

## Original Article

# Arthropod diversity in Iran: Class Insecta–Polyneoptera, part I. Blattodea Brunner von Wattenwyl, 1882, Mantodea Burmeister, 1838, and Phasmatodea Jacobson & Bianchi, 1902

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**ABSTRACT.** This work presents a comprehensive review of the insect orders Mantodea (praying mantises), Blattodea (cockroaches and termites), and Phasmatodea (stick insects) in Iran, based on literature, national checklists, and global taxonomic databases to develop an up-to-date faunistic inventory. Following the most recent accepted classifications, the review documents a total of three orders, 20 families, 44 genera, and 104 species. This includes 9 families and 19 genera, and 33 species of Mantodea, 10 families and 23 genera, and 65 species of Blattodea (including termites), and one family with two genera and 5 species of Phasmatodea. Among these groups, Mantodea is the most thoroughly documented, while Phasmatodea remains poorly studied, with only five species recorded to date. Integrating up-to-date taxonomic data is essential for resolving inconsistencies in older or unverified records and establishing a reliable baseline for biogeographical analysis, conservation planning, and the management of both native and invasive species. Especially for Phasmatodea, it is clear that the taxonomy of the Iranian fauna needs further study, both to reveal still undocumented diversity and to clarify the higher-level placement of the lineages occurring in Iran. Continued field surveys and integrative taxonomic research are crucial for fully documenting the diversity of these insect groups across Iran's varied habitats.

**KEYWORDS:** Biodiversity, Checklist, Cockroaches, Dictyoptera, Stick insects, Taxonomy, Termites

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## INTRODUCTION

The study of the insect orders Mantodea, Blattodea, and Phasmatodea in Iran has developed through a fragmented yet advancing research history. For much of the 20th century, taxonomic and faunistic accounts of these groups were embedded within broader Middle Eastern surveys (e.g., Uvarov 1922, 1938; Werner 1930; Kaltenbach 1963, 1982), with limited attention to Iranian-specific diversity. These early efforts nonetheless provided the groundwork for later targeted studies, especially in the case of Mantodea, which has become the most thoroughly documented of these groups. This work is part of an

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ongoing series of reviews on the diversity of arthropods in Iran. The main objective of this initiative is to establish a comprehensive foundation for future investigations, promoting further taxonomic and biogeographical studies on Iranian arthropods. By documenting and synthesising available data, this series seeks to facilitate a deeper understanding of the country's arthropod fauna and encourage more extensive surveys across different regions and habitats.

Mantodea (praying mantises) in Iran were first recorded through pioneering works by Uvarov (1938, 1939), Beier (1956, 1968), and Kaltenbach (1982) in *Fauna of Saudi Arabia*, which provided the first records and descriptions of several new and poorly known species. These early accounts, based on restricted field collections and museum specimens, lacked a broad ecological or biogeographic scope. For decades thereafter, the Mantodea fauna of Iran continued to be treated sporadically, often as part of Arabian Peninsula or Middle Eastern surveys. A significant shift occurred over the past decade, driven by Iranian entomologists and reinforced by international collaborations, resulting in taxonomic revisions, species descriptions, and comprehensive biogeographical assessments (Mirzaee et al. 2023; Mirzaee 2024; Mirzaee et al. 2024a, 2024b; Kolnegari et al. 2025). These works increasingly employ molecular techniques to clarify species boundaries and integrate ecological data, addressing questions of behaviour, life history, and habitat use that had long been neglected (Schwarz & Roy 2019). Despite these advances, sampling gaps persist, especially in remote or ecologically varied regions.

Blattodea (cockroaches and termites) represents another important component of Iran's insect fauna, but remains relatively poorly studied at the national scale compared to many other insect groups. Despite their ecological significance (Bignell & Eggleton 2000; Sugimoto et al. 2000; Basset 2001; Tarli et al. 2014; Djernæs 2018; Pringle et al. 2019; Pérez-Gómez et al. 2023), national-level surveys have remained limited. The foundational checklist by Chopard (1921) and Mirzayans (1986) marked the first systematic catalogue of Iranian cockroaches, documenting 24 species across four families and eleven genera. Later works, particularly those by Hashemi-Aghdam and Oshaghi (2015), expanded this number to 26 species within 14 genera. Subsequent studies have emphasised both taxonomic and ecological aspects of Iranian Blattodea, identifying important synanthropic and pest species across urban and agricultural environments (Bey-Bienko 1950; Ghayourfar 1998, 1999, 2005; Ravan & Akhtar 1999; Hanafi-Bojd & Sadaghiani 2009). Nevertheless, large areas of the country, particularly in arid and mountainous zones, remain poorly sampled, and many older records lack voucher confirmation. This underlines the need for continued faunistic and molecular investigations to clarify species identities, update distributions, and align the national fauna with current higher-level taxonomy.

Comprehensive, verified species lists are crucial, not only for understanding biodiversity patterns, but also for applied fields such as ecological monitoring (Mirzayans 1986; Hashemi-Aghdam & Oshaghi 2015). Termite research in Iran has developed gradually from scattered early records to more systematic faunistic and ecological studies in recent decades (Ravan & Akhtar 1993; Ravan & Akhtar 1999; Ravan et al. 2015). The first mentions of termites in the country go back to mid- to late-20th-century work on wood-destroying insects in the Middle East, but the fauna remained poorly known, and many taxa were undescribed until more focused surveys began in the 1990s and 2000s (Ghayourfar 2005). Subsequent targeted collecting across arid and semi-arid regions, especially in southern and south-eastern Iran, revealed a diverse assemblage of genera such as *Anacanthotermes* Jacobson, 1905, *Microcerotermes* Silvestri, 1901, *Amitermes* Silvestri, 1901, and *Heterotermes* Froggatt, 1897, and led to the description of several new species (Ghayourfar 2005).

Phasmatodea (stick insects) remains one of the least studied insect groups in Iran. Only five species within two genera are currently known from the country, based primarily on historical collections and scattered reports. Early references include works by Brunner von Wattenwyl (1907), Mistshenko (1937), and Bey-Bienko (1946), with later summaries provided by Otte & Brock (2005), Brock (1991, 2007), and Brock & Büscher (2022). Most known specimens originate from the provinces of Kerman, Khorasan, and Qazvin, housed in the Zoological Museum of the Russian Academy of Sciences, St. Petersburg. The extremely limited data on Iranian Phasmatodea likely reflect both their cryptic habits and insufficient fieldwork, rather than genuinely low diversity. Given Iran's wide range of climatic and ecological zones, from humid Caspian forests to central deserts and southeastern subtropical habitats, further exploration will clearly reveal a richer phasmid fauna than currently recognised. Integrative taxonomic studies

combining morphology, biogeography, and molecular evidence are urgently needed to clarify the country's phasmid diversity and distribution (Brock & Büscher 2022).

Together, these three insect orders represent components of Iran's polyneopteran diversity. Accurate and up-to-date species lists are foundational for future research and biodiversity assessments. They enable informed ecological studies, support biogeographic analyses, and contribute to taxonomic stability by providing a reliable reference framework (Marques et al. 2024). Furthermore, they are vital for conservation efforts, particularly in identifying endemic or threatened taxa. Given the presence of several dubious species records in Iranian literature, the need for careful validation and critical taxonomic review is paramount (Kolnegari 2023). The integration of morphological, ecological, and molecular data will be essential in addressing these gaps and ensuring the long-term integrity of the country's biodiversity database (e.g., Mirzaee et al. 2024b for Mantodea).

## MATERIAL AND METHODS

The data presented in this paper are compiled from published literature, national checklists, and global taxonomic databases, including GBIF and online open data platforms such as iNaturalist. These sources were identified through structured searches in Web of Science, Google Scholar, and Google search engine as well as through specialized online resources: Mantodea Species File Online (<http://mantodea.speciesfile.org>), Cockroach Species File Online (<https://cockroach.speciesfile.org/>), Isoptera Species File Online (<https://isoptera.speciesfile.org/>), the Termites Database (<https://termitologia.net/catalog/index.php>), and Phasmida Species File Online (<https://phasmida.speciesfile.org/>). The extracted data were then checked and refined based on the most recent taxonomic updates as well as the examination of museum collections. The classification and nomenclature employed in this study follow widely accepted recent frameworks: Schwarz and Roy (2019) and Otte et al. (2023) for Mantodea; Deng et al. (2026) for Blattodea, including termites; and Brock (1991, 2007), Otte and Brock (2005), Brock and Büscher (2022), and Brock et al. (2025) for Phasmatodea. However, the taxonomic placement of the tribe Gratidiini Cliquennois, 2005, which includes all phasmid taxa known from Iran, and the phylogenetic relationships of these taxa require taxonomic reassessment (Bank & Bradler 2020). The taxonomic placement herein, consequently, requires revision based on molecular evidence. Bacillidae Brunner von Wattenwyl, 1893, and Gratidiini are para- or polyphyletic, and numerical representations at certain taxonomic levels in the checklist lack real phylogenetic meaning. These counts are provided only for comparative purposes and reflect the current but likely inaccurate taxonomic framework.

The literature consulted for Mantodea spans more than a century of taxonomic and faunistic research, drawing on foundational monographs and regional works. Key contributions include the early comprehensive works of Werner (1905, 1930), Bolívar (1911, 1913), and Uvarov (1922, 1938), followed by significant revisions and faunal accounts by Ramme (1951), Beier (1956), Deeleman-Reinhold (1957), Ebner (1963), La Greca and Lombardo (1982, 1987), Kaltenbach (1963, 1982), and Ehrmann (2002). More recent studies, such as those by Rabieh et al. (2016), Mirzaee and Pashaei Rad (2017), Kolnegari and Vafaei-Shoushtari (2018), Mirzaee and Sadeghi (2019, 2021), Moradzadeh et al. (2021), Kolnegari (2023), Kolnegari et al. (2025), and Mirzaee et al. (2023, 2024a, 2024b) provide updated regional records and taxonomic refinements. Research on Blattodea was founded on a combination of classical taxonomic references and modern regional surveys. Foundational sources include Desneux (1906), Bey-Bienko (1950), Harris (1957), Akhtar (1974), and Al-Alawy et al. (1990), complemented by later faunistic and applied studies such as Mirzayans (1986), Ghayourfar (1998, 1999, 2005), Hanafi-Bojd and Sadaghiani (2009), Hashemi-Aghdam and Oshaghi (2015), and Ravan & Akhtar (1999). Together, these works provide the primary framework for species identification and distributional interpretation. For Phasmatodea, the reference base integrates both historical and contemporary treatments, including Brunner von Wattenwyl (1907), Mistshenko (1937), Bey-Bienko (1946), Brock (1991, 2007), Otte & Brock (2005), Brock & Büscher (2022), and Brock et al. (2025). It should be noted that the numerical hierarchy applied to phasmatodean groups in the present work is purely organisational; current molecular evidence demonstrates that the superfamily-, family-, and tribe-level classifications used here are not monophyletic and remain in need of comprehensive revision.

Detailed species information has been extracted primarily from the original descriptions and distributional reports provided in these sources. The number of species, genera, and families is indicated alongside each main taxonomic group. For each taxon, the number presented on the left side of the slash (/) indicates the number for Iran, and the corresponding global total is mentioned at the right.

Abbreviations used for the zoological institutes and museums mentioned in this study are as follow: **AMNH** American Museum of Natural History, New York, USA; **BMNH** British Museum, London, UK; **ETHZ** Public University, Zürich, Switzerland; **HMIM** Hayk Mirzayans Insect Museum, Insect Taxonomy Research Department, Plant Pests and Diseases Research Institute, Tehran, Iran; **IAUA** Islamic Azad University Arak, Arak, Iran; **IEA** Instituto di Entomologia Agraria, Portici, Italy; **INER** National Institute of Entomology, Rom, Italy; **INHM** Iraq Natural History Museum, Baghdad, Iraq; **LSUK** Linnean Society United Kingdom, UK; **MNHN** Museum National d'Histoire Naturelle, Paris, France; **MNMS** National Museum of Natural Sciences Madrid, Spain; **MSNG** Museo Civico di Storia Naturale "giacomo Doria", Genova, Italy; **NCIP** National Collection of Insects, Pretoria, South Africa; **NHMB** Naturhistorisches Museum, Basel, Switzerland; **NHMM** Natuurhistorisch Museum Museum of Maastricht, Maastricht, the Netherlands; **NHMW** Naturhistorisches Museum, Wien, Austria; **NHRS** Naturhistoriska Riksmuseet, Stockholm, Sweden; **OUMNH** Oxford University Museum of Natural History, UK; **RIB** Institut Royal des Sciences Naturelles de Belgique, Bruxelles, Belgium; **SDEI** Senckenberg German Entomological Institute, Müncheberg, Germany; **SMNS** Natural History Museum Stuttgart, Germany; **USIU** United States International University, Kenya, Africa; **USNM** National Museum of Natural History Washington, USA; **UuzM** Uppsala University, Zoological Museum, Uppsala, Sweden; **ZIHS** Zoötomiska Institute, Hogskolas, Stockholm, Sweden; **ZIN RAS** Zoological Institute of the Russian Academy of Sciences, St. Petersburg, Russia; **ZMB** Museum für Naturkunde an der Universität Humbolt zu Berlin, Berlin, Germany; **ZMH** Zoologisches Museum für Hamburg, Hamburg, Germany; **ZSI** Zoological Survey of India, Calcutta, West Bengal, India; **ZUPL** Department of Zoology, University of Punjab, Lahore, Pakistan.

## RESULTS

### Class Insecta Linnaeus, 1758

### Superorder Dictyoptera Latreille, 1829

### Order Blattodea Wattenwyl Brunner Von, 1882

### Epifamily Termitoidae Latreille, 1802 [5/13 families]

### Family Heterotermitidae Froggatt, 1897 [2/3 genera]

### Genus *Heterotermes* Froggatt, 1897 [1/32 species]

#### *Heterotermes indicola* (Wasmann, 1902)

*Leucotermes indicola* Wasmann, 1902:118–119. Lectotype soldier (NHMM).– India.

**Distribution.** Afghanistan, Bangladesh, India, Iran, Nepal, Pakistan.

**Distribution in Iran.** Fars, Isfahan, Kerman, Khorasan-e Razavi, Khuzestan, Mazandaran, Sistan-o Baluchistan, Tehran (Ravan & Akhtar 1998, 1999).

**Remark.** *Heterotermes indicola* is mainly in association with *Populus* plantations and other woody hosts in arid to semi-humid lowlands.

### Genus *Reticulitermes* Holmgren, 1913 [2/25 species]

#### *Reticulitermes clypeatus* Lash, 1952

*Reticulitermes clypeatus* Lash, 1952:1–5. Holotype: imago (AMNH).– Israel.

**Distribution.** Iran, Iraq, Palestine/Israel, Romania.

**Distribution in Iran.** Western and southwestern provinces of Iran (Weidner 1960; Ghayourfar 2006).

**Remarks.** This species has been reported from the western and southwestern parts of Iran, where populations assigned to "*Reticulitermes* sp. near *lucifugus*" were later interpreted as belonging to the *R. clypeatus*–*R. lucifugus* complex (Weidner 1960; Ghayourfar 2006). Records from Iran are based on zoogeographical and faunistic studies that document *Reticulitermes* occurrences in the Zagros and adjacent regions, although most Iranian material has historically been referred only to "*Reticulitermes* sp. near *lucifugus*," indicating that the precise distribution and taxonomic status of *R. clypeatus* in Iran still require confirmation through integrative morphological and molecular analyses (Ghayourfar 2006; Luchetti et al. 2007).

### ***Reticulitermes lucifugus* Rossi, 1792**

*Termes lucifugum* Rossi, 1792:107. Syntypes: imago (ZMB).—"Shores of Mediterranean".

**Syn.** *Hemeroobius raphidioides* Villers, 1789:56. *Termes radicum* Latreille, 1794:84–85. *Termes parvulum* Illiger, 1807:16. *Termes pusillus* Walker, 1853:528–529.

**Distribution.** Algeria, Austria, Azerbaijan, Bosnia-Herzegovina, Bosnia and Herzegovina, Croatia, Cyprus, Egypt, France, Germany, Greece, Iran, Iraq, Italy, Madeira Island, Montenegro, Morocco, North Macedonia, Portugal, Romania, Russia, Serbia, Slovenia, Spain, Switzerland, Turkey, Ukraine.

**Distribution in Iran.** Northern Provinces (Austin 2006; Ghayourfar 2006; Krishna et al. 2013; Dedeine et al. 2016).

**Remarks.** *Reticulitermes lucifugus* has been reported from northern Iran, with records based on material identified as *Reticulitermes* sp. near *lucifugus* and treated within the *R. lucifugus* complex in zoogeographical and genetic studies (Austin 2006; Ghayourfar 2006; Krishna et al. 2013; Dedeine et al. 2016). These works indicate its presence in forested and montane habitats in northern Iran, but also stress that eastern Mediterranean populations (including Iran) may represent distinct, closely related taxa pending further taxonomic revision.

### **Family Hodotermitidae Desneux, 1904 [1/3 genera]**

#### **Genus *Anacanthotermes* Jacobson, 1905 [8/16 species]**

#### ***Anacanthotermes ahngerianus* (Jacobson, 1905)**

*Hodotermes* (*Anacanthotermes*) *ahngerianus* Jacobson, 1905:67. Syntypes: imago (AMNH).—Turkmenistan.

**Syn.** *Anacanthotermes ahngerianus opacus* Luppova, 1958:102, 104.

**Distribution.** Iran, Kazakhstan, Turkmenistan, Uzbekistan.

**Distribution in Iran.** Khorasan-e Razavi (Weidner 1960; Ghayourfar 1996).

**Remarks.** In Iran, *Anacanthotermes ahngerianus* is known mainly from rangelands and steppe habitats, with confirmed records from Khorasan Province in the northeast, where it occurs in pastures and causes damage to rural and sometimes urban structures (Weidner 1960; Ghayourfar 1996). The species is considered one of the dominant harvester termites of Iranian rangelands and is often treated together with other *Anacanthotermes* species in faunistic and ecological studies of the country's termite fauna (Harris 1967; Ghayourfar 1994, 1996).

#### ***Anacanthotermes esmailii* Ghayourfar, 1998**

*Anacanthotermes esmailii* Ghayourfar, 1998:11, 12–15. Holotype: imago, soldier (HMIM).—Iran.

**Distribution.** Iran.

**Distribution in Iran.** Khorasan-e Razavi (Ghayourfar 1998).

#### ***Anacanthotermes gurganiensis* Ravan & Akhtar, 1999**

*Anacanthotermes gurganiensis* Ravan & Akhtar, 1999:73–78. Holotype: major soldier (ZUPL).—Iran.

**Distribution.** Iran.

**Distribution in Iran.** Golestan (Ravan & Akhtar 1999).

***Anacanthotermes iranicus* Ravan & Akhtar, 1993**

*Anacanthotermes iranicus* Ravan & Akhtar, 1993:555–559. Holotype: soldier (ZUPL).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Khorasan-e Razavi (Ravan & Akhtar 1993).

***Anacanthotermes macrocephalus* (Desneux, 1906)**

*Hodotermes macrocephalus* Desneux, 1906:344–348. Syntypes: imago, soldier, worker (AMNH).– Pakistan.

**Syn.** *Anacanthotermes peshawarensis* Akhtar, 1974:40–44.

**Distribution.** India, Pakistan, Afghanistan, Iran.

**Distribution in Iran.** Unspecified.

***Anacanthotermes septentrionalis* (Jacobson, 1905)**

*Hodotermes (Anacanthotermes) vagans septentrionalis* Jacobson, 1905:65–67. Syntypes: imago (AMNH).– Iran.

**Distribution.** Afghanistan, Iran, Turkmenistan.

**Distribution in Iran.** Mazandaran (Jacobson 1905).

***Anacanthotermes turkestanicus* (Jacobson, 1905)**

*Hodotermes (Anacanthotermes) turkestanicus* Jacobson, 1905:61–65. Syntypes: imago, soldier, worker (AMNH).– Kazakhstan.

**Distribution.** Iran, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan.

**Distribution in Iran.** Unspecified.

***Anacanthotermes vagans* (Hagen, 1858)**

*Hodotermes vagans* Hagen, 1858:88–90, 240. Syntype imago (NHMW).– Iran.

**Fig.** 1A–B

**Distribution.** Afghanistan, Iran, Iraq, Kuwait, Pakistan, Saudi Arabia.

**Distribution in Iran.** Bushehr, "Karak Island" Persian Gulf (See Remark) (Hagen 1858).

**Remarks.** The Termite Database (<https://termitologia.net>) and the original species description (Hagen 1858) both list the locality as Shiraz, "Karak Island," Persian Gulf. We consider the name "Karak Island" to be erroneous and interpret it as Kharg (Khark) Island, which is situated in Bushehr Province in the northern Persian Gulf, rather than in Shiraz (Fars Province).

**Family Kalotermitidae Froggatt, 1897 [1/23 genera]****Genus *Postelectrotermes* Krishna, 1961 [3/15 species]*****Postelectrotermes bidentatus* Ravan & Akhtar, 1999**

*Postelectrotermes bidentatus* Ravan & Akhtar, 1999:67–70. Holotype: major soldier (ZUPL).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Sistan-o Baluchistan (Ravan & Akhtar 1999).

***Postelectrotermes pasniensis* Akhtar, 1974**

*Postelectrotermes pasniensis* Akhtar, 1974:24–29. Holotype: soldier (ZUPL).– Pakistan.

**Distribution.** Iran, Pakistan.

**Distribution in Iran.** Khuzestan (Babmorad et al. 2014), and Sistan-o Baluchistan (Ravan 2010).

***Postelectrotermes zabuliensis* Ravan & Akhtar, 1999**

*Postelectrotermes zabuliensis* Ravan & Akhtar, 1999:70–73. Holotype: major soldier (ZUPL).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Sistan-o Baluchistan (Ravan & Akhtar 1999).

**Family Psammotermitidae Holmgren, 1911** [1/2 subfamilies]

**Subfamily Psammotermitinae Holmgren, 1911** [1/1 genus]

**Genus Psammotermes Desneux, 1902** [2/6 species]

***Psammotermes prohybostoma* Ravan & Akhtar, 1999**

*Psammotermes prohybostoma* Ravan & Akhtar, 1999:78–81. Holotype: major soldier (ZUPL).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Sistan-o Baluchistan (Ravan & Akhtar 1999).

***Psammotermes rajasthanicus* Roonwal & Bose, 1960**

*Psammotermes rajasthanicus* Roonwal & Bose, 1960:38–39. Holotype: soldier (ZSI).– India.

**Distribution.** India, Pakistan, Iran.

**Distribution in Iran.** South and southeast of Iran (Ghayourfar 1996).

**Family Termitidae Latreille 1802** [3/18 subfamilies]

**Subfamily Amitermitinae Kemner, 1934** [1/14 genera]

**Genus Amitermes Silvestri, 1901** [10/113 species]

***Amitermes baluchistanicus* Akhtar, 1974**

*Amitermes baluchistanicus* Akhtar, 1974:58–59. Holotype: soldier (ZUPL).– Pakistan.

**Distribution.** Iran, Pakistan.

**Distribution in Iran.** Fars, Hormozgan, Isfahan, Kerman, Khorasan-e Razavi, Khuzestan, Mazandaran, Sistan-o Baluchistan, Tehran (Ravan & Akhtar 1999).

***Amitermes belli* (Desneux, 1906)**

*Termes belli* Desneux, 1906:352–354. Syntypes: soldier, worker (AMNH).– Pakistan.

**Distribution.** India, Iran, Pakistan.

**Distribution in Iran.** Sistan-o Baluchistan (Ghayourfar 2001).

**Remark.** Iran lies at the junction of the Palearctic and Oriental realms, with most of its territory biogeographically Palearctic (Holt et al. 2013). Although the type locality of *A. belli* is Karachi in Sind (Oriental - Desneux 1906), the records attributed to Iran are treated here as Palaeartic, whereas India and Pakistan are listed under the Oriental region.

***Amitermes corpulentus* Al-Alawy, Abdul-Rassoul & Al-Azawi, 1990**

*Amitermes corpulentus* Al-Alawy, Abdul-Rassoul & Al-Azawi, 1990:25–27. Holotype: soldier (INHM).– Iraq.

**Distribution.** Iran, Iraq.

**Distribution in Iran.** Unspecified.

***Amitermes iranicus* Ghayourfar, 1999**

*Amitermes iranicus* Ghayourfar, 1999:20–22. Holotype: soldier (HMIM).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Kermanshah (Ghayourfar 1999).

***Amitermes kharrazii* Ghayourfar, 1999**

*Amitermes kharrazii* Ghayourfar, 1999:22–25. Holotype: imago, soldier, worker (HMIM).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Alborz and Tehran (Ghayourfar 1999).

***Amitermes messinae* (Fuller, 1922)**

*Hamitermes messinae* Fuller, 1922:125. Syntypes: imago (NCIP).– South Africa.

**Syn.** *Amitermes harleyi* Harris, 1957:425–427

**Distribution.** Egypt, Ethiopia, Iran, Kenya, Malawi, Saudi Arabia, South Africa, Sudan, Tanzania, Yemen, Zambia.

**Distribution in Iran.** Unspecified.

***Amitermes paravilis* Ravan & Akhtar, 1999**

*Amitermes paravilis* Ravan & Akhtar, 1999:81–84. Holotype: soldier (ZUPL).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Khuzestan (Ravan & Akhtar 1999).

***Amitermes stephensoni* Harris, 1957**

*Amitermes stephensoni* Harris, 1957:424–425. Holotype: soldier (BMNH).– Yemen.

**Distribution.** Guinea, Iran, Kenya, Nigeria, Oman, Saudi Arabia, Sudan, Yemen.

**Distribution in Iran.** Unspecified.

***Amitermes vilis* (Hagen, 1858)**

*Termes (Termes) vilis* Hagen, 1858:185–186, 240. Syntypes: imago (NHMW).– Iran.

**Syn.** *Amitermes wahrmani* Spaeth, 1964:27–29. *Amitermes rhizophagus* Belyaeva, 1974:63–73.

**Distribution.** Afghanistan, Iran, Iraq, Jordan, Oman, Palestine/Israel, Saudi Arabia, Turkmenistan, Yemen.

**Distribution in Iran.** Fars (Hagen 1858).

***Amitermes yasujensis* Ghayourfar, 2005**

*Amitermes yasujensis* Ghayourfar, 2005:64, 65–66. Holotype: soldier (HMIM).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Kohgiluyeh va Boyer Ahmad (Ghayourfar 2005).

**Subfamily Microcerotermitinae Holmgren, 1910 [1/2 genera]****Genus *Microcerotermes* Silvestri, 1901 [11/152 species]*****Microcerotermes buettikeri* Chhotani & Bose, 1979**

*Microcerotermes buettikeri* Chhotani & Bose, 1979:77–80. Holotype: imago (NHMB).– Saudi Arabia.

**Distribution.** Iran, Saudi Arabia, Yemen.

**Distribution in Iran.** Khuzestan (Latifian et al. 2018).

***Microcerotermes chaudhryi* Akhtar, 1974**

*Microcerotermes chaudhryi* Akhtar, 1974:46–49. Holotype: soldier (ZUPL).– Pakistan.

**Distribution.** Iran, Pakistan.

**Distribution in Iran.** Unspecified.

***Microcerotermes chhotanii* Ghayourfar, 1998**

*Microcerotermes chhotanii* Ghayourfar, 1998:12, 15–17. Holotype: soldier (HMIM).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Kermanshah (Ghayourfar 1998).

***Microcerotermes dashlibronensis* Ghayourfar, 2005**

*Microcerotermes dashlibronensis* Ghayourfar, 2005:62, 64. Holotype: soldier (HMIM).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Golestan (Ghayourfar 2005).

***Microcerotermes diversus* Silvestri, 1920**

*Microcerotermes diversus* Silvestri, 1920:477–479. Syntypes: imago, soldier, worker (IEA).– Iraq.

**Distribution.** Iran, Iraq, Kuwait, Oman, Saudi Arabia, Yemen.

**Distribution in Iran.** Khuzestan (Habibpour et al. 2010).

***Microcerotermes gabrielis* Weidner, 1955**

*Microcerotermes gabrielis* Weidner, 1955:64–67. Syntypes: imago (ZMH).– Iraq.

**Distribution.** Afghanistan, Iran, Iraq, Saudi Arabia.

**Distribution in Iran.** Unspecified.

***Microcerotermes pakistanicus* Akhtar, 1974**

*Microcerotermes pakistanicus* Akhtar, 1974:54–56. Holotype: soldier (ZUPL).– Pakistan.

**Distribution.** India, Iran, Malaysia, Pakistan.

**Distribution in Iran.** Unspecified.

***Microcerotermes saravanensis* Ghayourfar, 2005**

*Microcerotermes saravanensis* Ghayourfar, 2005:62, 64. Holotype: soldier (HMIM).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Sistan-o Baluchistan (Ghayourfar 2005).

***Microcerotermes shahroudiensis* Ghayourfar, 2005**

*Microcerotermes shahroudiensis* Ghayourfar, 2005:39–44. Holotype: soldier (HMIM).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Semnan (Ghayourfar 2005).

***Microcerotermes sistaniensis* Ghayourfar & Akhtar, 2005**

*Microcerotermes sistaniensis* Ghayourfar & Akhtar, 2005:155–163. Holotype: imago, soldier (HMIM).– Iran.

**Distribution.** Iran.

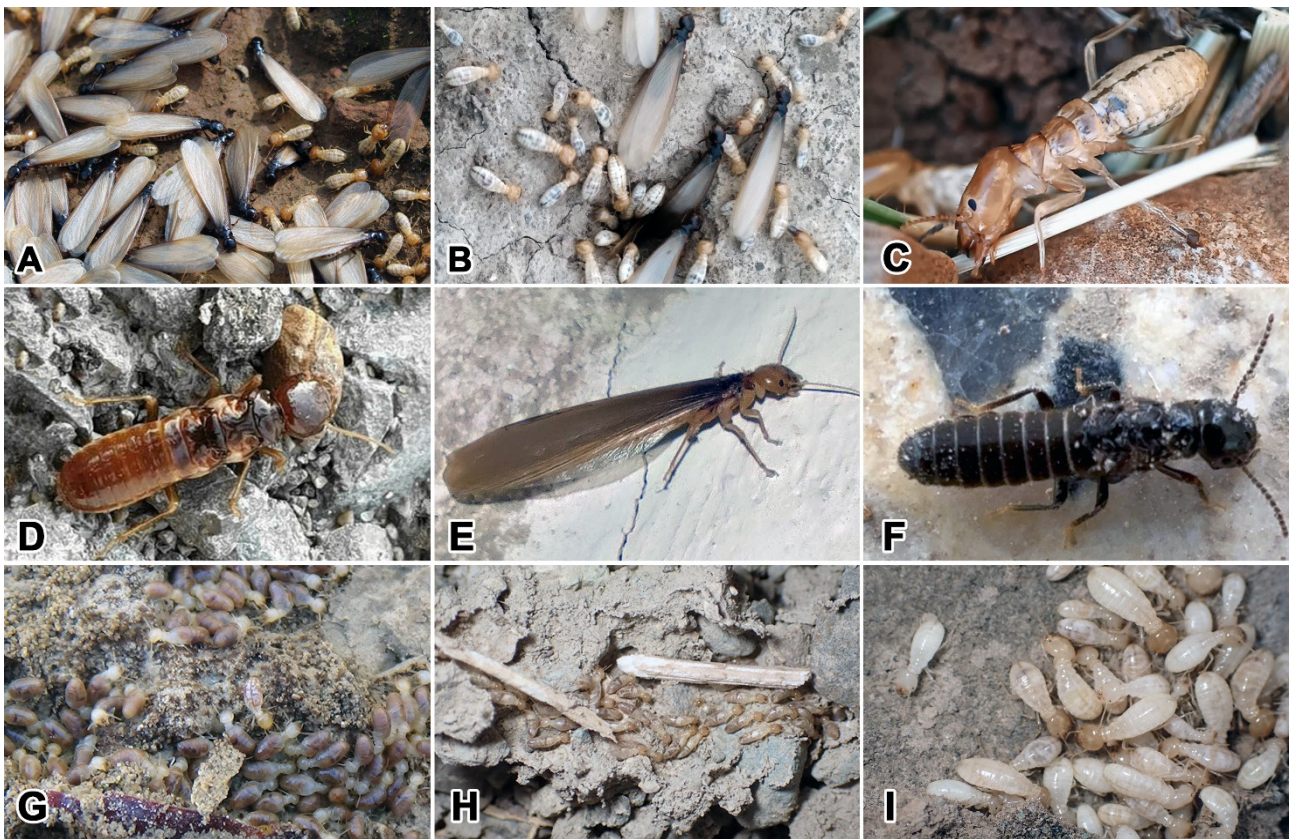
**Distribution in Iran.** Sistan-o Baluchistan (Ghayourfar & Akhtar 2005).

***Microcerotermes varaminicus* Ghayourfar, 1999**

*Microcerotermes varaminicus* Ghayourfar, 1999:16, 18–20. Holotype: soldier (HMIM).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Tehran (Ghayourfar 1999).



**Figure 1.** Representative termite in Iran: **A.** *Anacanthotermes vagans* from Khuzestan: Dezful (photo credit by: Adel Ramezani); **B.** *Anacanthotermes vagans* from Khuzestan: Masjed Solyman (photo credit by: Farhad Eshraghi Mofrad); **C.** Unknown sp., Kermanshah province: Paveh (photo credit by: Fahmi Solimany); **D.** Unknown sp., Khuzestan: Dez (photo credit by: Morteza Johari); **E.** Unknown sp., Sistan-o Baluchistan: Saravan (photo credit by: Zahed Aram); **F.** Unknown sp., Isfahan: Najaf Abad; **G.** *Amitermes* sp. from Hormozgan: Siyahu (photo credit by: Mobin Kargarfard); **H.** *Amitermes* sp. from Tehran, photo credit by: Kian Saidabadi; **I.** Unknown sp. from Sabzevar (photo credit by: Kian Saidabadi).

#### Subfamily Macrotermitinae Kemner, 1934 [1/12 genera]

##### Genus *Microtermes* Wasmann, 1902 [2/70 species]

##### *Microtermes mycophagus* (Desneux, 1906)

*Termes mycophagus* Desneux, 1906:348–352. Syntypes: imago, soldier, worker (RIB).– Pakistan.

**Distribution.** India, Iran, Pakistan.

**Distribution in Iran.** Tehran and Mazandaran (Ravan et al. 2015).

##### *Microtermes obesi* Holmgren, 1912

*Microtermes obesi* Holmgren, 1912:787–788. Syntypes: imago (ZIHS).– India.

**Syn.** *Microtermes anandi* Holmgren, 1913:114; *Microtermes anandi curvignathus* Holmgren, 1913:114.

**Distribution.** Bangladesh, Bhutan, Cambodia, India, Iran, Malaysia, Myanmar, Pakistan, Sri Lanka, Thailand, and Vietnam.

**Distribution in Iran.** Unspecified.

#### Superfamily Blattoidea Latreille, 1810 [1/6 families]

##### Family Blattidae Latreille, 1810 [1/4 subfamilies]

##### Subfamily Blattinae Latreille, 1810 [2/25 genera]

##### Genus *Blatta* Linnaeus, 1758 [1/8 species]

### *Blatta orientalis* Linnaeus, 1758

*Blatta orientalis* Linnaeus, 1758:1. Lectotype ♂ (LSUK), Paralectotypes ♂♂ ♀♀ (LSUK).—Southern Russia.

**Syn.** *Blatta badia* Saussure, 1863:150. *Blatta castanea* Blanchard, 1851:18. *Blatta culinaris* De Geer, 1773:530. *Blatta ferruginea* Thunberg, 1810. *Stylopyga orientalis gracilis* Adelung, 1903. *Blatta hemialata* Gistel, 1856:427. *Pulex imperator* Westwood, 1858. *Blatta lucifuga* Poda, 1761:49. *Kakerlac pallipes* Philippi, 1863. *Kakerlac platystetho* Philippi, 1863. *Blatta secunda* Schaeffer, 1769:222. *Stylopyga orientalis spontanea* Semenov-Tian-Shansky, 1909. *Blatta tertia* Schaeffer, 1769.

**Distribution.** Cosmopolitan (Marshall 1983).

**Distribution in Iran.** Almost all parts of Iran (Mirzayans 1986), Southwest Iran (Shahraki et al. 2010), Hamedan (Salehzadeh 1995; Mahjoob et al. 2010; Nejati et al. 2011), Tehran (Zarchi & Vatani 2009), Zanzan (Mohammadi 1998).

### Genus *Periplaneta* Burmeister, 1838 [4/44 species]

#### *Periplaneta americana* (Linnaeus, 1758)

Fig. 2A

*Blatta americana* Linnaeus, 1758:424. Lectotype ♂ (LSUK). Unknown.

**Syn.** *Blatta aurelianensis* Fourcroy, 1785. *Periplaneta americana colorata* Rehn, 1902. *Blatta domicola* Risso, 1826. *Blatta ferrugineofusca* Gronovius, 1764. *Blatta heros* Eschscholtz, 1822. *Blatta kakkerlac* De Geer, 1773. *Blatta americana* Linnaeus, 1758. *Blatta orientalis* Sulzer, 1776. *Blatta siccifolia* Stoll, 1813. *Periplaneta stolidia* Walker, 1868.

**Distribution.** Cosmopolitan (Marshall 1983).

**Distribution in Iran.** Almost all parts of Iran (Mirzayans 1986), Southwest Iran (Shahraki et al. 2010), Hamedan (Salehzadeh 1995; Mahjoob et al. 2010; Nejati et al. 2011), Isfahan (Fathpour et al. 2003; Doroodgar et al. 2006), Khuzestan (Kassiri & Kazemi 2012), Kohkiluyeh va Boyer-Ahmad (Shahraki et al. 2011), Kurdistan (Vahabi et al. 2007), Mazandaran (Motavali Haghi et al. 1997), Tehran (Zarchi & Vatani 2009), Zanzan (Mohammadi 1998), Qom (Fahiminia et al. 2010).

**Remarks.** The original description of *Blatta americana* by Linnaeus did not clearly designate a precise type locality, and modern catalogues list the lectotype in LSUK without a specific locality label rather than a formal “Africa” as the type locality. Current distribution and phylogeographic work support an African (and Middle Eastern) origin of the species (Ma et al. 2019), which is why many modern sources describe its origin as African.

#### *Periplaneta arabica* (Bey-Bienko, 1938)

*Shelfordella arabica* Bey-Bienko, 1938:235. Holotype ♂ (ZIN RAS).— Saudi Arabia.

Fig. 2H

**Distribution.** Iran, Oman, Saudi Arabia, United Arab Emirates, Yemen.

**Distribution in Iran.** Hamedan-Hamedan (Mahjoob et al. 2010, Nejati et al. 2011), Dehloran, Ilam (Luo et al. 2023), Khorassan-e-Jonubi (Birjand), most southern states (Persian Gulf coast) (Mirzayans 1986), Yazd (Hanafi-Bojd & Sadaghiani 2009).

#### *Periplaneta lateralis* Walker, 1868

*Periplaneta lateralis* Walker, 1868:136. Holotype: Larva (BMNH).— Egypt.

**Syn.** *Shelfordella ahngeri* Adelung, 1910. *Paraloboptera sillemi* Hanitsch, 1935. *Periplaneta tartara* Saussure, 1874. *Shelfordella zarudnyi* Adelung, 1910.

**Material examined.** 2♂♂ adults, 7–9.VI.1957, R. Pasquier, Kermanshah Province (Qasr-e Shirin—New record, MNHN); 2♀♀ adults, 18.V.1955, G. Remaudière, Sistan-o Balouchestan (Kash—New record, MNHN; Jalgh, Pishin, Sarbaz, Saravan, Zabol).

**Distribution.** Northern Africa to Central Asia (Afghanistan, Egypt, Iran, Iraq, Jordan, Libya, Pakistan, Palestine/Israel, southern Russia, Sudan, Uzbekistan), with introduced populations in southern USA, Mexico, southern and central Europe, Japan, and other warm urban areas.

**Distribution in Iran.** Ardebil, Fars, Golestan, Guilan (Hashemi-Aghdam & Oshaghi 2015), Hamedan (Salehzadeh 1995), Hormozgan (Mirzayans 1986), Isfahan (Mirzayans 1986; Fathpour et al. 2003), Kerman (Mirzayans 1986), Kermanshah, Khuzestan (Mirzayans 1986), Kohkiluyeh va Boyer-Ahmad (Shahraki et al. 2011), Sistan-o Balouchestan, Southwest Iran (Shahraki et al. 2010), Tehran, Yazd (Hanafi-Bojd & Sadaghiani 2009).

### *Periplaneta monochroma* Walker, 1871

*Periplaneta monochroma* Walker, 1871:37. Holotype ♂ (BMNH).– India.

**Syn.** *Shelfordella gussakovskii* Bei-Bienko, 1950. *Shelfordella tertia* Bei-Bienko, 1938.

**Distribution.** India, Tajikistan, Afghanistan, Iran.

**Distribution in Iran.** Fars (Hopkins & Beccaloni 2023), Hormozgan (Mirzayans 1986).

## Superfamily Corydioidea Saussure, 1864 [1/2 families]

Family Corydiidae Saussure, 1864 [2/2 subfamilies]

Subfamily Corydiinae Saussure, 1864 [4/22 genera]

Genus *Polyphaga* Brullé, 1835 [4/5 species]

### *Polyphaga aegyptiaca* (Linnaeus, 1758)

*Blatta aegyptiaca* Linnaeus, 1758:424. Syntype ♂ (UJZM).– Somalia.

**Syn.** *Polyphaga brasiliانا* Saussure, 1864. *Blatta lata* Gistel, 1856. *Blatta omega* Costa, 1839. *Heterogamia punctata* Fischer von Waldheim, 1846. *Blatta sphaerica* Gistel, 1856. *Blatta spinifer* [sic] (Fischer von Waldheim, 1846). *Heterogamia spinipes* Fischer von Waldheim, 1846. *Steleopyga trichoprocta* Fischer von Waldheim, 1833.

**Material examined.** 1♂ adult, 14.VI.1957, R. Pasquier, Ilam Province (Tchavar–New record, MNHN); 3♂♂ adults, 10–12.VI.1957, R. Pasquier, Ilam Province (Mehran–New record, MNHN); ♂ adult, 11.VI.1957, R. Pasquier, Ilam Province (Mohassanab–New record, MNHN); 1♂ adult, 30.VI.1957, R. Pasquier, Khorassan Province (Guerayel–New record, MNHN); 1♀ adult, 5–10.V.1965, L. Matile, East Azerbaidjan Province (Tabriz–New record, MNHN).

**Distribution.** The range covers the whole Mediterranean region, southern parts of Europe (e.g., Italy, Balkans), and south-western Asia, reaching Iran in the east, and extends to parts of South America.

**Distribution in Iran.** Fars, Golestan, Ilam, (Mirzayans 1986), Isfahan (Fathpour et al. 2003, Kermanshah, Khuzestan (Vazirianzadeh et al. 2009), Lorestan, Mazandaran, Tehran.

### *Polyphaga indica* Walker, 1868

*Polyphaga indica* Walker, 1868:14. Holotype ♀ (BMNH).– India.

**Material examined.** 1♀ adult, 19.IV.1966, Sistan-o Baluchistan province (Zabol–New record, MNHN).

**Distribution.** Central Asia, Iran, India, and Russia.

**Distribution in Iran.** Azarbaijan-e Sharghi, Fars, Isfahan, Kerman, Khorasan-e Razavi, Khuzestan, Mazandaran, Semnan, Sistan-o Balouchestan, Tehran (Mirzayans 1986).

### *Polyphaga saussurei* (Dohrn, 1888)

*Heterogamia saussurei* Dohrn, 1888:131. Syntype ♀ (BMNH).– India.

**Syn.** *Polyphaga camelorum* Kirby, 1903. *Heterogamia pellucida* Redtenbacher, 1889.

**Distribution.** Afghanistan, Azerbaijan, India, Iran, Kazakhstan, Russia (southern), Tajikistan, Uzbekistan.

**Distribution in Iran.** Fars, Hormozgan, Khorasan-e Razavi, Sistan-o Balouchestan (Mirzayans 1986), and Yazd (Hanafi-Bojd & Sadaghiani 2009).

**Remarks.** *Polyphaga* sp. was recorded by Hashemi-Aghdam & Oshaghi (2015) from northern Tehran; it has not yet been formally described, and its material is deposited at the Entomology Museum of the School of Public Health, Tehran University of Medical Sciences.

### Genus *Psammoblatta* Bey-Bienko, 1950 [4/5 species]

#### *Psammoblatta livida* (Brunner von Wattenwyl, 1865)

*Heterogamia livida* Brunner von Wattenwyl, 1865:359. Non-type: ♀ (BMNH).– Cyprus.

**Syn.** *Heterogamodes livida*: Chopard, 1929:308. *Arenivaga (Psammoblatta) livida*: Bey-Bienko, 1950:308

**Distribution.** Asia (central), Cyprus, Greece, Iran, Iraq, Syria, Turkey.

**Distribution in Iran.** Azarbaijan-e Sharghi (Jolfa, Aras) (Bey-Bienko 1950), Azarbaijan-e Sharghi (Tabriz-Khalat pushan) (Mirzayans 1986).

#### *Psammoblatta longipes* (Chopard, 1929)

*Heterogamodes longipes* Chopard, 1929:321. Holotype ♂, (MSNG?).– Iran.

**Syn.** *Arenivaga (Psammoblatta) longipes*: Bey-Bienko, 1950:314

**Distribution.** Iran.

**Distribution in Iran.** Fars, North of Iran (Chopard 1929; Bey-Bienko 1950), Tehran (Mirzayans 1986).

**Remark.** The question mark indicates uncertainty about the actual deposition of the holotype in this museum, because this information is based only on Chopard (1929:321), where he stated that the type was deposited there.

#### *Psammoblatta roseni* (Brancsik, 1898)

*Heterogamia roseni* Brancsik, 1898:19–20. No type data available.

**Syn.** *Heterogamodes roseni*: Chopard, 1929:314. *Arenivaga (Psammoblatta) roseni*: Bey-Bienko, 1950:311.

**Distribution.** Russia, Asia (central), Afghanistan, Iran.

**Distribution in Iran.** Isfahan (Fathpour et al. 2003), Khuzestan (Chopard 1929; Bey-Bienko 1950), Semnan, Sistan-o Balouchestan, Tehran (Mirzayans 1986).

#### *Psammoblatta subhyalina* (Chopard, 1921)

*Polyphaga subhyalina* Chopard, 1921:27. Holotype ♂ (BMNH), paratype ♂ (BMNH).– Iran.

**Syn.** *Heterogamodes subhyalina*: Chopard, 1929:318. *Arenivaga (Psammoblatta) subhyalina*: Bey-Bienko, 1950:310. *Hemelytroblatta subhyalina*: Grandcolas, 1994:157.

**Distribution.** Iran.

**Distribution in Iran.** Qazvin (Chopard 1929; Bey-Bienko 1950), North of Iran (Bey-Bienko 1950), Fars (Mirzayans 1986).

### Genus *Hemelytroblatta* Chopard, 1929 [3/25 species]

#### *Hemelytroblatta (Mollidentoblatta) latifrons* (Chopard, 1929)

*Heterogamodes latifrons* Chopard, 1929:319. Syntype ♂ (MNHN-EP735).– Iran.

**Distribution.** Iran, Iraq, Pakistan.

**Distribution in Iran.** Bushehr (Chopard 1929), Chaharmahal va Bakhtiari (Bey-Bienko 1950), Khuzestan (Mirzayans 1986).

#### *Hemelytroblatta (Mollidentoblatta) marismortui* (Janson, 1891)

*Heterogamia (Polyphaga) maris-mortui* Janson, 1891:184. Holotype ♂ (BMNH).– Egypt.

**Syn.** *Heterogamia maris-mortui* Janson, 1891

**Distribution.** Egypt (Sinai Peninsula), Iran, Iraq, Jordan, Palestine/Israel, Syria.

**Distribution in Iran.** Azarbaijan-e Gharbhi, Fars, Kermanshah, Khuzestan, Lorestan (Mirzayans 1986).

***Hemelytrobatta (Mollidentoblatta) persica (Chopard, 1921)***

*Polyphaga persica* Chopard 1921:27:51. Holotype ♂ (BMNH).– Iran.

**Distribution.** Iran, Afghanistan.

**Distribution in Iran.** Fars, Isfahan, Kerman, Khorassan-e Jonubi (Chopard 1929), Khuzestan, Markazi, Qazvin, Sistan-o Balouchestan, and Yazd (Mirzayans 1986).

**Genus *Leiopteroblatta* Chopard, 1969** [1/1 species]***Leiopteroblatta monodi* Chopard, 1969**

*Leiopteroblatta monodi* Chopard, 1969:228–230. Type: ♂ (MNHN-EP747).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Lut Desert (Mirzayans 1986).

**Subfamily Euthyrrhaphinae Handlirsch, 1925** [1/3 genera]**Genus *Tivia* Walker, 1869** [1/15 species]***Tivia inconspicua* Bey-Bienko, 1950**

*Tivia inconspicua* Bey-Bienko, 1950:280. Holotype ♂ (ZIN RAS).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Hormozgan (Mirzayans 1986), Sistan-o Balouchestan (Bey-Bienko 1950).

**Superfamily Blaberoidea Saussure, 1864** [3/5 families]**Family Blattellidae Karny, 1921** [3/125 genera]**Genus *Blattella* Caudell, 1903** [2/60 species]***Blattella biligata* (Walker, 1868)**

*Ischnoptera biligata* Walker, 1868:123. Lectotype ♂ (BMNH).– Ceylon.

**Syn.** *Blatta cercalis* Walker, 1868. *Ischnoptera evansi* Chopard, 1921. *Blatta mellea* Krauss, 1902. *Ischnoptera modestiformis* Karny, 1915. *Symploce mossambica* Princis, 1965. *Symploce persica* Bey-Bienko, 1935. *Phyllodromia unicolor* Brunner von Wattenwyl, 1893.

**Material examined.** 2 ♀♀ adults, 12.IV.1966, Sistan-o Baluchistan Province (Nikshar–**New record**, MNHN).

**Distribution.** Afghanistan, Burma (Myanmar), China, Congo (Republic of the Congo), Democratic Republic of the Congo, India, Iran, Iraq, Kenya, Mozambique, Pakistan, Palestine/Israel, Saudi Arabia, South Africa (Transvaal province), Sri Lanka, Taiwan, United Arab Emirates, Yemen (southern/coastal Afrotropical part), Zimbabwe.

**Distribution in Iran.** Hormozgan, Sistan-o Balouchestan (Bey-Bienko 1950, Mirzayans 1986).

***Blattella germanica* (Linnaeus, 1767)**

*Blatta germanica* Linnaeus. 1767:688. Syntypes (sex and exact number not stated in the original description); type depository not clearly specified in modern catalogues.

**Syn.** *Blatta asiatica* Pallas, 1773. *Blatta bivittata* Serville, 1838. *Phyllodromia cuneivittata* Hanitsch, 1925. *Blatta daurica* Laxmann, 1769. *Phyllodromia magna* Tepper, 1895. *Phyllodromia nitakana* Shiraki, 1931. *Blatta obliquata* Daldorf, 1793. *Ischnoptera paralella* Tepper, 1893. *Blatta paralella* Harris, 1835. *Ischnoptera paralella* [sic] (Princis, 1969). *Blattella germanica shuguroffi* Karny, 1908. *Blatta transfuga* Brünnich, 1763. *Ischnoptera bivittata* Thomas, 1876.

**Fig. 21**

**Distribution.** Cosmopolitan

**Distribution in Iran.** Almost all parts of Iran (Mirzayans 1986), Fars (Fallahzadeh et al. 2008), Hamedan

(Salehzadeh 1995; Mahjoob et al. 2010; Nejati et al. 2011), Hormozgan (Shahi et al. 2008), Isfahan (Fathpour et al. 2003; Doroodgar et al. 2006), Kerman (Kamyabi et al. 2006), Kermanshah (Limoe et al. 2011), Khorassan-e-Razavi (Naderinasab & Moravvej 2012), Kohkiluyeh va Boyer-Ahmad (Shahraki et al. 2011), Kordestan (Vahabi et al. 2007), Mazandaran (Motavali Haghi et al. 1997; Abedi & Dayer 2006; Enayati & Haghai 2007), Qom (Fahiminia et al. 2010), Southwest Iran (Shahraki et al. 2010), Tehran (Ladonni 1997; Mousavi et al. 2004; Baniardalani et al. 2006; Limoe et al. 2006; Nasirian 2007; Zarchi & Vatani 2009; Fakoorziba et al. 2010); Zanjan (Mohammadi 1998; Ghavami et al. 2005).

### **Genus *Parcoblatta* Hebard, 1917** [1/12 species]

#### ***Parcoblatta* sp.**

**Remark.** This species was listed for Iran by Hashemi-Aghdam and Oshaghi (2015), who cited an earlier record from Isfahan (Fathpour et al. 2003) based on a study of cockroaches as reservoirs and vectors of drug-resistant *Salmonella* spp. In their paper, they noted that this represents a new record for the Iranian fauna and highlighted that its occurrence in the country requires confirmation through additional investigations. In the present work, this species is retained as reported by Hashemi-Aghdam and Oshaghi (2015). However, it is almost certainly a misidentification, given that *Parcoblatta* Hebard, 1917 is otherwise entirely endemic to North America (Hopkins & Beccaloni 2023).

### **Genus *Symploce* Hebard, 1916** [1/61 species]

#### ***Symploce zarudniana* Bei-Bienko, 1950**

*Symploce zarudniana* Bey-Bienko, 1950:150. Holotype ♂ (probably in ZIN RAS).– Iran.

**Distribution.** Iran, Palestine/Israel.

**Distribution in Iran.** Fars, Hormozgan, Kerman, Makran, Sistan-o Balouchestan (Bey-Bienko 1950; Mirzayans 1986).

### **Family Ectobiidae Brunner von Wattenwyl, 1865** [1/14 genera]

#### **Genus *Ectobius* Stephens, 1835** [1/68 genera]

#### ***Ectobius (Ectobius) lapponicus* (Linnaeus, 1758)**

*Blatta lapponica* Linnaeus, 1758:425.– Middle Europe.

**Remarks.** This species is listed in the Cockroach Species File (Hopkins & Beccaloni 2023) with a distribution that includes Iran. However, we did not find any publication that currently confirms its presence in Iran, so this record must be regarded as tentative. In this study, the species is mentioned as potentially occurring in Iran, but its validity and occurrence require confirmation by future field and taxonomic work. Moreover, according to Bey-Bienko (1950), the southern border of the distribution of this species runs along the border of the forest-steppe, without entering Central Asia. Thus, the record of *E. lapponicus* from Iran is questionable and requires confirmation.

### **Genus *Phyllodromica* Fieber, 1853** [2/83 species]

#### ***Phyllodromica (Phyllodromica) polita* (Krauss, 1888)**

*Aphlebia polita* Krauss, 1888:569.– Iran.

**Distribution.** Caucasus Mountains, Iran, Turkey.

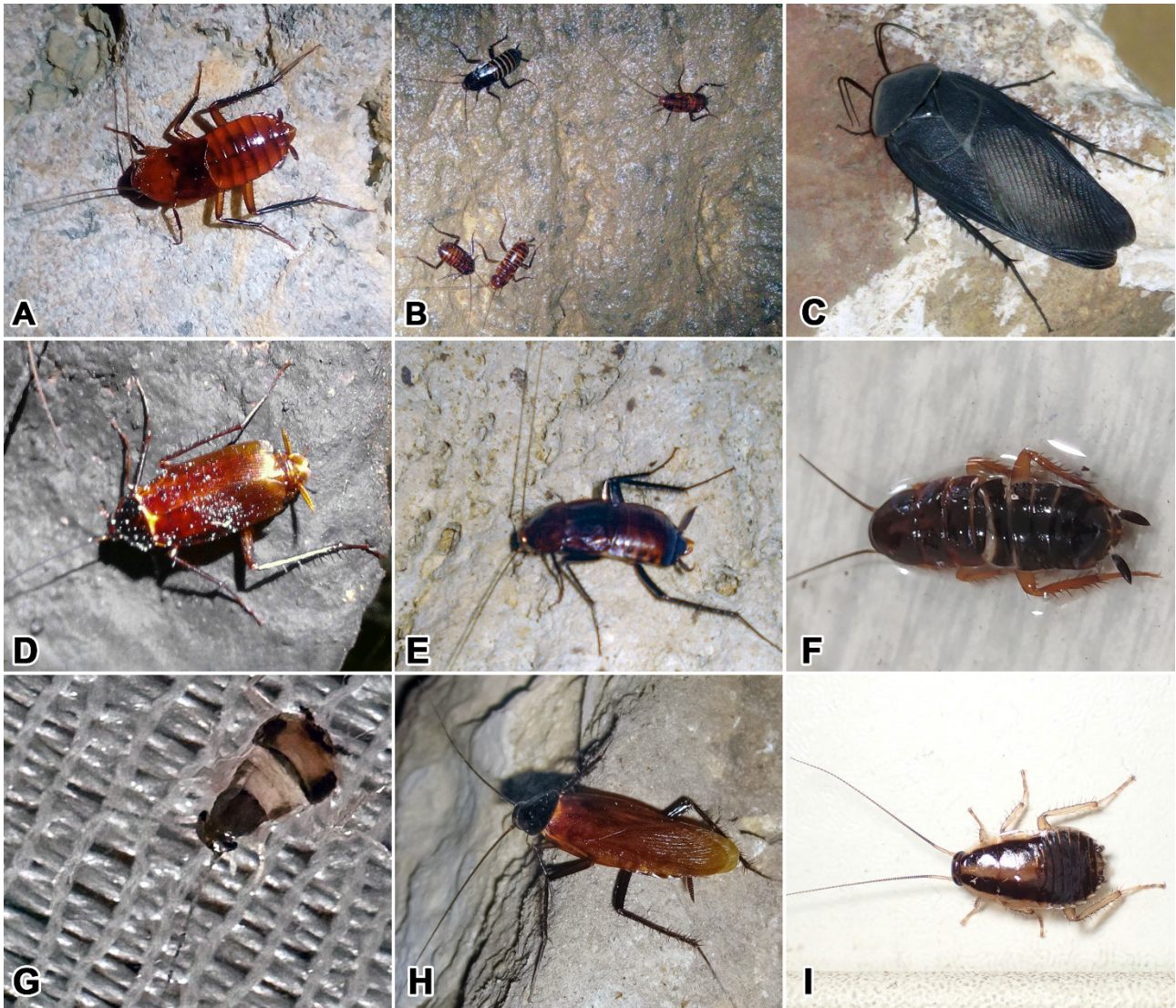
**Distribution in Iran.** Guilan (Bey-Bienko 1950; Mirzayans 1986).

#### ***Phyllodromica (Lobolampra) persa* Bey-Bienko, 1935**

*Phyllodromica (Lobolampra) persa* Bey-Bienko, 1935:122. Holotype ♂ (ZIN RAS).– Iran.

**Distribution.** Afghanistan, Iran, Tajikistan.

**Distribution in Iran.** Golestan (Bey-Bienko 1950).



**Figure 2.** Representative Cockroaches of Iran: **A.** *Periplaneta americana* nymph from Kerman: Baft, Torang Cave (photo credit by: Yaser Bakhshi); **B.** *Periplaneta* sp. nymph from Kohgiluyeh va Boyer-Ahmad: Gachsaran, Gakal Cave (photo credit by: Yaser Bakhshi); **C.** *Polyphaga* sp. from Eshtehard (photo credit by: Houman Doroudi); **D.** Blattidae gen. sp. from Pebdeh Cave, southern Zagros Mountains (photo credit by: Yaser Bakhshi); **E.** Blattidae gen. sp. from Tange Zendan Cave, Ghaemieh (photo credit by: Yaser Bakhshi); **F.** *Periplaneta* sp. nymph from Gorgan (photo credit by: Daryoosh Mansouri); **G.** *Supella longipalpa*, nymph from Karaj (photo credit by: Amin Ghaffari); **H.** *Periplaneta arabica* from Markazi: Neydeh Cave ( photo credit by: Yaser Bakhshi); **I.** *Blattella germanica* nymph from Tehran (photo credit by: Kian Saidabadi).

#### Family Pseudophyllodromiidae Hebard, 1929 [3/88 genera]

##### Genus *Balta* Tepper, 1893 [1/92 species]

##### *Balta ramifera* (Walker, 1871)

*Blatta ramifera* Walker, 1871:27. Holotype ♀ (BMNH).– Indian Subcontinent, Nepal.

**Distribution.** Afghanistan, Iraq, Iran, Nepal.

**Distribution in Iran.** Sistan-o Balouchestan (Mirzayans 1986).

##### Genus *Supella* Shelford, 1911 [1/10 species]

***Supella (Supella) longipalpa (Fabricius, 1798)***

*Blatta longipalpa* Fabricius, 1798:185. Type material and type locality uncertain.

**Syn.** *Blatta cubensis* Saussure, 1862. *Blatta extenuata* Walker, 1868. *Blatta incisa* Walker, 1868. *Blatta phalerata* Saussure, 1863. *Ischnoptera quadriplaga* Walker, 1868. *Blatta subfasciata* Walker, 1871. *Blatta supellectilium* Serville, 1838. *Blatta transversalis* Walker, 1871. *Ischnoptera vacillans* Walker, 1868.

Fig. 2G

**Distribution.** Cosmopolitan.

**Distribution in Iran.** Hamedan (Salehzadeh 1995), Isfahan (Fathpour et al. 2003), Southwest Iran (Shahraki et al. 2010), Tehran (Bey-Bienko 1950).

**Remarks.** Extant species of the genus *Supella* are otherwise confined to the Afrotropical region (Africa, the Arabian Peninsula, and the Comoro Islands), with *S. longipalpa* as the only species that can be found nearly worldwide through human-mediated dispersal. Fossil congeners are known from Central America (Mexican amber, Chiapas) (Vršanský et al. 2011), the West Indies (Dominican amber) (Poinar 2022), and Europe (Rovno amber, Ukraine) (Anisyutkin & Perkovsky 2023).

**Genus *Supellina* Chopard, 1921 [1/3 species]*****Supellina buxtoni* Chopard, 1921**

*Supellina buxtoni* Chopard, 1921:48. Holotype (BMNH).– Iraq.

**Distribution.** Iraq, Iran, Afghanistan, the United Arab Emirates, and Egypt.

**Distribution in Iran.** Sistan-o Baluchestan (Bey-Bienko 1950).

**Order Mantodea Latreille, 1802**

**Family Amorphoscelidae Stål, 1877 [1/2 subfamilies]**

**Subfamily Amorphoscelinae Stål, 1877 [1/5 genera]**

**Genus *Amorphoscelis* Stål, 1871 [1/50 species]**

***Amorphoscelis pantherina* Roy, 1966**

*Amorphoscelis pantherina* Roy, 1966:268–270. Holotype ♂ (USNM).– Iraq.

Fig. 4F

**Distribution.** Iraq, Iran, Turkey.

**Distribution in Iran.** Fars (Mirzaee & Sadeghi 2021), Hormozgan (Ghahari & El-Den Nasser 2014).

**Remark.** This species was first recorded by Ghahari and El-Den Nasser (2014) from Hormozgan province, Minab (1 adult male, collected in April 2007), though the depository of the specimen remains unknown.

**Family Nanomantidae Brunner von Wattenwyl, 1893 [1/4 subfamilies]**

**Subfamily Hapalomantinae Beier, 1964 [1/2 tribes]**

**Tribe Nilomantini Ehrmann & Roy, 2002 [1/9 genera]**

**Genus *Nilomantis* Werner, 1907 [1/2 species]**

***Nilomantis floweri* Werner, 1907**

*Nilomantis floweri* Werner, 1907:234. Holotype ♀ (NHMW).– Sudan.

**Syn.** *Cryptomantis tenella* Giglio-Tos, 1915:45–46. *Nilomantis arabica* Beier, 1930:438–439. *Nilomantis [Cryptomantis] tenella* (Giglio-Tos, 1915); Beier, 1935:55. *Nilomantis arabica* Beier, 1930; Beier, 1935:55. *Cryptomantis tenella* Giglio-Tos, 1915; Roy, 1975:311–316. *Nilomantis arabica* Beier, 1930; Roy, 1975:311–316.

Fig. 4E

**Distribution.** Chad, Ethiopia (North), Iran, Mauritania, Niger, Oman, Saudi Arabia, Sudan, Yemen.

**Distribution in Iran.** Bushehr, Fars, Hormozgan, and Sistan-o Baluchistan (Mirzaee et al. 2023).

**Family Gonypetidae Westwood, 1889** [1/2 subfamilies]

**Subfamily Gonypetinae Westwood, 1889** [2/2 tribes]

**Tribe Armenini Schwarz & Roy, 2019** [1/1 genus]

**Genus *Armene* Stål, 1877** [1/7 species]

***Armene pusilla* Eversmann, 1854**

*Mantis pusilla* Eversmann, 1859:124–125. Holotype ♂ (ZIN RAS).– Kazakhstan.

**Syn.** *Gonypeta?* [*Mantis*] *pusilla* (Eversmann, 1859); Saussure, 1871:55. *Ameles alata* Saussure, 1872:51–52. *Ameles alata* Saussure, 1872; Saussure, 1874:13–14. *Armene* [*Ameles*] *alata* (Saussure, 1872); Stål, 1877:49. *Armene* [*Ameles*] *alata* (Saussure, 1872); Jacobson & Bianchi, 1905:145–146. *Armene* [*Ameles*] *alata* (Saussure, 1872); Kirby, 1904:225.

Fig. 3E

**Distribution.** Afghanistan, Iran, Mongolia, Russia, Tajikistan, Turkmenistan, Uzbekistan.

**Distribution in Iran.** Kurdistan (Sakenin et al. 2011).

**Remark.** The online Mantodea species catalogue (Otte et al. 2023) lists the type locality as “Mongolia: Kirghis Steppes (Südliche Kirgisensteppe östlich vom Ural-Fluss, Mongolei – Ehrmann 2002)”, but this formulation conflates the historical German locality name with modern geography and incorrectly assigns the site to Mongolia. In fact, “Kirgisensteppe” (Kirgiz/Kyrgyz Steppe) refers to steppe regions situated in present-day Kazakhstan and adjacent areas south and east of the Ural River, rather than to any locality in Mongolia.

**Tribe Gonypetini Westwood, 1889** [2/4 subtribes]

**Subtribe Gonypetina Westwood, 1889** [2/9 genera]

**Genus *Elaea* Stål, 1877** [1/7 species]

***Elaea richteri* Beier, 1956**

*Elaea richteri* Beier, 1956:69–70. Holotype ♂ (SMNS).– Iran.

Fig. 3B

**Distribution.** (Iran).

**Distribution in Iran.** Southern and southeastern Iran (Beier 1956).

**Genus *Holaptilon* Stål, 1877** [5/6 species]

***Holaptilon abdullahii* Mirzaee & Battiston 2024**

*Holaptilon abdullahii* Mirzaee & Battiston 2024:103. Holotype ♂ (SDEI), Paratypes ♀♀ (SDEI).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** South of Iran, Bushehr (Mirzaee et al. 2024b).

***Holaptilon brevipugilis* Kolnegari, 2018**

*Holaptilon brevipugilis* Kolnegari, 2018:9–17. Holotype ♂, Allotype ♀ (IAUA), paratypes ♂♀ (SDEI).– Iran.

**Syn.** *Holaptilon yagmur* Yılmaz & Sevgili, 2023:18.

**Distribution.** Turkey, Iran.

**Distribution in Iran.** Centre and north-east of Iran, Markazi (Kolnegari & Vafaei-Shoushtari 2018), Khorasan-e Razavi (Mirzaee et al. 2024b)

***Holaptilon iranicum* Mirzaee & Sadeghi, 2024**

*Holaptilon iranicum* Mirzaee & Sadeghi, 2024:104–105. Holotype ♂ (SDEI).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Fars, Kohgiluyeh va Boyer-Ahmad (Mirzaee et al. 2024b).

***Holaptilon khozestani* Mirzaee & Battiston, 2024**

*Holaptilon khozestani* Mirzaee & Battiston 2024:105–106. Holotype ♂ (SDEI).– Iran.

Fig. 3D

**Distribution.** Iran.

**Distribution in Iran.** Khuzestan (Mirzaee et al. 2024b).

***Holaptilon tadovaniense* Mirzaee & Sadeghi, 2024**

*Holaptilon tadovaniensis* Mirzaee & Sadeghi, 2024:106–107. Holotype ♂ (SDEI).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Fars (Tadovan) (Mirzaee et al. 2024b).

**Remarks.** At the time this species was described, it was unintentionally given the name *tadovaniensis*. However, because *Holaptilon* is a neuter noun, the correct form of the specific epithet is *tadovaniense*. Therefore, we here adopt the corrected combination *Holaptilon tadovaniense*.

**Family Rivetiniidae Ehrmann & Roy, 2002 [1/2 subfamilies]****Subfamily Rivetiniinae Ehrmann & Roy, 2002 [1/2 tribes]****Tribe Rivetiniini Ehrmann & Roy (2002) [3/7 genera]****Genus *Rivetina* Berland & Chopard, 1922 [5/34 species]*****Rivetina caucasica caucasica* (Saussure, 1871)**

*Iris (Fischeria) caucasica* Saussure, 1871:110–112. Holotype ♂, paratypes ♀♂ (NHMW).– Caucasus.

**Syn.** *Iris (Fischeria) caucasica* Saussure, 1871; Saussure 1871:149–362. *Fischeria [Iris (Fischeria)] caucasica* Saussure, 1871; Bolivar 1899:587. *Fischeria [Iris (Fischeria)] caucasica* Saussure, 1871; Uvarov 1912:8; *Eufischeriella [Iris (Fischeria)] caucasica* (Saussure, 1871); Giglio-Tos 1927:485. *Kinzelbachia ragnari* Harz, 1988:209. *Kinzelbachia ragnari* Harz, 1988; Ehrmann 2000:2–3.

**Distribution.** Iran, Caucasus, Syria, Tajikistan, and Turkey (Battiston et al. 2010).

**Distribution in Iran.** Lorestan (Mirzaee & Sadeghi 2019), West Azerbaijan (Sakenin et al. 2011).

***Rivetina dolichoptera* (Schulthess-Rechberg, 1894)**

*Bolivaria dolichoptera* Schulthess-Rechberg, 1894:71. Holotype ♂ (ETHZ).– S. Yemen.

**Syn.** *Fischeria [Bolivaria] dolichoptera* (Schulthess-Rechberg, 1894); Giglio-Tos 1916:21–22. *Eufischeriella [Bolivaria] dolichoptera* (Schulthess-Rechberg, 1894); Giglio-Tos 1927:485.

**Distribution.** Iran, Saudi Arabia, Yemen (Ehrmann 2002).

**Distribution in Iran.** Khorasan-e Jonubi, and Sistan-o Baluchistan (Beier 1956).

***Rivetina excellens* La Greca & Lombardo, 1982**

La Greca & Lombardo, 1982:374. Holotype ♂ (SMNS).– SE Iran.

**Syn.** *Rivetina excellens* Beier, 1956:73–74; Ehrmann, 2000:7, 2002:312; Otte & Spearman, 2005:235.

**Distribution.** Iran, Iraq, United Arab Emirates, Yemen (Beier 1956).

**Distribution in Iran.** Sistan-o Baluchistan (Beier 1956).

***Rivetina inermis* (Uvarov, 1923)**

*Fischeria inermis* Uvarov, 1923:721–722. Holotype ♂ (BMNH).– Saudi Arabia.

**Distribution.** Iran, Saudi Arabia, Yemen.

**Distribution in Iran.** Fars and Bushehr (Mirzaee & Sadeghi 2021).

***Rivetina rhombicollis* La Greca & Lombardo, 1982**

*Rivetina rhombicollis* La Greca & Lombardo, 1982:384. Holotype ♂ (NHMW).– Iran.

**Distribution.** Afghanistan, Iran, Pakistan.

**Distribution in Iran.** Sistan-o Baluchistan (La Greca & Lombardo 1982).

**Genus *Bolivaria* Stål, 1877** [1/3 species]***Bolivaria brachyptera* (Pallas, 1773)**

*Mantis brachyptera* Pallas, 1773:728. Lectotype ♂ (ZMHB) (Alcohol).– Western Asia (Iran, Iraq).

**Syn.** *Mantis brachyptera* Pallas, 1773; Goeze 1778:32. *Mantis brachyptera* Pallas, 1773; Olivier 1792:635. *Mantis brachyptera* Pallas, 1773; Fischer-Waldheim, 1846:103. *Mantis brachyptera* Pallas, 1773; Kittary, 1849:447. *Mantis commutata* Fieber, 1853:95. *Mantis brachyptera* Pallas, 1773; Eversmann, 1859:125. *Iris pallasii* Saussure, 1869:65. *Iris* [*Mantis*] *brachyptera* (Pallas, 1773); Saussure, 1871:112–114. *Fischeria* [*Mantis*] *brachyptera* (Pallas, 1773); Saussure, 1874:18.

Fig. 3I

**Distribution.** Afghanistan, Armenia, Crete, Iran, Mongolia, Palestine, Turkey.

**Distribution in Iran.** Fars (Mirzaee & Sadeghi 2021), Guilan (Moradzadeh et al. 2021), Hamedan (Sadeghi & Sadeghi 2015), Isfahan (Beier 1956), Khuzestan (Ghahari & El-Den Nasser 2014), Kurdistan (Rouhani et al. 2015), Lorestan (Mirzaee & Sadeghi 2019), Mazandaran (Beier 1956), South Khorasan (Rabieh et al. 2016), Tehran (Beier 1956; Mirzaee & Pashaei Rad 2017), West Azerbaijan (Sakenin et al. 2011).

**Genus *Microthespis* Werner, 1908** [1/2 species]***Microthespis dmitriewi* Werner, 1908**

*Microthespis dmitriewi* Werner, 1908:120. Holotype ♂, Paratype: ♂ (probably ZIN RAS).– Ethiopia.

Fig. 4C

**Distribution.** Bahrain, Egypt, Ethiopia, Iran, Jordan, Oman, Pakistan, Palestine/Israel, Saudi Arabia, Somalia, United Arab Emirates, Yemen.

**Distribution in Iran.** Fars (Mirzaee & Sadeghi 2021), Lorestan (Mirzaee & Sadeghi 2019), Sistan-o Baluchistan (Beier 1956).

**Remarks.** The fifth author, Leonid Anisyutkin, examined the Mantodea collection at ZIN RAS but was unable to locate the type material of this species. He noted that the type of *M. dmitriewi* may be in the collection, but is not properly designated. Therefore, further research is needed to identify the type material of this species.

**Family Amelidae Westwood, 1889** [1/2 tribes]**Tribe Amelini Westwood, 1889** [1/3 genera]**Genus *Ameles* Burmeister, 1838** [1/24 species]***Ameles persa* Bolivar, 1911**

Fig. 3G

*Ameles persa* Bolivar, 1911:2–3. Holotype ♂, Allotype ♀ (MNMS).– Iran.

**Distribution.** Afghanistan, Armenia, Iran, Turkmenistan.

**Distribution in Iran.** Fars (Mirzaee & Sadeghi 2021), Isfahan (Ghahari & El-Den Nasser 2014), Kurdistan (Rouhani et al. 2015), Lorestan (Mirzaee & Sadeghi 2019), Sistan-o Baluchistan (Beier 1956), Khorasan-e Jonubi (Rabieh et al. 2016), Tehran (Mirzaee & Pashaei Rad 2017).

**Family Eremiaphilidae Saussure, 1869** [2/4 subfamilies]

**Subfamily Iridinae Westwood, 1889** [1/4 tribes]

**Tribe Iridini Westwood, 1889** [1/3 genera]

**Genus *Iris* Saussure, 1869** [4/14 species]

***Iris nana* Uvarov, 1930**

**Fig. 3F**

*Iris nana* Uvarov, 1930:632. Holotype ♂ (BMNH).– Iraq.

**Syn.** *Iris radians* Uvarov, 1931: 234–235.

**Distribution.** Afghanistan, Iran, Iraq, Pakistan, India.

**Distribution in Iran.** Fars (Uvarov 1938; Mirzaee & Sadeghi 2021), Tehran (Mirzaee & Pashaei Rad 2017).

***Iris oratoria* (Linné, 1758)**

*Gryllus* (*Mantis*) *oratorius* Linné, 1758:426. Holotype ♂ (UZIUI).– Africa.

**Syn.** *Mantis dentata* Goeze, 1778:36–37. *Mantis bella* Germar, 1817:6. *Mantis minima* Charpentier, 1825:91.

**Distribution.** Cosmopolitan.

**Distribution in Iran.** Fars (Mirzaee & Sadeghi 2021), Kerman (Ramme 1951), Kurdistan (Rouhani et al. 2015), Lorestan (Mirzaee & Sadeghi 2019), Khorasan-e Shomali (Sakenin et al. 2011), Khorasan-e Jonubi (Rabieh et al. 2016), Tehran (Mirzaee & Pashaei Rad 2017).

***Iris persa* Uvarov, 1922**

*Iris persa* Uvarov, 1923:723. Syntype ♂ (BMNH).– SW Iran.

**Distribution.** Iran.

**Distribution in Iran.** Fars (Ebner 1963), Bushehr (Uvarov 1922), Sistan-o Baluchistan (Beier 1956).

***Iris polystictica* (Fischer-Waldheim, 1846)**

*Mantis polystictica* Fischer-Waldheim, 1846:102. Holotype ♂ (probably ZIN RAS).– Russia.

**Syn.** *Iris tiflisina* Giglio-Tos, 1915:74. *Iris tiflisina* Giglio-Tos, 1915; Giglio-Tos, 1927:333. *Iris polystictica mongolica* Sjöstedt, 1933:2–3.

**Distribution.** Afghanistan, Armenia, Azerbaijan, Caucasus, China, Georgia, Iran, Kazakhstan, Russia, Tajikistan, Turkey, Turkmenistan, Uzbekistan.

**Distribution in Iran.** Ardabil (Morshedi Aghbolagh et al. 2012), Fars (Mirzaee & Sadeghi 2021), Tehran (Mirzaee & Pashaei Rad 2017), Mazandaran (Jamali & Mofidi-Neyestanak 2013).

**Remark.** The fifth author, Leonid Anisyutkin, examined the Mantodea collection at ZIN RAS but was unable to locate the type material of this species. He noted that the ZIN RAS collection holds numerous specimens of *I. polystictica*, including very old material. Therefore, further research is needed to identify the type that is not simple for old material.

**Subfamily Eremiaphilinae Saussure, 1869** [1/2 genera]

**Genus *Eremiaphila* Lefebvre, 1835** [2/64 species]

***Eremiaphila genei* Lefebvre, 1835**

*Eremiaphila genei* Lefebvre, 1835:486–489. Holotype ♂, Paratypes ♂♀ (MNHN).– Syria.

**Syn.** *Eremophila* [*Eremiaphila*] *genei* (Lefebvre, 1835); Burmeister, 1838:525. *Eremophila* [*Eremiaphila*] *zetterstedtii* (Lefebvre, 1835); Burmeister, 1838:525. *Eremiaphila burmeisteri* Saussure, 1871:252. *Eremiaphila genei* var. *laevipennis* Werner, 1905:386–387. *Eremiaphila hauensteini* Werner, 1905:387. *Eremiaphila burmeisteri* Saussure, 1871; Giglio-Tos, 1927:52.

**Distribution.** Afghanistan, Armenia, Egypt, Iran, Jordan, Lebanon, Palestine/Israel, Saudi Arabia, Syria, Turkey, Yemen.

**Distribution in Iran.** East Azerbaijan (Sakenin et al. 2011), Golestan (Sakenin et al. 2011), Isfahan (Ghahari & El-Den Nasser 2014), Khorasan-e Jonubi (Rabieh et al. 2016).

***Eremiaphila persica* Werner, 1905**

***Eremiaphila persica persica* Werner, 1905**

*Eremiaphila persica persica* Werner, 1905:388–389. Syntypes ♀♂♂ (ZIN RAS).– Iran.

**Distribution.** Azerbaijan, Iran, Iraq, Turkey.

**Distribution in Iran.** Isfahan (Beier 1956), Kerman (Ghahari & El-Den Nasser 2014), Khorasan-e Jonubi (Beier 1956).

**Remarks.** The online Mantodea species catalogue (Otte et al. 2023) states “syntypes male and female (ZIN St. Petersburg – holotype male, allotype female, Ehrmann 2002)”. However, examination of the ZIN RAS Mantodea collection revealed four specimens (one female and three males), all labelled as part of the type series and originally mentioned by Werner, with no specimen explicitly designated as holotype. Consequently, the current catalogue wording is somewhat misleading, because a formal holotype has not been fixed on any of the existing specimens.

***Eremiaphila persica sjostedti* Werner, 1930**

*Eremiaphila persica sjostedti* Werner, 1930:1–2. Holotype ♀, paratype ♂ (NHRS).– Iran.

Fig. 3C

**Distribution.** Iran, Pakistan.

**Distribution in Iran.** Bushehr (Beier 1956).

**Family Toxoderidae Saussure, 1869** [2/4 subfamilies]

**Subfamily Oxythespinae Giglio-Tos, 1916** [1/2 tribes]

**Tribe Oxythespini Giglio-Tos, 1916** [4/7 genera]

**Genus *Sinaiella* Uvarov, 1924** [1/4 species]

***Sinaiella azadi* Kolnegari & Schwarz, 2025**

*Sinaiella azadi* Kolnegari & Schwarz, 2025:102. Holotype ♂ (NHMB), paratype: juvenile (NMNHGR).– Iran.

**Distribution.** Armenia, Iran.

**Distribution in Iran.** Markazi (Kolnegari et al. 2025).

**Genus *Severinia* Finot, 1902** [1/8 species]

***Severinia persica* Bolivar, 1913**

*Oxythespis persica* Bolivar, 1913:605–606. Holotype ♂, Allotype: ♀ (MNMS).– Iran.

**Distribution.** Iran, Afghanistan.

**Distribution in Iran.** Fars (Mirzaee & Sadeghi 2021), Isfahan (Ghahari & El-Den Nasser 2014), Lorestan (Mirzaee & Sadeghi 2019), Sistan-o Baluchistan (Beier 1956), Khorasan-e Jonubi (Rabieh et al. 2016).

**Remarks.** Kaltenbach (1982), in his contribution to the *Fauna of Saudi Arabia*, treated the species under the combination *Amblythespis persica* (Bolivar, 1913). Later, Lombardo (1991), in his revision “Remarks on the genus *Severinia*”, placed *Amblythespis* in synonymy with *Severinia*, thereby automatically transferring all its species to *Severinia* and making *Severinia persica* the correct combination under both taxonomic usage and zoological nomenclature. Despite this, the valid name *Severinia persica* is still frequently overlooked in the Mantodea literature, where the older combination as *Oxythespis persica* is often retained.

**Genus *Lobothespis* La Greca & Lombardo, 1987** [1/1 species]***Lobothespis vignai* La Greca & Lombardo, 1987**

*Lobothespis vignai* La Greca & Lombardo, 1987:239–242. Holotype ♂ (INER).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Sistan-o Baluchistan (La Greca & Lombardo 1987).

**Subfamily Toxoderinae Saussure, 1869** [1/4 tribes]**Tribe Aethalochroini Giglio-Tos, 1914** [1/3 genera]**Genus *Aethalochroa* Wood-Mason, 1877** [1/6 species]***Aethalochroa ashmoliana* (Westwood, 1841)**

*Vates ashmoliana* Westwood, 1841:272. Type ♂ (OUMNH).– India.

**Syn.** *Vates ashmoliana* Westwood, 1841; Westwood, 1843:52. *Popa* [*Vates*] *ashmoliana* (Westwood, 1841); Saussure, 1871: 161. *Arsacia* [*Vates*] *ashmoliana* (Westwood, 1841); Stål, 1877:75.

**Distribution.** Iran, India, Pakistan, Sri Lanka, and West Bengal.

**Distribution in Iran.** Sistan-o Baluchistan (Beier 1956).

**Family Empusidae Burmeister, 1838** [2/2 subfamilies]**Subfamily Blepharodinae Giglio-Tos, 1919** [1/2 genera]**Genus *Blepharopsis* Rehn, 1902** [1/1 species]***Blepharopsis mendica* (Fabricius, 1775)**

*Mantis mendica* Fabricius, 1775:275. Types ♂♂, ♀♀ (ZMB).– Egypt.

**Syn.** *Gryllus monstrosus* Forskål, 1775:82. *Mantis mendica* Fabricius, 1775; Fabricius, 1781:347. *Mantis marmorata* Olivier, 1792:641. *Empusa* [*Mantis*] *mendica* (Fabricius, 1775); Latreille, 1807:90. *Gongylus* [*Mantis*] *mendica* (Fabricius, 1775); Thunberg, 1815:295. *Blepharis* [*Mantis*] *mendica* (Fabricius, 1775); Serville, 1831:47; *Mantis dilaticollis* Gistel, 1856:427. *Chersomantis picta* Gistel, 1856; Giglio-Tos, 1927:649.

**Fig. 4A**

**Distribution.** Afghanistan, Algeria, Canary Islands, Chad, Cyprus, Egypt, Ethiopia, NW India, Iran, Jordan, Lebanon, Libya, Mauritania, Morocco, Niger, Oman, Pakistan, Palestine/Israel, Somalia, Sudan, Tunisia, Turkey, United Arab Emirates, Uzbekistan, Yemen.

**Distribution in Iran.** Fars (Mirzaee & Sadeghi 2021), Lorestan (Mirzaee & Sadeghi 2019), Khorasan-e Shomali (Sakenin et al. 2011), Sistan-o Baluchistan (Ghahari & El-Den Nasser 2014, Beier 1956), Khorasan-e Jonubi (Rabieh et al. 2016).

**Subfamily Empusinae Burmeister, 1838** [1/2 tribes]**Tribe Empusini Burmeister, 1838** [1/2 subtribes]**Subtribe Empusina Burmeister, 1838** [1/4 genera]**Genus *Empusa* Illiger, 1798** [3/11 species]***Empusa fasciata* Brullé, 1832**

*Empusa fasciata* Brullé, 1832:83. Probably lost.– Jerusalem.

**Syn.** *Empusa longicollis* Ramme, 1951:134–135.

**Fig. 3A**

**Distribution.** Afghanistan, Croatia, Cyprus, Egypt, Greece, India, Iran, Iraq, Jordan, Palestine/Israel, Romania, Russia, Slovenia, Turkey.

**Distribution in Iran.** Fars (Mirzaee & Sadeghi 2021), Guilan (Moradzadeh et al. 2021), Kurdistan (Rouhani et al. 2015), Khorasan-e Rzavi (Sakenin et al. 2011), Khorasan-e Jonubi (Rabieh et al. 2016), Tehran (Mirzaee & Pashaei Rad 2017).

### *Empusa hedenborgii* Stål, 1877

*Empusa hedenborgii* Stål, 1877:77. Holotype ♂ (NHRS).– Sudan.

**Syn.** *Empusa* [*Mantis*] *pectinicornis* (Drury, 1770); Burmeister, 1838:546. *Empusa* [*Mantis*] *pectinicornis* (Drury, 1770); Stål, 1871:383. *Empusa egena* Charpentier, 1841; Rehn, 1901:288. *Empusa stollii* Saussure, 1871; Werner, 1907:247.

**Distribution.** Cameroon, North Somalia, Eritrea, Ethiopia, Senegal, Sudan, Yemen, Egypt, Iran, Saudi Arabia, United Arab Emirates.

**Distribution in Iran.** Khuzestan (Ghahari & El-Den Nasser 2014), Lorestan (Mirzaee & Sadeghi 2019), Sistan-o Baluchistan (Beier 1956), Tehran (Mirzaee & Pashaei Rad 2017).

### *Empusa pennicornis* Lindt, 1978

*Mantis pennicornis* Pallas, 1773: 728. Type: ♂ (ZMB).– Syria.

**Syn.** *Mantis pennicornis* Pallas, 1773; Goeze, 1778:31–32. *Mantis pennicornis* Pallas, 1773; Gmelin-Linné, 1790:2055. *Mantis pennicornis* Pallas, 1773; Olivier, 1792:635. *Mantis pallasiana* Olivier, 1792:637–638. *Mantis pectinicornis* Drury, 1770; Lichtenstein, 1802:22–23. *Mantis pennicornis* Pallas, 1773; Stoll, 1813:30–31. *Gongylus marginatus* Thunberg, 1815:294. *Empusa* (*Empusa*) *orientalis* Burmeister, 1838:546–547. *Empusa orientalis* Burmeister, 1838; Fischer Waldheim, 1846:97. *Empusa* [*Mantis*] *pauperata* (Fabricius, 1781); Kittary, 1849:443. *Empusa orientalis* Burmeister, 1838; Fischer, 1853:132–133. *Empusa stollii* Saussure, 1871:188. *Empusa attenuata* Ramme, 1951:135–136.

**Distribution.** Afghanistan, China, Georgia, Iran, Iraq, Kazakhstan, Russia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan.

**Distribution in Iran.** Ardabil (Sakenin et al. 2011), Fars (Mirzaee & Sadeghi 2019), Kurdistan (Ghahari & El-Den Nasser 2014), Sistan-o Baluchistan (Beier 1956), Khorasan-e Jonubi (Beier 1956), Tehran (Mirzaee & Pashaei Rad 2017).

## Family Mantidae Latreille, 1802 [2/11 subfamilies]

### Subfamily Mantinae Latreille, 1802 (1/3 genera)

#### Genus *Mantis* Linnaeus, 175 [1/14 species]

### *Mantis religiosa* Linné, 1758

*Gryllus* (*Mantis*) *religiosus* Linné, 1758:426. Holotype ♂, Paratypes: ♀♀♀ (LSUK).– Africa.

**Syn.** *Gryllus religiosus* Linné, 1758; Scopoli 1763:105. *Mantis religiosa*: Linné 1767:690. *Mantis oratoria* Fabricius, 1775:276–277. *Mantis sancta* Fabricius, 1787:228. *Mantis sancta* Fabricius, 1787; Olivier 1792:628–629. *Mantis religiosa* var. *striata* Fabricius, 1793:20. *Mantis oratoria* Fabricius, 1775; Lichtenstein 1802:28–29. *Mantis maroccana* Thunberg, 1815:287–299. *Mantis pia* Audinet-Serville, 1839:193. *Mantis prasina* Audinet-Serville, 1839:195. *Mantis radiata* Motchoulsky: Fischer-Waldheim 1846:101. *Mantis capensis* Saussure, 1872:46–47. *Mantis capensis*: Stål 1877:60–61; *Mantis religiosa* var. *major* Gerstaecker, 1873:12. *Mantis prasina* Audinet-Serville, 1839: Stål 1877:61. *Mantis pia* Audinet-Serville, 1839; Kirby 1899:348. *Mantis macroura* Brunner de Wattenwyl, 1882:60. *Mantis carinata* Cosmovici, 1888:172–173. *Mantis religiosa flava* Padewieth, 1900:20. *Mantis religiosa brunnea* Padewieth, 1900:20.

**Distribution.** Africa, Asia, Europe, North America (introduced) (Ehrmann 2002).

**Distribution in Iran.** East Azerbaijan (Sakenin et al. 2011), Fars (Sadeghi & Sadeghi 2015; Mirzaee & Sadeghi 2021; Ghahari & El-Den Nasser 2014), Hormozgan (Ghahari & El-Den Nasser 2014), Kurdistan (Rouhani et al. 2015; Ghahari & El-Den Nasser 2014), Lorestan (Mirzaee & Sadeghi 2019), Mazandaran (Beier 1956), Khorasan-e Razavi (Sakenin et al. 2011), Khorasan-e Jonubi (Rabieh et al. 2016), Sistan-o Baluchistan (Beier 1956), Tehran (Mirzaee & Pashaei Rad 2017), West Azerbaijan (Sakenin et al. 2011).

**Subfamily Hierodulinae Brunner von Wattenwyl, 1893 [1/2 tribes]**

**Tribe Hierodulini Brunner von Wattenwyl, 1893 [1/13 genera]**

**Genus *Hierodula* Burmeister, 1838 [2/104 species]**

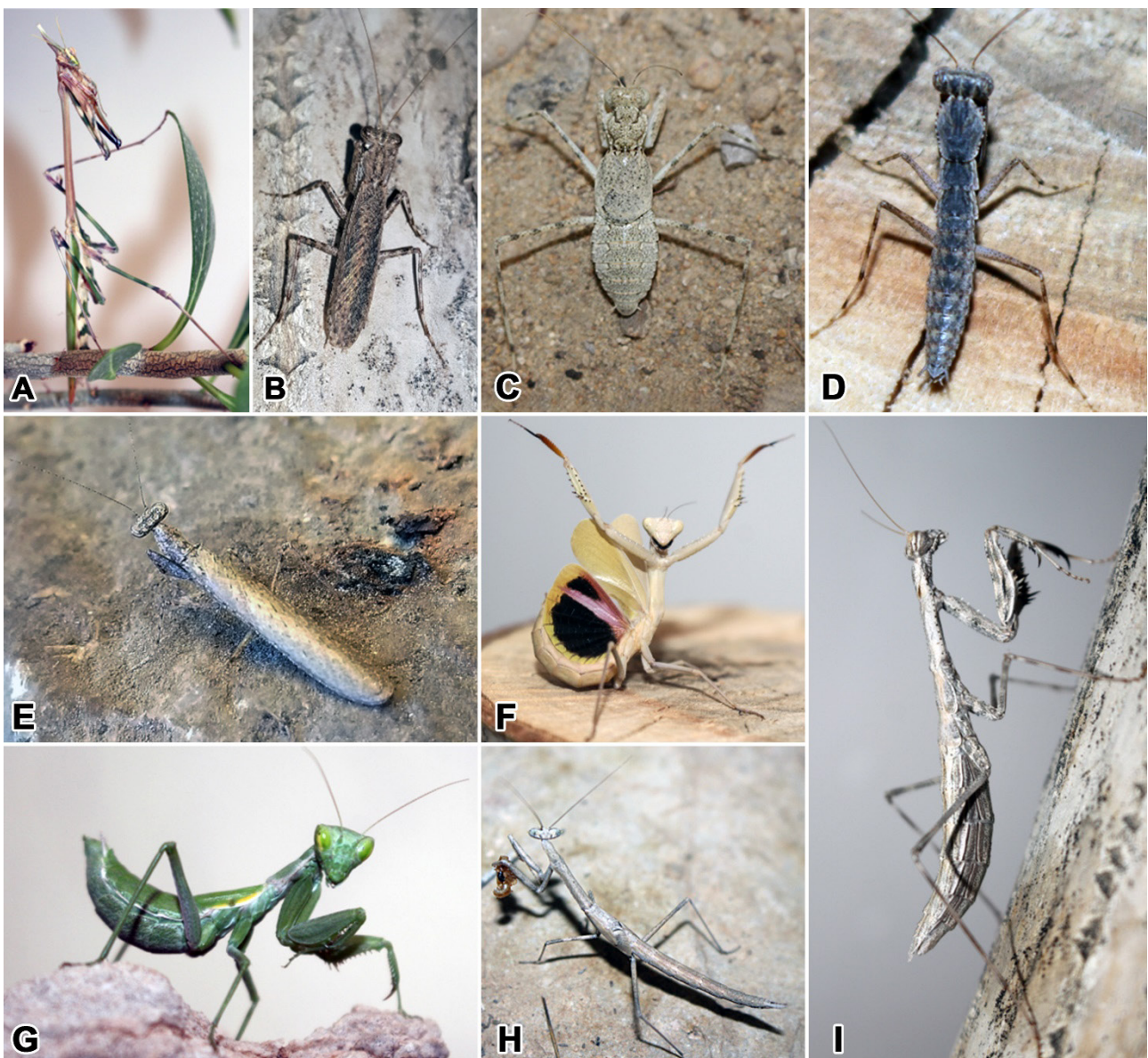
***Hierodula coarctata* Saussure, 1869**

*Hierodula coarctata* Saussure. 1869:67. Holotype ♂ (MHNG).– India.

**Syn.** *Hierodula (Hierodula) macrostigmata* Deeleman-Reinhold, 1957:57–58.

**Distribution.** Iran, India, Java, Nepal, Pakistan.

**Distribution in Iran.** Hormozgan (Deeleman-Reinhold 1957), Sistan-o Baluchistan (Mirzaee et al. 2026).



**Figure 3.** Representative Mantodea of Iran: **A.** *Empusa fasciata*, female from Bushehr: Jam; **B.** *Elaea richteri*, male from Sistan-o Baluchistan; **C.** *Eremiaphila persica*, female from Bushehr; **D.** *Holaptilon khozestani*, male from Khuzestan; **E.** *Armene pusilla*, male from Mashahd; **F.** *Iris nana*, female from Bushehr: Kangan; **G.** *Ameles persa*, female from Fars; **H.** *Severinia* sp., subadult female from Fars; **I.** *Bolivaria brachyptera*, female from Bushehr. Photos by: Zohreh Mirzaee (A–D, F–I); Mehdi Ghafarnia (E).



**Figure 4.** Representative Mantodea of Iran: **A.** *Blepharopsis mendica*, female from Bushehr: Jam; **B.** *Hierodula tenuidentata*, female from Fars; **C.** *Microthespis dmitriewi*, female from Bushehr; **D.** *Rivetina* sp., female from Bushehr: Jam; **E.** *Nilomantis floweri*, male from Hormozgan; **F.** *Amorphoscelis pantherina*, male from Fars; Photos by: Zohreh Mirzaee (A–E); Mohsen Kiani (F).

### *Hierodula tenuidentata* Saussure, 1869

*Hierodula tenuidentata* Saussure, 1869:68. Holotype ♂ (MHNG).– India.

**Syn.** *Hierodula* [*Mantis*] *simulacrum* (Fabricius, 1793); Westwood 1889:34. *Hierodula heterodera* Westwood, 1889:34. *Sphodromantis* [*Hierodula*] *tenuidentata* (Saussure, 1869); Kirby 1904:244. *Hierodula westwoodi* Kirby, 1904:247.

#### Fig. 4B

**Distribution.** Borneo, Bosnia and Herzegovina, Bulgaria, China, Germany, India, Iran, Italy, Kazakhstan, Mongolia, Nepal, Romania, Serbia, Sunda Islands, Tajikistan, Turkmenistan, Turkey.

**Distribution in Iran.** North, Northeast, Central, and Southwest of Iran (Mirzaee et al. 2026).

### Order Phasmatodea Jacobson & Bianchi, 1902

#### Suborder Euphasmatodea Bradler, 1999

**Superfamily Bacilloidea Brunner von Wattenwyl, 1893** [1/3 families]

**Family Bacillidae Brunner von Wattenwyl, 1893** [1/9 tribes]

**Tribe Gratidiini Cliquennois, 2005** [2/16 genera]

**Genus *Adelungella* Brunner von Wattenwyl, 1907** [1/1 species]

***Adelungella insignis* Brunner von Wattenwyl, 1907**

*Adelungella insignis* Brunner von Wattenwyl, 1907:229. Syntypes (2): ♀♀ (ZIN).– Iran.

**Distribution.** Iran.

**Distribution in Iran.** Kerman (Brunner von Wattenwyl 1907).

**Remark.** So far only documented only from the type locality, but the distribution is assumed to be wider.

**Genus *Clonaria* Stål, 1875** [4/127 species]

***Clonaria inconspicua* (Brunner von Wattenwyl, 1907)**

*Gratidia inconspicua* Brunner von Wattenwyl, 1907:223. Syntypes (8): 2♀♀, 1♂ (NHMW). Uzbekistan: Buchara; 2♂♂ (ZIN). Iran: Kerman; 1♂ (ZIN). Iran: Khorasan; 1♂ (ZIN). Iran: Road from Trauscaspian (Turkmenia) to Kuchan (Persia **Syn.** Iran); 1♂ (ZIN). Uzbekistan: Buchara.

**Syn.** *Ramulus inconspicua* (Brunner von Wattenwyl, 1907); Brock, 1991:39.

**Fig. 5A**

**Distribution.** Turkmenistan, Iran.

**Distribution in Iran.** Kerman, Khorasan-e Razavi (Brock et al. 2025).

***Clonaria predtetshenkyi* (Bey-Bienko, 1946)**

*Gratidia predtetshenkyi* Bey-Bienko, 1946:74. Holotype ♂ (ZIN RAS). Iran.

**Syn.** *Ramulus predtetshenkyi* (Bey-Bienko, 1946); Brock, 1991:39.

**Distribution.** Iran.

**Distribution in Iran.** Qazvin (Bey-Bienko 1946).

**Remark.** So far only documented only from the type locality, but the distribution is assumed to be wider.

***Clonaria spinulosa* (Brunner von Wattenwyl, 1907)**

*Gratidia spinulosa* Brunner von Wattenwyl, 1907:228. Holotype ♀ (ZIM). Iran.

**Syn.** *Ramulus spinulosa* (Brunner von Wattenwyl, 1907); Brock, 1991:39.

**Distribution.** Iran.

**Distribution in Iran.** Sistan-o Baluchistan (Brunner von Wattenwyl 1907).

**Remark.** So far only documented only from the type locality, but the distribution is assumed to be wider.

***Clonaria uvaroviana* (Mistshenko, 1937)**

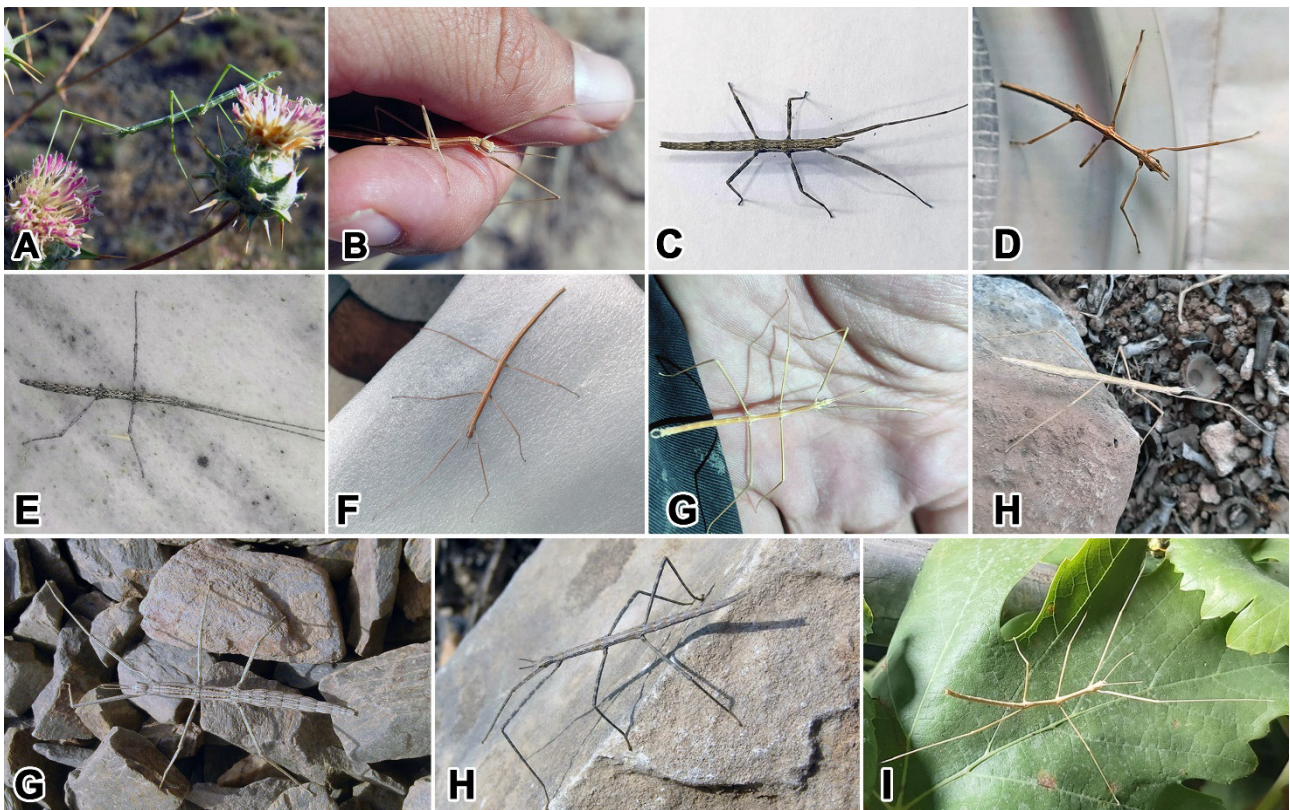
*Gratidia uvaroviana* Mishchenko, 1937:119. Holotype ♀ (ZIN RAS). Turkmenistan: V. Keltetshinar; paratype ♂ (ZIM). Iran: Khorasan.

**Syn.** *Ramulus uvaroviana* (Mishchenko, 1937); Brock, 1991:39.

**Distribution.** Turkmenistan, Iran.

**Distribution in Iran.** Khorasan (Brock 2007).

**Remark.** So far only been documented in Iran from the type localities, but the distribution is assumed to be wider.



**Figure 5.** Representative Phasmatodea of Iran, Most likely the majority are new species and hardly any doubled species: **A.** Adult female *Clonaria* cf. *inconspicua* from Mashhad, photo credit by: Amin Ghaffarian; **B.** Adult male of *Clonaria* sp. from Yazd, photo credit by: Mehdi Zare Khormizi; **C.** immature female *Adelungella* sp. from Semnan photo credit by: Alireza Salehi; **D.** Young nymph *Clonaria* sp. from Semnan, photo credit by: Alireza Salehi; **E.** Adult female *Adelungella* sp. from, photo credit by: Milad; **F.** Adult female *Clonaria* sp. from Yazd, photo credit by: Hamid Dehoi; **G.** Adult male *Clonaria* sp. from Isfahan, **H.** Adult female *Clonaria* sp. from Fars, photo credit by: Amir Hossein Abdullahi; **I.** Adult female *Adelungella* sp. from Yazd, photo credit by: Moosa Ghorbaniorjanli; **J.** Adult female *Clonaria* sp. from Golestan; **K.** Nymph *Clonaria* sp. from Fras: Shiraz, photo credit by: Mobin.

## DISCUSSION

The study of three polyneopteran orders in Iran reveals a diverse yet unevenly explored insect fauna compared to global standards. This disparity is problematic given Iran's biogeographic position at the intersection of the Palaearctic, Afrotropical, and Oriental realms, which suggests a potentially richer and under-documented fauna (Zohary 1973; Olson et al. 2001). Based on current knowledge, approximately 23% of Iranian Blattodea species, 33% of Mantodea, and 60% of Phasmatodea are known only from Iran.

Research on Blattodea in Iran has been modest but is improving with molecular data and checklists. Although several cockroach and termite species have been reported, sampling biases in remote and arid provinces likely underestimate true diversity. Termite taxonomy is hindered by cryptic species complexes, while synanthropic species such as *Blattella germanica* and *Periplaneta* spp. are well-documented in urban areas. In contrast, xeric and soil-dwelling taxa remain poorly collected and studied (Bey-Bienko 1950; Ghayourfar 1998; Hashemi-Aghdam & Oshaghi 2015). Iran's distribution patterns and endemism emphasize its biogeographic importance for polyneopterans (Mehrabian & Rad 2021; Moradi et al. 2024). Species-rich termite genera that include several Iranian endemics, such as *Microcerotermes* and *Amitermes*, also highlight local diversification, though many cockroach taxa once thought monotypic have since revealed hidden species upon further investigation (Mirzayans 1986). Widespread cosmopolitan species like *Periplaneta americana* and *Blattella germanica* contrast sharply with lesser-known xerophilous and subterranean species.

Over the past two decades, Mantodea research has notably expanded due to increased faunistic and systematic studies by Iranian entomologists, whereas investigations into Blattodea and Phasmatodea remain limited in both depth and width. A significant knowledge gap persists for all three groups. Early studies were based on opportunistic collections, creating a fragmented understanding of Mantodea diversity (Uvarov 1938; Beier 1956; Kaltenbach 1982; Ehrmann 2002), a pattern even more pronounced among Blattodea and Phasmatodea (Mirzayans 1986; Hashemi-Aghdam & Oshaghi 2015; Brock & Büscher 2022). Despite recent progress in Mantodea taxonomy and distribution (Mirzaee & Pashaei Rad 2017; Kolnegari & Vafaei-Shoushtari 2018; Mirzaee & Sadeghi 2019, 2021; Moradzadeh et al. 2021; Kolnegari 2023; Mirzaee et al. 2023, 2024a, 2024b; Kolnegari et al. 2025), vast regions of Iran, particularly deserts and mountain zones, remain insufficiently surveyed. The continuous discovery of new species and records highlights the need for comprehensive field studies in unexplored provinces and ecologically unique habitats (Olson et al. 2001; Mirzaee et al. 2023, 2024a, 2024b). On iNaturalist, there are currently 242 and 182 observations from Iran of Mantodea (iNaturalist:48112) and Blattodea (iNaturalist:81769), respectively, across the whole country. Within Mantodea, widespread species like *Blepharopsis mendica* exhibit broad ecological tolerance, while microendemic taxa, such as species of *Holaptilon* (Beier 1964), are highly localized and considered endangered due to their narrow ranges and vulnerability to habitat alteration (Mirzaee et al., 2024b). *Holaptilon* species are particularly useful as bioindicators, reflecting habitat stability and ecological integrity (Battiston et al. 2020).

Phasmatodea research is minimal, relying on historical records (Brunner von Wattenwyl 1907; Bey-Bienko 1946; Otte & Brock 2005; Brock & Büscher 2022). Only a handful of species, five across two genera, are known, representing a small fraction of the likely existing fauna. Additionally, yet-undetected taxa are expected in the Hyrcanian forests, Zagros woodlands, and montane refugia, where sampling remains limited, and the cryptic behavior and camouflage of phasmids further complicate detection. Throughout Iran, documented observations are scarce for Phasmatodea, although their diversity is expected to be somewhat high. Examples from other countries have recently shown that sampling in such undersampled regions has frequently multiplied documented species numbers in a short time (Brock & Büscher 2022). There are currently twelve observations of phasmids from Iran on iNaturalist (iNaturalist:47198), which are scattered across the whole country, and excluding biodiversity-rich areas, none of those have been identified to species or genus due to a deficiency of taxonomical data. Most likely, the actual phasmid species-richness is drastically underrepresented across all documentations for Iran. This is further supported by molecular evidence on gratidiine stick insects in general, which appear to be rather diverse, but often undescribed or poorly diagnosed (Bank & Bradler 2022).

Taxonomic complexity across Blattodea, Mantodea, and Phasmatodea stems from morphological variability, outdated descriptions, and limited molecular data. In cockroach and termite taxonomy, suffer from synonymies and cryptic diversity, with gene markers like *cox1* proving valuable for species delimitation (Ren et al. 2025). Similarly, mantis genera such as *Rivetina*, *Iris*, and *Ameles* present particular challenges, requiring integrative approaches that combine morphology, molecular markers, and ecology (Mirzaee et al., 2023, 2024a, 2024b). For Phasmatodea, resolving synonymies and lost type material demands modern DNA-based revisions and museum re-examinations. Furthermore, the basis for approaching the taxonomy of phasmids from Iran is conflicted by the resolution of the phylogenetic relationships in regard to Gratidiini (e.g., Büscher et al. 2024). Presently, the taxonomic treatment of Bacillidae in general and Gratidiini in particular is challenged by phylogenetic studies using molecular sequences, indicating that both Bacillidae and Gratidiini are not monophyletic and several lineages within Gratidiini are actually not directly related to each other and nested in different clades (Bank & Bradler 2022). This particularly affects the two genera represented in Iran, both likely representatives of a subordinate lineage within Clitumninae (Gao et al. 2025). The Iranian taxa are, so far, not included in any phylogenetic analysis. However, they are most likely closely related to other West Asian *Clonaria* spp. analysed in Gao et al. (2025) that form a subordinate clade in Clitumninae together with the genera *Sceptrophasma* Brock & Seow-Choen, 2000, and *Macellina* Uvarov, 1940.

Several Iranian provinces, including Chaharmahal and Bakhtiari, Kohgiluyeh va Boyer-Ahmad, Qazvin, and Zanjan, remain little studied despite hosting ecologically diverse landscapes. Western and southern mountains, along with semi-desert oases and plateaus, hold great promise for new discoveries

(Noori et al. 2024). Southern and highland regions especially require renewed field and molecular efforts to uncover hidden diversity (Mirzayans 1986; Hashemi-Aghdam & Oshaghi 2015). Cockroach species such as *P. americana* and *B. germanica* exemplify the role of synanthropic fauna in biosecurity risks. Although stick insects are less likely to disperse through trade, the ornamental plant and pet industries warrant monitoring for possible introductions, as frequently observed in other countries (e.g., Great Britain: Lee, 1993). Currently, all mantis species recorded in Iran are native, with no established alien taxa. Nevertheless, global trends of exotic mantis introductions linked to human trade raise the possibility of future invasions (Battiston et al. 2018, 2020; Moulin 2020; Shcherbakov & Govorov 2020; Sevgili & Yilmaz 2022).

Habitat destruction is a major threat, particularly for mantises specialized to forest margins or arid steppe habitats and phasmids in general. Agricultural intensification, urban expansion, and deforestation, especially in the Zagros and Alborz ranges, have caused widespread habitat loss (Jowkar et al. 2016). Overgrazing and desertification further reduce viable habitats for specialist taxa (Valizadeh 2010; Mahmoudi et al. 2011). While these pressures threaten native Blattodea, Mantodea, and Phasmatodea, they simultaneously create opportunities for synanthropic and invasive species. Climate change poses an additional, long-term threat to Iranian biodiversity. Projected temperature and precipitation shifts could particularly endanger montane and forest-adapted species, while desert-dwelling taxa may show greater resilience. These climatic shifts could drive range contractions, endanger endemic populations, and reshape faunal communities (La Sorte & Jetz 2010; Ansari et al. 2023). This risk is particularly high for phasmids, as desert species are rare (Brock & Büscher 2022) and temperature increase likely poses major threats to the majority of stick insects (Grosman 2022).

This study emphasizes the need for coordinated efforts to preserve Iran's polyneopteran diversity. It highlights the importance of systematic field surveys in poorly studied regions and the adoption of integrative taxonomic approaches that merge morphological, molecular, and ecological data. Additionally, revisiting and digitizing historical museum collections is advised to enhance taxonomic resolution. On the policy level, it is recommended to prioritize the conservation of critical habitats by integrating climate change scenarios, particularly for microendemic and specialist species.

#### AUTHOR'S CONTRIBUTION

The authors confirm their contribution to the paper as follows: Z. Mirzaee: Study conception and design, data analysis, interpretation of results, drafting the manuscript, visualization; T.H. Büscher: revision of Phasmatodea part, data analysis, drafting the manuscript; D. Evangelista: revision of Blattodea part, drafting the manuscript; Paul Eggleton: revision of Blattodea part; L. Anisyutkin: revision of Blattodea part, data analysis, drafting the manuscript; Frédéric Legendre: revision of Blattodea part, data analysis, drafting the manuscript. The authors read and approved the final version of the manuscript.

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#### AVAILABILITY OF DATA AND MATERIAL

Depositories for the specimens listed in this study are listed in the Material and methods section.

#### ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study only included arthropod material, and all required ethical guidelines for the treatment and use of animals were strictly adhered to in accordance with international, national, and institutional regulations. No human participants were involved in any studies conducted by the authors for this article.

#### CONSENT FOR PUBLICATION

Not applicable.

#### CONFLICT OF INTERESTS

The authors declare that there is no conflict of interest regarding the publication of this paper.

## GENERATIVE AI STATEMENT

The authors declare that no generative AI tools were used in the preparation of this manuscript.

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## تنوع بندپایان در ایران: رده حشرات – گروه پلی‌نئوپتیرها، بخش اول. Blattodea Brunner von Phasmatodea Jacobson & Bianchi, و Mantodea Brumeister, 1838, Wattenwyl, 1882 1902

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**چکیده:** این پژوهش، بر راسته‌های حشرات Mantodea (آخوندک‌ها)، Blattodea (سوسری‌ها و موربانه‌ها)، و Phasmatodea (حشرات چوبک‌مانند) در ایران ارایه می‌دهد که بر اساس منابع علمی، فهرست‌های ملی، و پایگاه‌های داده‌های طبقه‌بندی جهانی تهیه شده است تا فهرستی به‌روز از گونه‌های موجود تهیه شود. با پیروی از طبقه‌بندی‌های پذیرفته‌شده اخیر، این مرور در مجموع سه راسته، ۲۰ خانواده، ۴۴ جنس، و ۱۰۴ گونه را ثبت می‌کند که شامل ۹ خانواده و ۱۹ جنس و ۳۳ گونه Mantodea، ۱۰ خانواده و ۲۳ جنس و ۶۵ گونه Blattodea (سوسری‌ها و موربانه‌ها)، و یک خانواده با دو جنس و ۵ گونه Phasmatodea است. بیشترین مطالعات در ایران روی راسته Mantodea، و کمترین بررسی روی راسته Phasmatodea صورت گرفته به نحوی که تنها ۵ گونه از آنها تا کنون ثبت شده است. ادغام داده‌های طبقه‌بندی به‌روز برای رفع ناسازگاری‌های موجود در گزارش‌های قدیمی یا تأییدنشده و ایجاد مبنای قابل اعتماد برای تحلیل‌های زیست‌جغرافیایی، برنامه‌ریزی حفاظت، و مدیریت گونه‌های بومی و مهاجم ضروری است. به‌ویژه برای Phasmatodea، مشخص است که طبقه‌بندی این گروه جانوری هم برای آشکارسازی تنوع زیستی و همچنین به منظور مشخص کردن جایگاه این آرایه‌های در سطوح بالاتر تکاملی، نیاز به مطالعه بیشتر دارد. ادامه بررسی‌های میدانی و مطالعات تاکسونومیک تلفیقی برای مستندسازی کامل تنوع این گروه‌های حشره در زیستگاه‌های متنوع ایران، ضروری است.

**واژگان کلیدی:** تنوع زیستی، چک‌لیست، سوسری‌ها، توربینه‌بالان، چوبک‌مانندها، تاکسونومی، موربانه‌ها