ E 53°25′29″, 871m, 12.xi.2018, leg. Barari. **North Khorasan province**: 1♀, Jajarm, Shoqan, N 37°18'56.78" E 56°44'43.37", 1219 m, 6.xi.2019; 1♂, Maneh va Samalqan, Kalateqomo, N 37°29′41.623″ E 56°41′25.663″, 880 m, 21.xii.2020, leg. Alavi.

Records from literature. **Doguet (1976)**: Qazvin province: Rudbar [Alamut], 13.v.1970, 900/1500 m, leg. Wittmer and Bothmer.

Remarks. Doguet (1976) recognized *L. fallax* as a distinct species, definitively separating it from *L. linnaei* (Duftschmid, 1825). In fact, *L. fallax* is easily distinguishable by the smaller body size, clear black sheen of the upper side and dark first antennomere, as well as small but constant differences in the shape of the aedeagus and spermatheca (cf. Warchalowski 2010). This species is associated with

Boraginaceae (Salvi et al. 2019), and according to Biondi (1996) it shows a Central Asiatic-Mediterranean (CAM) distribution type. During our collections we noticed that *L. fallax* was more common in northern Iran.

***Longitarsus fuscoaeneus* Redtenbacher, 1849**

New material examined. **Ardabil province**: 9♂ and 2♀, Ardabil, Arallu, N 38°10'16.4" E 48°23'28.9", 1328 m, 3.ix-/3.x.2019; 6♂ and 3♀, Alaroq Agricultural Research Station, N 39°36'10" E 47°49'22", 24.xi/24.xii.2019, leg. Soheili. **Gilan province:** 2♂ and 5♀, Rudbar, Shirkuh, N 36°53'33.932" E 49°32'13.506", 275 m, 2/11/25.xii.2018 and 8.i.2019; 1 ex, N 36°53›19.818» E 49°33›25.239», 393 m, 25.xii.2018; 1♂ and 1♀, N36°53'29.473" E 49°32'54.758", 401 m, 27.xi/25.xii.2019; 2♂ and 2♀, Shirkuh-e Bala, N36°53'51.258" E49°32'21.215", 356 m, 11-25.xii/27.xii.2019; 4♂ and 3♀, Shirkuh-e Paieen, N36°54'0.418" E49°32'35.222", 258 m, 11/13.xii.2019 and 1.i.2020, leg. Mojib. **Mazandaran province**: 1♂, Sari, Farim, Mohammadabad, N 36°10′36″ E 53°16′05″, 705 m, 7.v.2018; 12♂ and 9♀, Shevilasht, Khalkheyl, N 36°18′39″ E 52°21′42″, 821 m, 12,19,25.xi.2019, 9/21.xii.2019 and 20.i.2020; 1♂, Kiasar, Karsam, N 36°20′30″ E 53°20′39″, 455 m, 12.xi.2019; 5 exx, Qadikola, N 36°20′08″ E 53°23′15″, 633 m, 3.xi.2018, leg. Barari.

Records from literature. **Warchalowski (1967)**: Mazandaran province: Chalus, 20.ii.1966; North Khorasan province: Shirvan, Bigan, 15.x/5.xi/17.xii.1962 and 19.i.1963; Razavi Khorasan province: Fariman, Tagyabad, 30.xi.1965 and 1.i.1966.

Remarks. *Longitarsus fuscoaeneus* is an oligophagus species associated with Boraginaceae plant family and shows a Central Asiatic-European (CAE) distribution type (Biondi

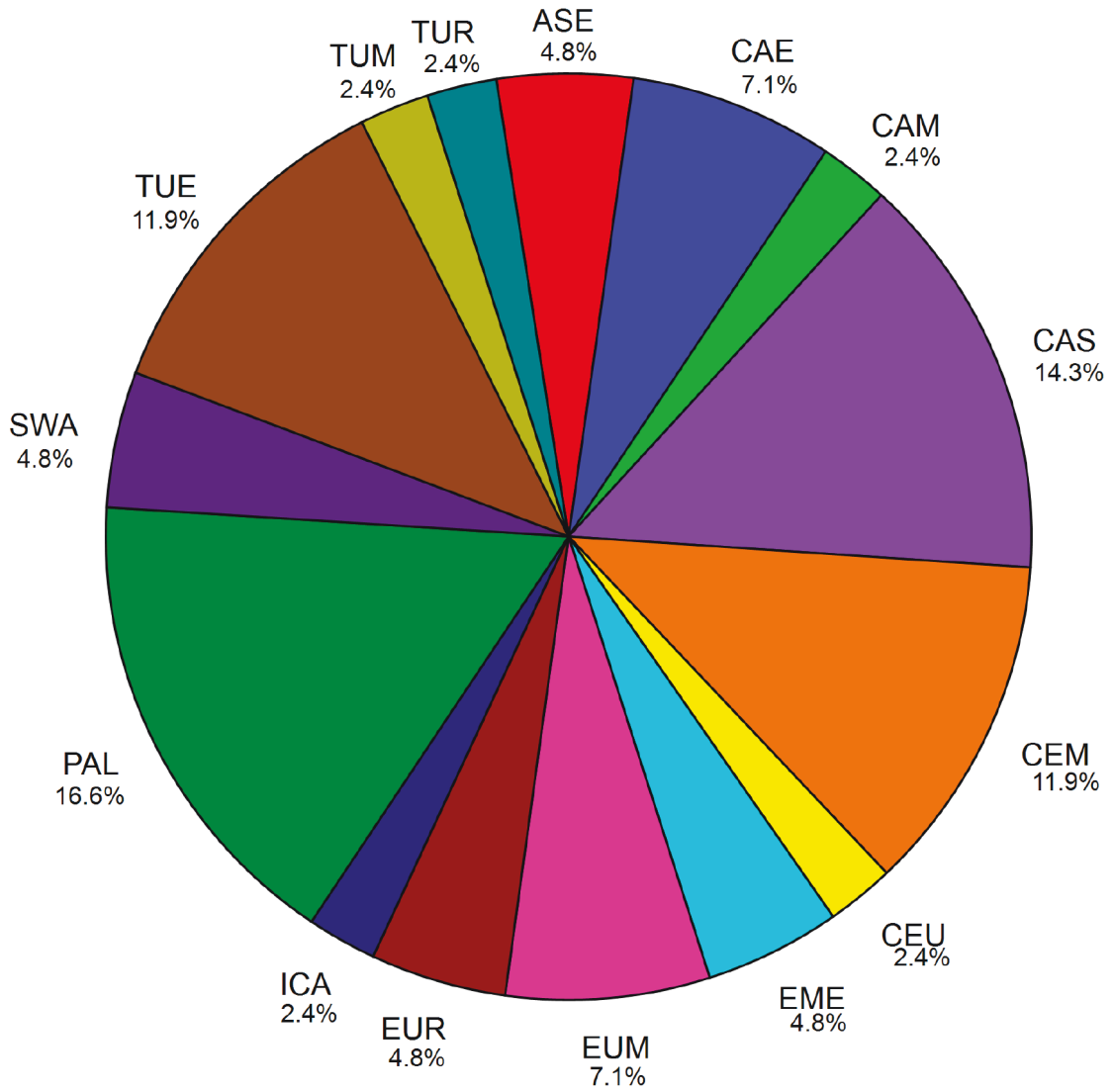

Fig. 5 – Percentages of the distribution types in the Iranian *Longitarsus*.

1996). The populations occurring in Iran are attributed to the subspecies *persicus* Warchalowski, 1967. This species is externally very similar to *L. corynthius*, a Mediterranean species in our opinion erroneously reported for Iran (Ghahari & Hawkeswood 2011; Bezdek and Konstantinov 2024). However, *L. fuscoaeneus* and *L. corynthius* are rather different in the shape of aedeagus and spermatheca (cf. Warchalowski 2010).

***Longitarsus gracilis* Kutschera, 1864**
New material examined. **Gilan province**: 1♀, Rudbar, Rostamabad, N 36°52'46.472" E 49°30'50.879", 132 m, 8.i.2019; 1 ex, Rudbar, Shikuh, N36°53'19.818" E 49°33'25.239", 393 m., 25.xii.2018; 1 ex, Rudbar, Shikuh-e Bala, N 36°53'51.258" E49°32'21.215", 356 m, 10.i.2020, leg. Mojib. **Mazandaran province**: 1 ex, Galugah, N 36°43′58″ E 52°48′52″, 20 m, 8.xi.2018; 1♂, Joybar, Pahnab, N 36°36′56″ E 52°57′17″, -12 m, 2.xii.2019; 57♂ and 67♀, Sari, Shevilasht, Khalkheyl, N 36°18′39″ E 52°21′42″, 821 m, 30.x/9/12/19/25.xi/9/21.xii.2019 and 20.i.2020; 2 exx, Sari, Shevilasht, Zalamrudbar, N 36°18′49″ E 52°23′14″, 581 m, 29.x.2018; 22♂ and 22♀, Kiasar, Karsam, N 36°20′30″ E 53°20′39″, 455 m, 30.x/9/12/19.xi/9.xii.2019 and 20.i.2020; 11 exx, Qadikola, N 36°20′08″ E 53°23′15″, 633 m, 3.xi.2018, leg. Barari.

Records from literature. These are the first records of *L. gracilis* for Iran.

Remarks. *Longitarsus gracilis* (Fig. 2) is an oligophagous species, associated with Asteraceae, and shows mainly an European-Mediterranean (EUM) distribution type (Biondi 1996), with extension in the Near Eastern. In Iran, this species was collected in the area of the Canola farms, probably on the common groundsel (*Senecio vulgaris*). Considering the wide chromatic variability of this species, our specimens from Iran show head, pronotum, hind femora, and elytral suture dark brown. Elytral punctuation is shallow; apical part of the aedeagus is thickened and triangle shaped (Fig. 2); body length between 1.8 and 2.3 mm.

***Longitarsus grandis* Rapilly, 1978**
New material examined. **Kordestan province**: 1 ex, route de Marivān, N 35°27› E 46°38›, 16.ix.1975, leg. A. Senglet.

Records from literature. **Rapilly (1978)**: Kerman province: Delfar, 1500 m, 9.vi.1973; Saqdar, 2200 m, 11.vi.1973.
Remarks. *Longitarsus grandis* is an endemic species from Iran, to which we attribute a Central Asiatic (CAS) distribution type. The record from Delfar is the only one after the first description of the species. *Longitarsus grandis* was collected on *Verbascum* (Scrophulariaceae) and shows close affinities with *L. tabidus*, from which it can be distinguished by the different pronotal and elytral punctuation, and from the different shape of aedeagus in lateral view (Rapilly 1978).

***Longitarsus helvolus* Kutschera, 1863**
New material examined. **Ardebil province**: 1 ex, N de Hero-Abād, N 37°42' E 48°29', 10.viii.1974, leg. A. Senglet. **Gian province**: 1 ex, Tarazān, Lowshān, N 36°28› E 49°31›, 3.ix.1973, leg. A. Senglet. **Kordestan province**: 3 exx, Marivān, N 35°32' E 46° 09', 15.ix.1975, leg. A. Senglet. **Lorestan province**: 1 ex, Ma'amūlān, N 33°20' E 47°54', 6.viii.1973, leg. A. Senglet. **Mazandaran province**: 1♂, Kiasar, Karsam, N 36°20′30″ E 53°20′39″, 455 m, 30.x.2019, leg. Barari. **Tehran province**: 1 ex, Delichāl, N 35°40' E 52°30'', 24.vii.1973, leg. A. Senglet.

Records from literature. These are the first records of *L. helvolus* for Iran.

Remarks. This European (EUR) species shows currently discontinuous distribution, which could be due to the lack of collecting data and the difficulty of its identification. *Longitarsus helvolus* (Fig. 3) shows closest affinities with *L. membranaceus* and *L. reconditus*, from which differs by the shape of aedeagus, narrower in lateral view (cf. Warchalowski 2010). *Longitarsus helvolus* is associated with Lamiaceae (Biondi 1996).

***Longitarsus hoberlandti* Lopatin, 1990**
New material examined. **Fars province**: 2 exx, Bishāpour, N 29°47' E 51°35', 28.ix.1979, leg. A. Senglet; 2 exx, Ghader-Ābād, N 30°21' E 53°19', 17.viii.1973, leg. A. Senglet; 1 ex, Sivand, N 30°07' E 52°58', 22.viii.1973, leg. A. Senglet. **Ilam province**: 1 ex, Tchaharmelleh, N 33°57' E 46°17', 28.vi.1974, leg. A. Senglet. **Kermanshah province**: 3 exx, Garāvand/Shāhābād, N 33°55' E 46°47', 5.viii.1973, leg. A. Senglet; 3 exx, Māhī Dasht, N 34°14› E 46°42›', 4.viii.1973, leg. A. Senglet. **Khuzestan province**: 1 ex, Izeh, Dehdez Nousheyvand vill, Shalu va Mungasht Protected Area, N 31°37'31.4" E 50°12'50.3", 954 m, 3.vi. 2019, leg. Nasserzadeh. **Kordestan province**: 1 ex, E de Marivān 16.ix1975, N 35°32' E 46°30', leg. A. Senglet. **Lorestan province**: 4 exx, Ma' amūlān, N 33°20' E 47°54', 6.viii.1973, leg. A. Senglet. **Markazi province**: 1 ex, Neizar, N 35°19' E 50°52', 25.viii.1973, leg. A. Senglet. **North Khorasan province**: 2 exx, E de Badrānlū, N 37°31' E 57°08', 18.vii.1975, leg. A. Senglet; 18 exx, Bodjnourd, N 37°29' E 57°26', 20.viii.1975, leg. A. Senglet; 31 exx, E de Chaman Bid, N 37°26' E 56°37', 14.vii.1974, leg. A. Senglet; 1 ex, NO de Esfarayen, N 37°12' E 57°27', 1200 m, 20.vii.1975, leg. A. Senglet; 2 exx, route de Amirābād, N 36°47' E 59°49', 1400 m, 21.vii.1974, leg. A. Senglet. **Qazvin province**: 1 ex, Shahrak, N 36°25' E 50°30', 1500 m, 27.vii.1975, leg.

A. Senglet. **Tehran province**: 1 ex, Pol-e-Djādjirūd, N 35°45' E 51°42', 16.vii.1973, leg. A. Senglet.

Records from literature. **Lopatin (1990)**: Fars province: Mianjangal, 30.v–5.vi.1973; Golestan province: Gorgan, 140 m, 12–23.vi.1975; Hormozgan province: 26 km NE Khamir, 26–27.iv.1977; 6 km W Geno, 400 m., 7–9.v.1977; Darpahn 12 km E Senderk, 11–12.v.1977; Konardan, 36 km E Ganda, 23–24.iv.1977; Kerman province: Kerman, 50 km NW Dowlatabad, Poshtekuh Mt., 1700 m, 21–22.vi.1977; Mohammadabad, 1600 m., 3–5.v.1973. Tehran province: Elburz, southern slope, 2000–3500 m, 16–26.vii.1977. **Döberl (2010a)**: Bushehr province: Jashak, SE Khormuj, 20–21.iv.1977. Fars province: Estahban-Darab road, 23 km NW Darab, N 28°51'18» E 54°24'32», 1320 m, 16.iv.2006, leg. Frisch & Serri; Estahban-Darab road, 23 km NW Darab, N 28°52'34» E 56°23'57», 1340 m, 24.iv.2006, leg. Frisch & Serri..

Remarks. L. hoberlandti belongs to the *Longitarsus succineus* species group sensu Leonardi (1972). It differs from the other species of the group by the shape of aedeagus that is clearly narrowed in the apical third (cf. Lopatin 1990). *Longitarsus hoberlandti* is recorded from southeast China, Nepal, Tibet, northern India, Tajikistan, Turkmenistan and Iran (Döberl 2010; Bězdek & Konstantinov 2024). We attribute to this species an Indo-Central Asiatic (ICA) distribution type.

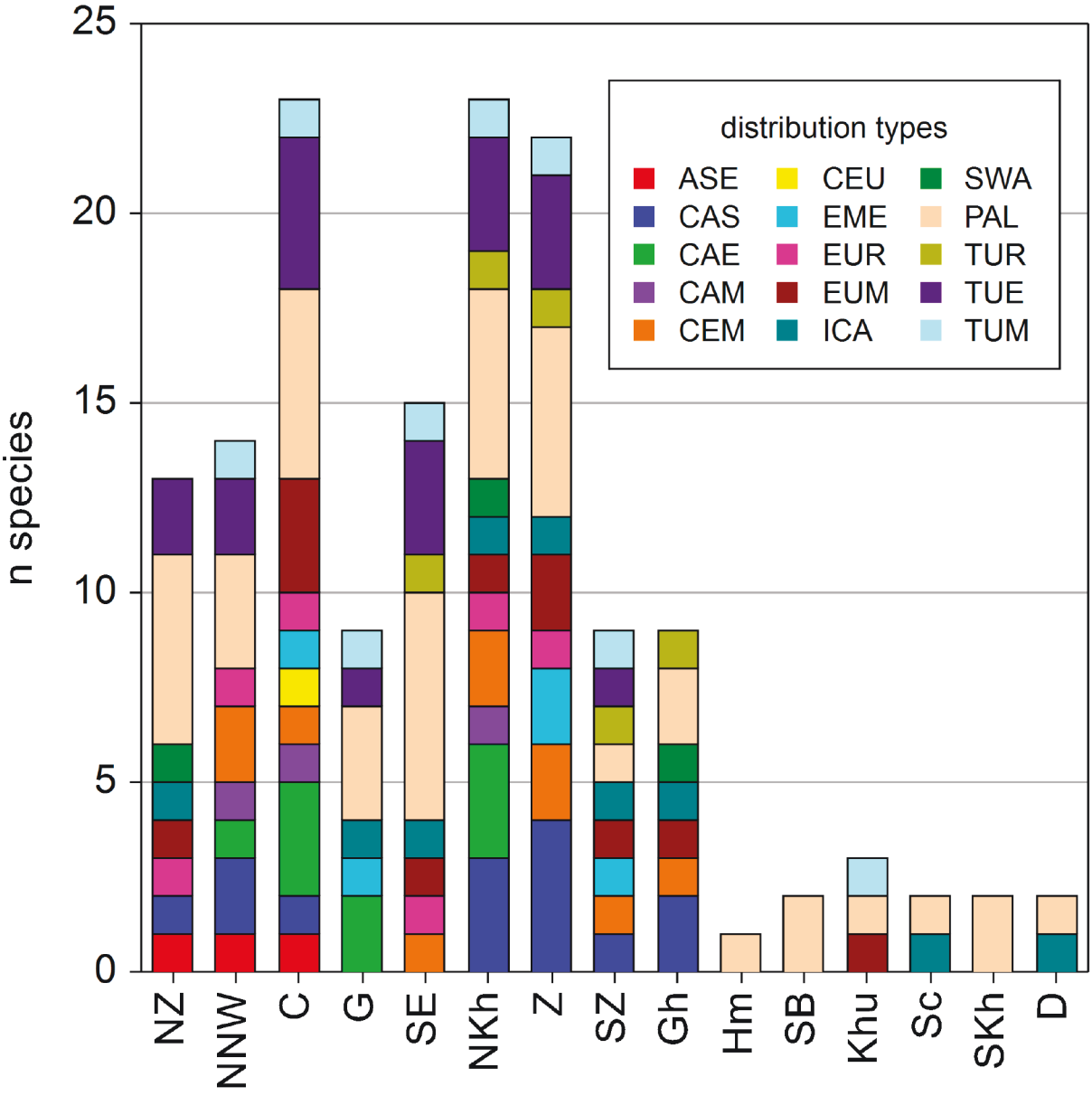

Fig. 6 – Distribution types in the 15 geographical subdivisions considered for Iran.

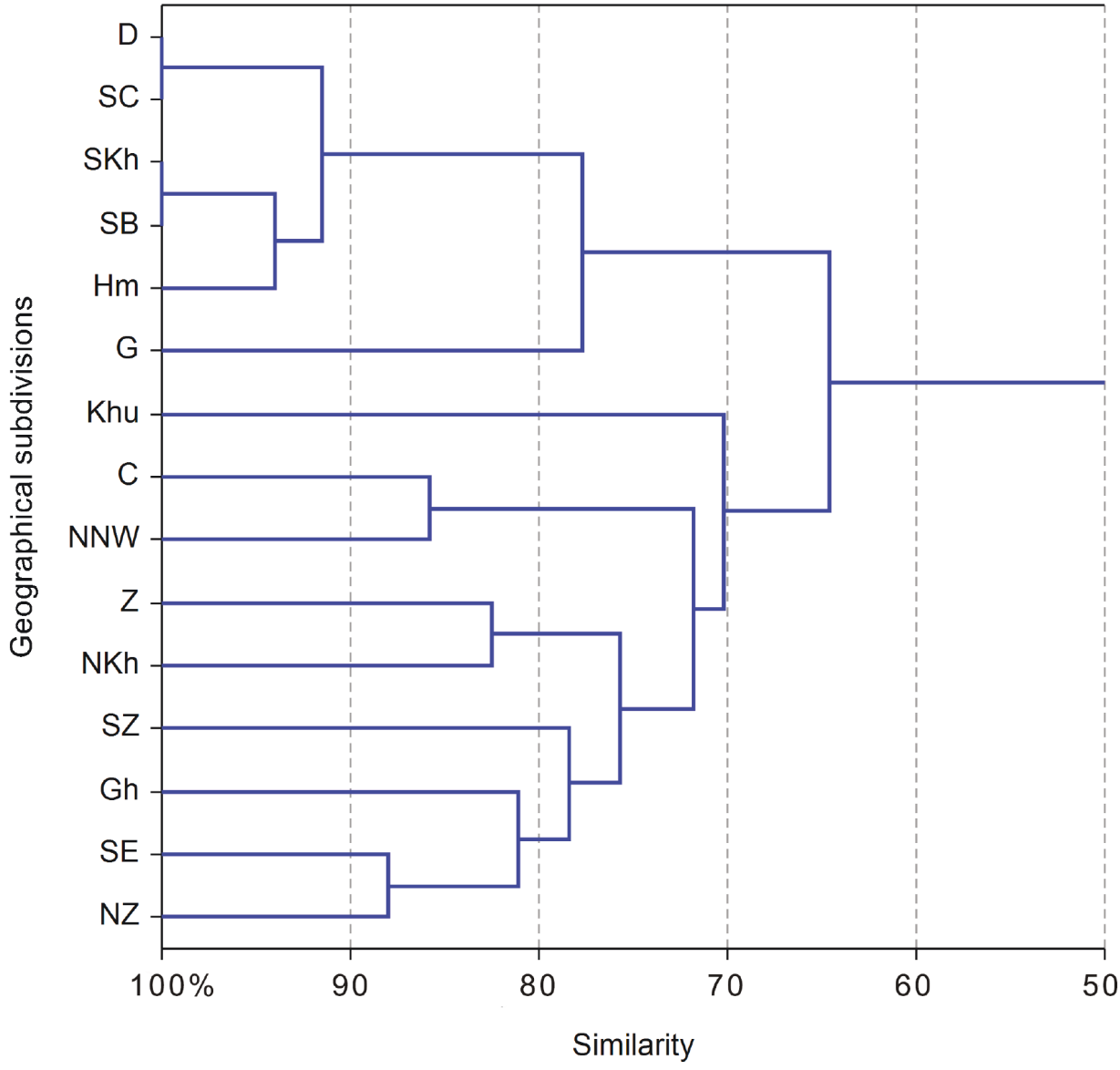

Fig. 7 – Cladogram from cluster analysis (Baroni Urbani & Buser similarity index and UPGMA clustering method) between geographical subdivisions of Iran based on the *Longitarsus* species distribution.

***Longitarsus karlheinzi* Warchalowski, 1972**
New material examined. **Hamedan province**: 70 exx, W Tuyserkan, Khangormaz protected region, N 34°35'19" E 48°10'46.6", 2097 m, 8.vii.2017, leg. Serri

Records from literature. Lopatin (1990): Fars province: 30 km E of Kazerun, 1300 m, 8–10.vi.1973; Mian Jangal, 30.v–5.vi.1973. Lorestan province: Zagros ridge, Marg-e Malek, 3200 m, 1.vii.1970.

Remarks. This species shows an E-Mediterranean (EME) distribution type and is associated with Lamiaceae (Biondi 1996). *Longitarsus karlheinzi* was described from Turkey and then recorded from Ukraine, Israel, Syria and Iran (Döberl 2010; Bězdek & Konstantinov 2024). The record from Mian Jangal is the easternmost and southernmost in the distribution of this species.

***Longitarsus lewisii* (Baly, 1874)**
New material examined. No new records from Iran.

Records from literature. This species has only been reported generically for Iran and no precise localities have been reported so far (Gruev & Döberl 1997).

Remarks. Longitarsus lewisii is an oligotopic-mesophilous species with Asiatic-European (ASE) distribution type, mainly associated with Plantaginaceae and, to a lesser extent, with Lamiaceae (Biondi 1996). Although, it shows a wide distribution in the Palearctic region, no

new records were collected in our expeditions and no specimens is preserved in HMIM. The distribution range of *L. lewisii* is still poorly known, also because in the past it was confused with *L. scutellaris*, despite the different shape of the aedeagus in lateral view (Leonardi & Doguet 1990).

***Longitarsus linnaei* (Duftschmidt, 1825)**
New material examined. No new records from Iran.

Records from literature. **Warchałowski (1973)**: Lorestan province: Borujerd, 4.i.1968 and 27.xii.1970 and; North Khorasan province: Shirvan, Bigan, 22.xi/1.xii.1962 and 4.ii.1963. Razavi Khorasan province: Mashad, Shirin, 29.xi.1967 and 1.i/15.i.1968.

Remarks. This oligophagous species is associated with Boraginaceae and shows an European-Mediterranean (EUM) distribution type (Biondi 1996), with extensions in Near East. Compared to the similar *L. fallax*, *L. linnaei* is widely distributed in Europe and more limitedly in Asia, where it is occurring in Mediterranean Asia and Iran (Döberl 2010b; Bezděk & Konstantinov 2024). *Longitarsus linnaei* often shows evident variations in the metallic sheen of elytra, varying from blue to green (Warchałowski 1973).

***Longitarsus luridus* (Scopoli, 1763)**
New material examined. **Ardabil province**: 3♂, Neor lake road, N 38°01'07" E 48°27'49.3", 1692 m, 4.viii.2005, leg. Serri and Frisch. **Chaharmahal & Bakhtiari province**: 4 exx, Dimeh, N 32°29' E 50°16', 8.viii.1973, leg. A. Senglet. **East Azarbaijan province**: 1♂ and 1♀, Narmiqkuh, Damirchi, N 38°07'27.2" E 47°22'16.8", 1950 m, 7.viii.2005; 1♀, Tabriz, Amqan, N 37°49'35.1" E 46°16'14.8", 2100 m, 8.viii.2005, leg. Serri and Frisch; 4 exx, NO de Sofian, N 38°21' E 45°51', 21.ix.1975, leg. A. Senglet. **Gilan province**: 1 ex, Galūgāh, N 37°31' E 49°19', 12.vi.1975, leg. A. Senglet; 3 exx, Galūgāh/Bandar Pahlevi, N 37°31› E 49°19›, 4.vii.1973, leg. A. Senglet. **Kermanshah province**: 3 exx, Kangāvār, N 34°29' E 47°55', 1.viii.1973, leg. A. Senglet; 1 ex, Māhī Dasht, N 34°29› E 47°55›', 4.viii.1973, leg. A. Senglet; 2 exx, Sahneh, N 34°28' E 47°36', 2.viii.1973, leg. A. Senglet. **Kohgiluyeh & Boyerahmad province**: 2 exx, Charām, N 30°44' E 50°44', 23.v.1974, leg. A. Senglet. **Kordestan province**: 20 exx, N de Saghez, N 36°23› E 46°12›, 18.ix.1975, leg. A. Senglet; 2♂ and 1♀, Sanandaj to Divandarreh road, 33 km S Divandarreh, N 35°40'22.7» E 47°07'23.3», 2106 m, 6.ix.2008, leg. Serri and Frisch. **Lorestan province**: 1 ex, NO de Borūdjerd, N 33°57' E 48°41', 10.ix.1975, leg. A. Senglet; 5 exx, Hātemvand, N 33°28› E 48°07›, 23.vi.1974, leg. A. Senglet; 1 ex, Hātemvand, N 33°28› E 48°07›, 9.ix.1975, leg. A. Senglet. **Markazi province**: 1♂, Arak, Haftad qolleh, malaise trap, 2018, leg. Gilasian. **Mazandaran province**: 5 exx, Ivel, N 36 14' E 53°37', 1500 m, 11.vii.1975, leg. A. Senglet; 3♀, Kiasar, Karsam, N 36°20′30″ E 53°20′39″, 455 m, 9.xi.2019 and 20.i.2020; 1♂, Qadikola, N 36°20′08″ E 53°23′15″, 633 m, 10.xii.2018; 6♂ and 6♀, Sari, Shevilasht, Khalkheyl, N 36°18′39″ E 52°21′42″, 821 m, 9/25.xi/21.XII.2019 and 20.i.2020, leg. Barari. **Tehran province**: 1 ex, Delichāl N 35°40' E 52°30', 24.vii.1973, leg. A. Senglet. **West Azarbaijan province**: 2♂, NE Takab, 8 km N Takht-e Soleiman, N 36°36'02.1" E 47°17'35.8", 2214 m, 7.ix.2008, leg. Serri and Frisch. **Zanjan province**: 1 ex, Zendjān, N 37°43' E 48°1', 15.ix.1973, leg. A. Senglet.

Records from literature. **Warchalowski (1973)**: Lorestan province: Borujerd, 30.xii.1970. **Döberl (2010a)**: Ardabil province: Helabad-Hir road: Buchalalu, 1700 m (Kuhhaye Tales), 38°01'14" N 48°27'50" E, 4.viii.2005, leg. Frisch & Serri. East Azarbayjan province: Kuh-e Narmiq, Damirchi (Kuh-e Sabalan), 1950 m, N 38°07'31" E 47°22'07", 7.viii.2005, leg. Frisch & Serri; Osku, Amqan, 2100 m (Kuh-e Sahand), N 37°49'38" E 46°16'15", 8.viii.2005, leg. Frisch & Serri.

Remarks. This polyphagous species has a very wide range of host plants, including raspberry to pasture plants and forest trees (Levesque & Levesque 1998). *Longitarsus luridus* is widely distributed in Europe, Northern Africa and Asia, eastwards to Siberia (Döberl 2010b; Bezděk & Konstantinov 2024) and according to Biondi (1996) shows a Palearctic (PAL) distribution type. We collected this species several times in small numbers in the Canola farms of Mazandaran province, north Iran.

***Longitarsus lycopi* (Foudras, 1860)**
New material examined. **Ardabil province**: 1♂, Parsabad Moqan, Agricultural and Natural Resources Research Station, N 39°60'54.92" E 47°78'51.87", 71 m, 10.iii.2015 and 4.vi.2016, malaise trap, leg. Gholmohammadzadeh Khiaban. **Chaharmahal & Bakhtiari province**: 3 exx, barrage de Kūhrang, N 32°26' E 50°06', 18.vi.1974, leg. A. Senglet; 2 exx, Kūhrang, N 32°28› E 50°08›, 19.vi.1974, leg. A. Senglet. **East Azarbaijan province**: 1 ex, Azerbaijan Or., Zaradjābād, N 37°38' E 48°03', 8.vi.1975, leg. A. Senglet. **Esfahan province**: 2♀, 15 km N of Semirom, N 31°32 05.3" E 51 37°24.4", 2858 m, 12.iv.2007, leg. Serri and Frisch; 2♀, Natanz, Taraq, Keshe, S of Karkas Mt., N 33°24'39.3" E 51°46'13.9", 2575 m, 20.v.2009, leg. Serri. **Fars province**: 2 exx, Bishāpour, N 29°47' E 51°35', 28.ix.1979, leg. A. Senglet; 1 ex, Firouzābād, N 28°52' E 52°32', 6.vi.1974, leg. A. Senglet. **Gilan province:** 1 ex, s/Asālem, N 37°41' E 48°51', 300–600 m, 30.vi.1973, leg. A. Senglet; 19 exx, Gilan, Chaboksar, Sarvalat, N 36°57'33" E 50°32'04.7", 2.vii.2005, leg. Moghaddam and Hajiesmailian. **Golestan province**: 1♀, Araqi Mahalle, xii.2019. **Kerman province**: 6♀, Jiroft, Khatunabad, N 28°32.68' E 57°42.80', 643 m, 21.vi.2019, leg. Mozaffarian; 1♀, Kerman to Mahan road,

pass road to Sirch, N 30°12’07” E 57°24’22”, 2800 m, 20.v.2010, leg. Serri and Frisch. **Kermanshah province**: 1♀, Eslamabad-e Gharb, Sarmast river, N 34°01’12.8” E 46°19’21.2”, 1530 m, 23.v.2007, leg. Montreuil, Zahiri, Nasserzadeh. **Kohgiluyeh and Boyerahmad province**: 18 exx, Arow, N 30°35’ E 50°43’, 24.v.1974, leg. A. Senglet; 3 exx, Charam, 23.v.1974, leg. A. Senglet; 1 ex Yāsudj, N 30°36’ E 51°36’, 26.v.1974, leg. A. Senglet. **Kordestan province**: 1 ex, Hoseynābād, N 35°33’ E 47°08’, 17.ix.1975, leg. A. Senglet; 1 ex, SE de Kal’eh Djū, N 35°19’ E 46°20’’, 14.ix.1975, leg. A. Senglet; 1 ex, E de Marivān, N 35°32’ E 46°30’, 16.ix,1975, leg. A. Senglet; 1 ex, Marivān, N 35°32’ E 46°09’, 15.ix.1975, leg. A. Senglet; 1 ex, E de Nyābād, N 35°20’ E 46°39’, 14.ix.1975, leg. A. Senglet. **Khuzestan province**: 1♀, Izeh, Dehdez, Nosheyvand village, Sheyvand ranger station, Shalu va Mungasht protected area, N 31°37’31.4» E 50°12’50.3», 954 m, 3.vi.2019, light trap, leg. Nasserzadeh. **Lorestan province**: 1 ex, NO de Borūdjerd, N 33°57’ E 48°41’, 10.ix.1975, leg. A. Senglet; 1♀, Khorramabad, Sepidasht road, Grit fall road, Aliabad, Mahmil, N 33°23’55.8» E 48°37’0.00», 1631 m, 20.iv.2009, leg. Serri. **Mazandaran province**: 28 exx, Nashtārūd, N 36°43’’ E 51°08’, 1500 m, 10.vii.1973, leg. A. Senglet; 36 exx, Shirgah, Lafourak to Qoran Kala road, 5 km N of Lafourak, N 36°17’24.9” E 53°17’21.9”, 200 m, 23.v.2005, leg. Serri and Nasserzadeh. **North Khorasan province**: 2 exx, E de Badrānlū, N 37°31’ E 57°08’, 18.vii.1975, leg. A. Senglet. **Qazvin province:** 8 exx, Shahrak, N 36°25’ E 50°30’, 1500 m, 2.vii.1975, leg. A. Senglet. **South Khorasan province**: 1♂, Sarbisheh, Darmiyan protected area, Aliyan village, N 32°50’11.1” E 59°49’43.1”, 2177 m, 29.v.2014, leg. Nasserzadeh and Moghaddam. **West Azarbaijan province**: 1♂, NE Takab, 2 km N of Takht-e Soleiman, N 36°38’04.8” E 47°14’06.8”, 2261 m, 8.ix.2008, leg. Serri and Frisch.

Records from literature. Warchalowski (1973): Lorestan province: Borujerd, 30.ix/4.x.1970 and 4.i.1971. North Khorasan province: Shirvan, Bigan, 15.xi.1962 and 15.i/9.ii.1963. Razavi Khorasan province: Mashad, Shirin, 11.xii.1967, Kuh-e Binalud, 30.xii.1967 and 9.ii.1968. Medvedev (1975): Golestan province: Gole Lovae, 750–1400 m, 3.v.1970. Rapilly (1978): Kerman province: Delfar, 1500 m, 10.vi.1973; Kermanshah province: Qasr-e Shirin, 17.vi.1975. Döberl (2010a): Esfahan province: 15 km NNE of Semirom, 2650 m (Mt. Aljud), N 31°32’09” E 57°37’23”, 12.v.2007, leg. Frisch & Serri; S of Fereydun Shahr, Sibak Kamran, 2600 m, N 32°44‘27“ E 50°00‘43“, 1.vii.2004, leg. Frisch; Kerman province: 12 km N Kerman-Kuhpaye road, Darbasiab (Kuhpaye Mts.), 2490 m, N 30°30‘59“ E 57°09‘55“, 1.v.2007, leg. Frisch & Serri; Pass Mahan-Sirch, east side, 2870 m (Kuhpaye Mts.), N 30°12‘18“ E 57°24‘28“, 30.iv.2007, leg. Frisch & Serri; Yazd province: Shir Kuh, 5 km S. Taft, 1600–1700 m, 23.v.2008, leg. Mühle.

Remarks. This Palearctic (PAL) species has oligophagous feeding preferences and is associated with Lamiaceae (Biondi 1996). It has wide distribution in Iran and has been collected from less than 100 to more than 2800 m a.s.l. Females of *Longitarsus lycopi* show a well characteristic spermatheca with multicoiled duct (cf. Warchalowski 2010).

***Longitarsus melanocephalus* (De Geer, 1775)**

New material examined. **Ardebil province**: 1 ex, N de Hero-Abād, N 37°42’ E 48°29’, 10.viii.1974, leg. A. Senglet. **Chaharmahal and Bakhtiari province**: 1♀, Chelgerd, Sheikhalikhan, Asiab-e Shafiee, N 32°32’40” E 50°01’05.8”, 2745 m, 22.vi.2009, leg. Serri. **Hamedan province**: 2 exx, sur Hamedān, N 34°44’ E 48°27’, 2600 m, 11.ix.1975, leg. A. Senglet. **Kohgiluyeh & Boyerahmad province**: 1 ex, Yāsudj, N 30°36› E 51°36›, 26.v.1974, leg. A. Senglet. **Kordestan province**: 2 exx, N de Saghez, N 36°23› E 46°12›, 18.ix.1975, leg. A. Senglet. **Khuzestan province**: 1 ex., Izeh, Dehdez Nousheyvand village, Shalu va Mungasht Protected Area, N 31°37’31.4» E 50°12’50.3», 954 m, 3.vi. 2019, leg. Nasserzadeh. **Lorestan province**: 1 ex, NO de Borūdjerd, N 33°57’ E 48°41’, 10.ix.1975, leg. A. Senglet. **Mazandaran province**: Ramsar, Eshkatechal, 1220 m, leg. Serri. **Qazvin province**: 1 ex, Aghā Bābā, N 36°19’ E 49°49’, 2.ix.1973, leg. A. Senglet; 1 exx, Shahrak, N 36°25’ E 50°30’, 1500 m, 2.vii.1975, leg. A. Senglet. **West Azarbaijan province**: 1♂, NE of Takab, 2 km N of Takht-e Solieman, N 36°38’04.8” E 47°14’06.8”, 2261 m, 18.ix.2008, leg. Serri and Frisch.

Records from literature. **Warchalowski (1967)**: North Khorasan province: Shirvan, Bigan, 22.xi.1962; Razavi Khorasan province: Fariman, Tagyabad, 23.i.1966. **Rapilly (1978)**: Kermanshah province: Qasr-e Shirin, 17.vi.1975. **Döberl (2010a)**: Fars province: Margoon, 2040 m, N 30°31’35” E 51°54’47”, 9.vii.2004, leg. Frisch. Golestan province: Tangegol, N 37°22’ E 55°56’, 20.vi.2007, leg. E. Heiss.

Remarks. This species is very similar to *L. kutscherae* from which is easily distinguishable for having bigger size and different shape of aedeagus in lateral view (cf. Warchalowski 2010). *Longitarsus melanocephalus* is a monophagous species on plants of the genus *Plantago* (Plantaginaceae) and shows a Turanian-European (TUE) distribution type (Biondi 1996). Our collecting data of *L. melanocephalus* in Iran shows its tendency to higher elevations in this area.

***Longitarsus membranaceus* (Foudras, 1860)**

New material examined. No new records from Iran.

Records from literature. **Warchalowski (1973)**: Mazandaran province: Chalus, 18.viii.1967.

Remarks. Longitarsus membranaceus is very close to *L. helvolus* and *L. reconditus*, from which it can be mainly distinguishable by the different shape of the aedeagus (cf. Warchalowski 2010). This species is associated with Lamiaceae and shows an European-Mediterranean (EUM) distribution type (Biondi 1996). The record from Mazandaran province is the easternmost for *L. membranaceus*. However, in our opinion, the presence of this species in Iran needs to be further confirmed.

***Longitarsus nigrofasciatus* (Goeze, 1777)**
New material examined. **Gilan province**: 1 ex, Rudbar, Damash, Kelishom, 1318 m., viii.2005, leg. Serri.

Records from literature. **Warchałowski (1967)**: North Khorasan province: Kopet Dag, 13.xii.1962 and 15.II.1963; Allah Dag Mts., 7.ii/13/23.ii.1963; Fariman, Kuh-E Sorkh, 16.xi.1965 and 23.i.1966. **Warchałowski (1973)**: Lorestan province: Borujerd, 30.ix.1970, 4.x.1970, and 4.i.1971; Razavi Khorasan province: Mashad, Binalud Mt., 14.x.1967 and 2/9.ii.1968; Shirin, 22/29.xi.1967 and 11.i.1968. **Medvedev (1975)**: Tehran province: Polour-Abali, 2100–2600 m, 17.v.1970. **Döberl (2010a)**: Kerman province: Bardir-Baft road, Qal' Eh Askar, 2750 m, N 29°30'17" E5 6°37'51", 3.v.2007, leg. Frisch & Serri.

Remarks. This species generally shows evident variations in the body color. The specimen examined by us shows a coloration with no darkened parts in the habitus. *Longitarsus nigrofasciatus* is an oligophagous species associated with plants of *Scrophularia* and *Verbascum* (Scrophulariaceae) and shows a Central Asiatic-European-Mediterranean (CEM) distribution type (Biondi 1996).

***Longitarsus obliteratus* (Rosenhauer, 1847)**
New material examined. No new records from Iran.

Records from literature. **Warchałowski (1973):** Mazandaran province: Chalus, 18.viii.1967.

Remarks. Longitarsus obliteratus is very close to *L. eminus* from which mainly differs by the shape of aedeagus and the spermathecal duct (Gruev 1982). This Turanian-European (TUE) species is associated with Lamiaceae (Biondi 1996). No new records of this species for Iran are known after its first and only record by Warchalowski (1973).

***Longitarsus ochroleucus* (Marsham, 1802)**
New material examined. **Ardabil province**: 1 ex, SW of Āstārā, N 38°24› E 48°36›, 1200 m, 26.vi.1973, leg. A. Senglet. **Gilan province**: 1♂, Rudbar, Shir Kuh-e Paieen, N 36°54'0.418" E 49°32'35.222", 258 m, 10.i.2020, leg. Mojib. **Mazandaran province**: 1♂, Amol, Baladeh, Kersi, 1840 m, 20.ix.2001, leg. Ebrahimi and Mofidi; 1♀, Kiasar, Karsam, N 36°20′30″ E 53°20′39″, 455 m, 20.xi.2019; 3♂, Neka, Bayekola, N 36°44′25″ E 53°48′52″, -8 m, 21, 28.x.2019; 1♂ and 1♀, Sari, Shevilasht, Khalkheyl, N 36°18′39″ E 52°21′42″, 821 m, 20.x-19.ix.2019.

Records from literature. **Döberl (2010a)**: Golestan province: Jahan Nama, Deras Nu, *Fagus orientalis* forest, 2300 m, N 36°39' E 54°07', 14–15.vi.2007, leg. E. Heiss.

Remarks. Our recent records show that this species in Iran is mainly limited to the higher elevation of Hyrcanian zone in the northern slope of Elburz Mountains, from Gilan as far east as Golestan. However, it is widely distributed in Europe and more limitedly in Asia and northern Africa (Döberl 2010b). *Longitarsus ochroleucus* is an oligophagous species associated with some genera of Asteraceae and shows a Central Asiatic European-Mediterranean (CEM) distribution type (cf. Bezděk & Konstantinov 2024). Specimens examined by us were collected from inside the Canola farms and probably associated with the weeds of Asteraceae.

***Longitarsus parvulus* (Paykull, 1799)**
New material examined. **North Khorasan province**: 1♂, Maneh va Samalqan, Kalateqomo, N 37°29′ 41.623″ E 56°41′25.663″, 880 m, 9.xi.2020, leg. Alavi.

Records from literature. This is the first record of *L. parvulus* for Iran.

Remarks. Longitarsus parvulus (Fig. 4) is associated with Linaceae and shows a Palearctic (PAL) distribution type (Biondi 1996). The male examined by us was collected from the Canola farms of north-east of Iran, where the Linaceae are reckoned as weed of the Canola farms. The studied specimen has following character: body length 1.8 mm; head, antennomeres 1–5, pronotum, elytra and femora brownish black; apical part of aedeagus rounded with a short projection at the middle (Fig. 4).

***Longitarsus pellucidus* (Foudras, 1860)**
New material examined. **Ardabil province**: 2♂, Ardabil, Arallu, N 38°10'16.4" E 48°23'28.9", 1328 m, 24.ix/30.x.2019, leg. Soheili; 2♂, Parsabad Moghan, Agricultural and Natural Resources Research Station, N 39°60'54.92" E 47°78'51.87", 71 m, 10.iii.2015 and 4.vi.2016, malaise trap, leg. Gholmohammadzadeh Khiaban. **East Azarbaijan province**: 1♀, Arasbaran P.A., near Vinagh, N 38°59'36.2" E 46°53'6.4", 1194 m, 23.vi.2015. **Esfahan province**: 1♀, SE Kashan, E Abuzeydabad, Yakhab hunting prohibited area, N 34°01'50.9" E 52°01'11.2", 1606 m, 3.v.2018, leg. Serri. **Hamedan province**: 1♂, E of Malayer, Zangeneh, Lashgardar protected region, Golparabad area, N 34°11'42" E 49°01'41", 2224 m, 6.vii.2017, leg. Serri. **Hormozgan province**: 8♂, 36 km E of Gowbandi, Konordan, 210

m., 23.iv.1977, leg. Pazuki and Hashemi. **Gilan province**: 1♂, Rudbar, Shir Kuh-e Paieen, N 36°54’0.418” E 49°32’35.222”, 258 m, 11.xii.2019, leg. Mojib; 1 ex, Tarazān, Lowshān, N 36°28› E 49°31›, 3.ix.1973, leg. A. Senglet. **Golestan province:** 1 ex, S of Gorgan, Shahkuh Paieen, N 36°34′ E 54°26′, 10.viii.2009, leg. Serri and Nasserzadeh. **Kerman province**: 3♀, Orzuyeh, 2012. **Markazi province**: 1♂, Arak suburb, N 34°03’47” E 44°48’29.1”, 1649 m, 13–28.v.2016, rotting fruit trap, leg, Parchami-Araghi. **Mazandaran province**: 19 exx, Alamdeh to Baladeh road, Kalej Royan village, 1542 m, 7.vii.2005, leg. Moghaddam, Hajiesmailian and Serri; 1♀, Amol, Haraz road, Mangel, N 36°11’30” E 52°27’30.3”, 980 m, leg. Nasserzadeh and Serri; 1 ex, Polūr, N 35°51’ E 52°04’, 2300 m, 17.vii.1973, leg. A. Senglet; 1♀, Polour, Lar National Park, 20 km NW cross of Haraz road and Lar river, N 35°54›50.8» E 051°57›29.2», 2550 m, leg. Serri; 4♂ and 2♀, Sari, Farim, Mohammadabad, 5.v.2021; 4♂, Joybar, Pahnab, N 36°36′56″ E 52°57′17″, -12 m, 10.xii.2018, 9, 30.xii.2019, leg. Barari. **North Khorasan province**: 1♀, Maneh va Samalqan, Ashkhaneh, Shahrabad, N 37°29’6.11” E 56°43’54.44”, 870 m., 9.x.2019, leg. Alavi. **Qom province**: 2♂ and 2♀, Qom, 13.vii/1.viii.1974, leg. Farz. **Razavi Khorasan province:** 1♂ and 2♀, Daregaz to Shahidabad road, Qadamgah, 952 m, 20.vi.2011, leg. Mofidi and Ebrahimi. **Sistan and Baluchestan:** 2♂, Bampur, light trap, leg. Mozaffarian. **South Khorasan province**: 1♂ and 2♀, Sarbisheh, Darmiyan protected area, Aliyan village, N 32°50’11.1” E 59°49’43.1”, 2177 m, 29.v.2014, leg. Nasserzadeh and Moghaddam. **Tehran province**: 1♀, Karaj, 6.vii.1971; 1♀, 27.iv.1971, leg. Sabzevari; 2♀, Tehran, Evin, 19.vi.1974 and 18.vi.1975, light trap. **West Azarbaijan province**: 2♂ and 2♀, Rezaieh, 1974, light trap; 1♂, W of Bazargan, N 39°21’02.5” E 44°07’08.4”, 2157 m, 27.viii.2008, leg. Serri and Frisch.

Records from literature. **Warchalowski (1967)**: Razavi Khorasan province: Fariman, Tagyabad, 2.xi.1965. **Warchalowski (1973)**: Lorestan province: Lorestan, 30.ix.1970; Mazandaran province: Chalus, 16.viii.1967. **Rapilly (1978)**: Kerman province: Rayen, Kuh-e Hezar, 2450 m, 6.vi.1973. **Döberl (2010a)**: West Azarbaijan province: Maku-Bazargan road, 3 km NW Avajiq, 2170 m, N 39°21’01” E 44°07’02”, 27.viii.2008, leg. Frisch and Serri.

Remarks. Longitarsus pellucidus is one of the most widespread and common flea beetle species in Iran, which was collected in 15 different provinces from -12 m to the elevation more than 2400 m a.s.l. This oligophagous species is associated with Convolvulaceae and shows a Central Asiatic-European-Mediterranean distribution type (CEM) (Biondi 1996). In Iran, *L. pellucidus* was collected in south of Mazandaran province on *Convolvulus arvensis*.

***Longitarsus picicollis* Weise, 1900**
New material examined. No new records from Iran.

Records from literature. **Warchałowski (1967)**: North Khorasan province: Fariman, Kuh-e Sorkh, 5.xi.1965 and 14.i/21.i.1966. **Warchałowski (1973)**: Lorestan province: Borujerd, 4.x/ 27.xii.1970 and 4.i.1971; Razavi Khorasan province: Mashad, Shirin, 27.x/22.xi.1967; Kuh-e Binalud, 30.xii.1967 and 2/9.ii.1968.

Remarks. Longitarsus picicollis is a monophagus species associated with *Verbascum* spp. (Scrophulariaceae) and shows mainly a Central Asiatic (CAS) distribution type (Biondi 1996), with a limited extension in eastern Europe (Bezděk & Konstantinov 2024). This species was collected, also in large numbers, in Iran about 50 years ago, but no more recent records are known.

***Longitarsus pratensis* (Panzer, 1794)**
New material examined. **Ardabil province**: 1♂, Ardabil, Arallu, N 38°10’16.4” E 48°23’28.9”, 1328 m, 24.xi.2019, leg. Soheili. **Mazandaran province**: 1 ex, Haraz to Baladeh road, Nuj, 1720 m, vii.2005, leg. Moghaddam, Hajiesmailian and Serri.

Records from literature. **Warchalowski (1967)**: North Khorasan province: Shirvan, Bigan, 29.x/3.xi/26.xii.1962 and 18.ii.1963; Allah Dag Mts, 23.i/23.ii.1963; Razavi Khorasan: Fariman, Tagyabad, 25.x.1965 and 3.ii/13.ii.1966. **Döberl (2010a)**: Tehran province: Kuh-e Damavand (N-slope), Hajidella, 2200 m, N 36°01’29” E 52°10’48”, 16.viii.2005, leg. Frisch and Serri.
Remarks. Warchalowski (1967) incorrectly reported this species as *Longitarsus desertorum* Heikertinger, but later (Warchalowski 1973) he referred these records to *L. pratensis*. According to Biondi (1996), this species mainly shows a Turanian-European (TUE) distribution type and is mainly associated with the plant genus *Plantago* (Plantaginaceae).

***Longitarsus pulmonariae* Weise, 1893**
New material examined. No new records from Iran.

Records from literature. **Serri & Naserzadeh (2008)**: Mazandaran province: Kiasar, Karsam, N 36°20′30″ E 53°20′39″, 455 m, 9.xii.2019, leg. Barari; Alamdeh to Baladeh road, Kalej Royan, 1542 m, vi.2005, leg. Moghaddam, Hajiesmailian and Serri; Babol, Bahnamir, Roshan, -3 m, v.2005; 17 km E of Polsefid, 1365 m, v.2005; Sari, Dodangeh, Mohammadabad, 18 km E of Farim, 885 m, leg. Nasserzadeh and Serri. Kermanshah province: Javanrood, 22.viii.2008.

Remarks. Longitarsus pulmonariae is very close to *L. exsoletus* from which it can be externally distinguished by

the paler yellow antennae, with distal 5–6 antennomers not blackish; however also the shape of the aedeagus and spermatheca are diagnostic (cf. Warchalowski 2010). According to Biondi (1996), this species shows mainly a Central European (CEU) distribution type, with extensions in Near East, and is associated with Boraginaceae.

***Longitarsus reconditus* Warchałowski 1967**
New material examined. No new records from Iran.

Records from literature. **Warchalowski (1967)**: Razavi Khorasan province: Fariman, Tagyabad, Kuh-E Sorkh, 29.xi.1965.

Remarks. Based on the data known so far, *Longitarsus reconditus* is an endemic species of north-eastern Iran, collected only in the type locality. We attribute to it a Central Asiatic (CAS) distribution type. *Longitarsus reconditus* is very similar to *L. membranaceus* and *L. helvolus*, but it can be distinguished by the darker body color, the longer pronotum, the stronger elytral punctation, the deeper impression of the last abdominal sternite of the male and the different shape of aedeagus (Warchalowski 1967, 1973).

***Longitarsus rectilineatus* (Foudras 1860)**
New material examined. **Chaharmahal & Bakhtiari province**: 1 ex, Dimeh, N 32°29’ E 50°16’, 8.viii.1973, leg. A. Senglet. **Hamedan province**: 1 ex, Hamedān, N 34°46’ E 48°27’, 29.vii.1973, leg. A. Senglet. **Khuzestan province**: 1 ex, Masdjed Soleymān, N 31°59’ E 49°16’, 20.v.1974, leg. A. Senglet. **Lorestan province**: 1 ex, E. de Khorramābād, N 33°29’ E 48°28’, 10.ix.1975, leg. A. Senglet. **North Khorasan province**: 4 exx, Bodjnourd, N 37°29’ E 57°26’, 26.vii.1975, leg. A. Senglet; 3 exx, Bodjnourd, N 37°29‘ E 57°26‘, 20.viii.1975, leg. A. Senglet; 1 ex, E de Chaman Bid, N 37°26‘ E 56°37‘, 14.vii.1974, leg. A. Senglet; 25 exx, Emāmgholi, N 37°26‘ E 58°30‘, 15.vii.1974, leg. A. Senglet; 10 exx, NO de Esfarayen, N 37°12‘ E 57° 27‘, 1200 m, 20.vii.1975, leg. A. Senglet; 4 exx, route de Amirābād, N 36°47‘ E 59°49‘, 1400 m, 21.vii.1974, leg. A. Senglet. **Razavi Khorasan province**: 4 exx, Kabkān, N 37°17‘ E 58°51‘, 16.vii.1974, leg. A. Senglet.

Records from literature. **Lopatin (1963)**: N Iran. **Warchałowski (1967 as *L. spilotus* Weise)**: North Khorasan province: Shirvan, Bigan, 17.xii.1962 and 19.v.1963; Razavi Khorasan province: Fariman, Tagyabad, 19.xii.1965 and 23.v.1966. **Warchałowski (1973 as *L. spilotus* Weise)**: Lorestan province: Borujerd, 30.xii.1970.

Remarks. Longitarsus rectilineatus is associated with Lamiaceae but often feeds also on *Daphne laureola* (Thymeleaceae) (M. Biondi personal data). This species shows a Central Asiatic-European-Mediterranean (CEM) distribution type (Biondi 1996).

***Longitarsus reichei* (Allard, 1860)**
New material examined. No new records from Iran.

Records from literature. **Döberl (2010a)**: Chaharmahal and Bakhtiari province: S of Shur Ab: Sardab, 2200 m, N 32°17’29” E 50°13’51”, 4.vii.2004, leg. Frisch.

Remarks. Longitarsus reichei is very similar to *L. pratensis* from which can be identified by the parallel lateral edge of the basal part of aedeagus and the coiled spermathecal duct (Leonardi & Doguet 1990). This species is mainly associated with Plantaginaceae, and to a lesser extent, with Asteraceae and Lamiaceae. *Longitarsus reichei* shows a Turanian-European (TUE) distribution type (Biondi 1996). Although this species shows a wide distribution range from central and east Europe to Anatolia (Döberl 2010b), it seems to be rarer in its eastern limit of distribution (Bal et al. 2018).

***Longitarsus rubiginosus* (Foudras, 1860)**
New material examined. **Gilan province**: 1 ex, Lāhidjān, N 37°11› E 49°54›, 5.vii.1973, leg. A. Senglet; 12 exx, Rudsar, Garmabsara, N 37°03′02.3″ E 50°10′01″, 38 m, 9.v.2005, leg. Hajiesmailian.

Records from literature. **Warchałowski (1973)**: Mazandaran province: Chalus, 18.viii.1967. **Döberl (2010a)**: Kordestan province: 15 km NW Divandarreh, 5 km NE Ebrahim Abad, 1980 m, N 35°59’13” E 46°52’10”, 4.ix.2008, leg. Frisch & Serri. West Azarbaijan province: Maku-Bazargan-road, 3 km NW Avajiq, 2170 m, N 39°21’01” E 44°07’02”, 27.viii.2008, leg. Frisch & Serri; N. Takab: 16 km E, Takht-e-Soleyman, 2270 m, N 36°36’24” E 47°21’18”, 7.ix.2008, leg. Frisch and Serri; 10 km S of Ziveh (Uluq Daq), 1810 m, N 37°10’39” E 44°52’57”, 1.ix.2008, leg. Frisch & Serri.

Remarks. According to Biondi (1996), *L. rubiginosus* is an oligophagous species associated with Convolvulaceae and shows an Asiatic-European (ASE) distribution type.

***Longitarsus succineus* (Foudras, 1860)**
New material examined. **Gilan province**: 3 exx, Tarazān, Lowshān, N 36°28’ E 49°31’, 3.ix.1973, leg. A. Senglet; 1 ex, Rūdbar, N 36°49› E 49°25›, 4.ix.1973, leg. A. Senglet; 1 ex, Rudsar, Garmabsara, N 37°03′02.3″ E 50°10′01″, 38 m, 9.vi.2005, leg. Hajiesmailian. **Lorestan province**: 1 ex, Hātemvand, N 33°28› E 48°07›, 9.ix.1975. leg. A. Senglet. **Mazandaran province**: 1♂ and 1♀, Babol, 21.v.2005; 3 exx, Delasm, N 36°26’ E 51°52’, 4.viii.1974, leg. A. Senglet; 12 exx, Kiasar, 8 km N Mohammadabad, Damad Kola village, N 36°11′39.5″ E 53°13′35.8″, 1100 m, 26.v.2005; 1 ex, 17 km E of Polsefid, 1366 m, Polsefid

to Lamzer, 777 m, v.2005, leg. Serri and Nasserzadeh; 1 ex, Haraz to Baladeh, Nuj, 1720 m, vi.2005, leg. Hajiesmailian and Serri; 1 ex, Ramsar, Eshkatechal, 1220 m, vi.2005, leg. Serri; 10♂ and 5♀, Sari, Shevilasht, Khalkheyl, N 36°18′39″ E 52°21′42″, 821 m, 30.x/9/12/19/25.xi/9/21.xii.2019 and 20.i.2020; 1♂, Kiasar, Karsam, N 36°20′30″ E 53°20′39″, 455 m, 30.x.2019; 1♂ and 2♀, Qadikola, N 36°20′08″ E 53°23′15″, 633 m, 12.xi/10.xii.2018, leg. Barari. **North Khorasan province**: 9 exx, Bodjnour, N 37°29' E 57°6', 26.vii.1974, leg. A. Senglet; 10 exx, NO da Esfarayen, N 37°12' E 57° 27', 1200 m, 20.vii.1975, leg. A. Senglet. **Razavi Khorasan province**: 1 ex, Zāvi, N 36°52› E 59°53›, 22.vii.1974, leg. A. Senglet. **Tehran provice**: 1♀, Darakeh, road to Azqalchal, N 35°50′14.1″ E 51°22′51.5″, 2032 m, 1.vii.2013, leg. Serri and Amjadi; 1 ex, Delichāl, N 35°40' E 52°30', 24.vii.1973, leg. A. Senglet; 1 ex, Firūzkūh, N 35°45' E 52°06', 23.vii.1973, leg. A. Senglet; 1 ex, près Firūzkūh, N 35°04' E 52°40', 24.vii.1973, leg. A. Senglet; 3 exx, Pol-e-Djādjirūd, N 35°45' E 51°42', 16.vii.1973, leg. A. Senglet.

Records from literature. This species was generically recorded from Iran by Furth (1980b: 114).

Remarks: Based on the specimens studied by us, the presence of this species in Iran is confirmed in the Elburz Mountains, at a wide altitude ranging from approximately 0 to 2000 m a.s.l. *Longitarsus succineus* is a polyphagous species that feeds on Asteraceae, Convolvulaceae, Lamiaceae, and Plantaginaceae and shows a Palearctic (PAL) distribution type (Biondi 1996).

***Longitarsus tabidus* (Fabricius 1775)**

New material examined. **North Khorasan province**: 1♀, Maneh va Samalqan, Kalateqomo, N 37°29′41.623″ E 56°41′25.663″, 880 m, 21.xii.2020, leg. Alavi. **Zanjan province**: 1♀, Tarom, Vanisar, N 36°52′34.2″ E 48°54′56.8″, 427 m, 7.vi.2022, leg. Mozaffarian.

Records from literature. **Lopatin (1990)**: Golestan province: Golestan forest, Mazarli, 20 km NW of Dasht, 530 m, 19–21.vi.1977; Gorgan, 140 m, 21–23.vi.1977. Qazvin province: 8 km NE of Ziaran, 2400 m, 10–16.vii.1977.

Remarks. Longitarsus tabidus is a species close to *L. grandis and L. picicollis* from which is mainly distinguishable by the different shape of aedeagus. This species is associated with the plant genera *Verbascum* and *Scrophularia* (Scrophulariaceae) and shows a Palearctic (PAL) distribution type (Biondi 1996).

***Longitarsus trepidus* Warchalowski, 1973**

New material examined. **Chaharmahal & Bakhtiari province**: 41 exx, Dimeh, N 32°29' E 50°16', 8.viii.1973, leg. A. Senglet. **Kerman province**: 3 exx, Lalehzar, N 29°29′58" E 56°49′28.4", 2949 m, 28.vii.2013, leg. Mozaffarian; 1 ex, Rafsanjan, in Pistachio farm, autumn 2007, leg. Zarangi; 1 ex, Bardsir to Baft, 15 km SE of Qale Askar, NE Hararan village, Mt. Lalehzar, N 29°26′01″ E 56°44′31″, 3360 m, leg. Serri and Frisch. **Lorestan province**: 1 ex, Hātemvand. N 33°28› E 48°07›, 9.ix.1975, leg. A. Senglet. **Markazi province**: 1♂, Arak, Haftad Qollefh, 2018, malaise trap, leg. Gilasian. **West Azarbaijan province**: 1♀, W of Khoy road, 32 km W of Khoy, N 38°27′30.4" E 44°39′19.7", 1555 m, 29.viii.2008, leg. Serri and Frisch. **Zanjan province**: 5 exx, 25 km E Zanjan, Yusefabad, N 36°34′10.1" E 48°42′15.9", 1750 m, 11.vii.2006, leg Serri; 6 exx, S of Geydar, Paskuhan, N 36°04′48.7" E 48°32′41.5", 2055 m, 13.vii.2006, leg. Serri.

Records from literature. **Warchałowski (1973)**: Lorestan province: Borujerd, 30.ix.1970 and 4.x.1970; North Khorasan province: Shirvan, Bigan, 5.xii.1962; Razavi Khorasan province: Fariman, Tagyabad, 29.x.1965; Kuh-e Binalud, 29.viii.1967. **Döberl (2010a)**: East Azarbayjan province: Osku, Amqan, 2100 m (Kuh-e Sahand), N 37 Binalud, 29.viii.1967, leg. Frisch & Serri. Esfahan province: 15 km NNE of Semirom, 2650 m, Aljud Mt., N 31°32'09" E 57°37'23", 12.v.2007, leg. Frisch & Serri; Kermanshah province: Harsin, Nosratabad, 1700 m, N 34°11'58" E 47°46'23", 24.vi.2004, leg. Frisch.

Remarks. According to Biondi (1996), *L. trepidus* is associated with Lamiaceae and shows a Central Asiatic (CAS) distribution type. The records from Iran show that *Longitarsus trepidus* is mostly occurring at the high elevations in Zagros Mountains.

***Longitarsus violentus* Weise, 1893**

New material examined. **North Khorasan province**: 1♂ and 1♀, Maneh va Samalqan, Kalateqomo, N 37°29′41.623″ E 56°41′25.663″, 880 m, 21.xii.2020, leg. Alavi.

Records from literature. **Lopatin (1990)**: Golestan province: 53 km N Dasht, Golestan forest, 960 m, 18–19.xi.1977; Razavi Khorasan province: 50 km ESE of Nishabur, Hessar (Zabarkhan), 1400 m, 12–13.xi.1977.

Remarks. This species can be separated from other closely related taxa by having microtrichia on the last abdominal tergite of female and slender median lobe of aedeagus (Konstantinov & Lopatin 2000). *Longitarsus violentus* shows a Central Asiatic (CAS) distribution type, being distributed from Caucasian region to eastern Asia (Bezděk & Konstantinov 2024).

***Longitarsus weisei* Guillebeau 1895**

New material examined. No new records from Iran.

Records from literature. **Warchalowski (1967)**: North Khorasan province: Shirvan, Bigan, 15.x/5/17.xii.1962 and 19.i.1963; Razavi Khorasan province: Fariman, Tagyabad, 30.xi.1965 and 1/23.i.1966.

Remarks. Longitarsus weisei is an oligophagous species associated with some genera of Boraginaceae. This species shows a Central Asiatic-European (CAE) distribution type (Biondi 1996).

Discussion

Based on the data known so far, the genus *Longitarsus* in Iran is reported with 43 species (Table 1), of which *Longitarsus gracilis, L. helvolus,* and *L. parvulus* are recorded for the first time for the Iranian fauna, and the presence of *L. succineus* is confirmed with new records. However, the occurrence of *L. lewisii*, *L. membranaceus*, and above all of *L. corynthius*, in Iran remain to be confirmed.

The number of *Longitarsus* species known so far from Iran is decidedly underestimated if compared with the number of species known for the bordering Turkey. In fact, although the surface area of Turkey (779,452 km²) is less than half that of Iran (1,648,000 km²), the number of species of *Longitarsus* is 99 (Ekiz et al. 2013; Bezdek & Konstantinov 2024) therefore more than double of those known for the Iranian fauna. However, in this regard it should also be considered that a significant part of the surface (about 60.3% in 2017) of Iran is occupied by "non-vegetated lands" (NVL sensu Gholami 2020), which are inhospitable for the genus *Longitarsus* and for the flea beetles in general.

Among the most widely distributed species in Iran, we find: *Longitarsus lycopi*, collected in 20 different provinces at the elevation range between 71 and 2858 m above sea level; *L. aeneicollis*, in 19 provinces, from 258 to 3114 m; *L. pellucidus*, in 17 provinces, between -12 and 2177 m; *L. hoberlandti*, in 14 provinces, generally from about 900 to over 3000 m.

The highest percentage among the distribution types (Fig. 5) is represented by the chorotype Palearctic (PAL 16.6%), followed by the Central Asiatic (CAS 14.3%), Central Asiatic-European-Mediterranean (CEM 11.9%), and Turanian-European (TUE 11.9%). However, considering the Turanian s.l. (TUE+TUM+TUR) and the Central Asiatic s.l. (CAE+CAM+CAS+ICA) elements, we have percentages of 16.7% and 26.2% respectively, to which must be added the SW-Asiatics (SWA 4.8%) and the Asiatic-Europeans (ASE 4.8%). The remaining distribution types, mainly represented by species with European and/or East Mediterranean gravitation, are CEM, CEU, EME, EUR and EUM (total percentage 31%), which extend eastwards up to Iran. In conclusion, excluding *L. corynthius*, the species of *Longitarsus* recorded so far in Iran are 42. They are represented overall by a component widely distributed in the Palearctic region (16.8%), an Asiatic component (52.2%), and an Euro-Mediterranean component (31%). It is also worth noting the current low percentage of endemism in the Iranian *Longitarsus*, equal to about 4.7%, about half that of Turkey (9.1%), should be highlighted. It is mainly due to the still poor faunal knowledge of many of the mountainous areas, particularly in the eastern sector, but also partly due to the relative environmental continuity with Turkey to the west and with Afghanistan to the east, regions with which Iran shares as many as 16 species of *Longitarsus*.

Taking into account the geographical subdivisions (Table 2, Fig. 6) considered in our analysis, those with the highest number of *Longitarsus* species are the Caspian wet forest region (C) and North Khorasan Mountains (NKh), both with 23 species, and the Zagros Mountains (Z), with 22 species. On the contrary, the central desert areas (D) and coastal areas, such as the Persian Golf/Oman Sea (SC) and Khuzestan Plain (Khu), are the poorest in species, with 2, 2 and 3 species respectively. Another issue concerns some mountain areas, such as Hormozgan Mountains (Hm), South Baluchestan Mountains (SB), and Southern Khorasan Mountains (SKh), for which the low presence of *Longitarsus* species could probably be attributed to an inadequate entomological knowledge of these regions. In general, there is a decrease in the number of *Longitarsus* species going from north to south and from west to east.

The cluster analysis (Baroni Urbani & Buser index + UPGMA) (Fig. 7) mainly returned two large groups: the first, including D-SC-SKh-SB-Hm, characterized by the low number of species present in each area and the sharing of very common species such as *L. pellucidus*; the second group, more varied, includes the main mountainous areas of Iran. Within it, we have a more cohesive group, at about 88% similarity, which includes SE and NZ, contiguous northern mountain groups, which are associated with Gh at about 82% of similarity, and with SZ at about 77%. Central Zagros (Z) and North Khorasan (NKh) result faunistically similar at 83%, despite the distance that separates them. This is mainly due to the co-presence of species, such as *L. atricillus, L. picicollis*, and *L. rectilineatus*, which until now recorded in Iran only for these two mountainous areas.

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