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● The mantids (Insecta: Mantodea) of Xinjiang, China

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Abstract: Based on the investigation of praying mantids in Xinjiang, China, the first checklist of Mantodea of Xinjiang is presented, revealing 11 species in 9 genera. A new species, *Iris aydingkolica* **sp. nov.**, is described. Two genera and two species new to China are recorded: *Armene pusilla* (Eversmann, 1859) and *Rivetina nana* Mistshenko, 1967. *Iris yulinica* Yang, 1999 **syn. nov.** is proposed as a junior synonym of *I. polystictica mongolica* Sjöstedt, 1933. Illustrations and habitat photographs of the Mantodea species from Xinjiang, China are provided, and the distribution of the genus *Iris* in China is discussed and mapped.

Keywords: Dictyoptera, new species, new synonym, taxonomy, Turpan

● 新疆螳螂（昆虫纲）

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摘要: 本文首次系统整理了新疆的螳螂目昆虫，包含 9 属 11 种。其中含 1 新种：艾丁湖虹螳 *Iris aydingkolica* **sp. nov.** 及两个中国新纪录属种：戈壁砾螳 *Armene pusilla* (Eversmann, 1859) 及中亚柳螳 *Rivetina nana* Mistshenko, 1967；将榆林虹螳 *Iris yulinica* Yang, 1999 **syn. nov.** 认定为蒙古虹螳 *I. polystictica mongolica* Sjöstedt, 1933 的次异名。文中提供了相关物种的标本图及生境图片，并绘制了虹螳属 *Iris* 物种在中国的分布图。

关键词: 网翅总目，新种，新异名，分类学，吐鲁番

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● Introduction

The Xinjiang Uygur Autonomous Region is located in northwestern China, encompassing an area of approximately 1.66 million square kilometers. The region is predominantly characterised by a temperate continental climate with arid conditions, substantial temperature fluctuations, abundant sunshine, and generally low annual precipitation. Winter temperatures can drop below $-30\text{ }^{\circ}\text{C}$, whereas summer temperatures may up to $40\text{ }^{\circ}\text{C}$. The average elevation of Xinjiang is approximately 1,000 meters, with significant variations across the region—from as low as -155 meters at Aydingkol Lake in Turpan Depression to as high as 8,611 meters at Mount Qogir (K2 Peak)—indicating remarkable topographical diversity. Compared with most regions of China, the natural environment of Xinjiang is highly distinctive, and its species show strong affinities with those of Central Asia.

Numerous researchers have contributed to the study of mantids in this region. Zhang (1989) documented three species newly recorded in China, among which *Iris polystictica* (Fischer-Waldheim, 1846) and *Empusa pennicornis* (Pallas, 1773) were newly recorded in Xinjiang. Wang (1993) and Zhu *et al.* (2012) recorded four species in Xinjiang: *I. polystictica*, *E. pennicornis*, *Bolivaria brachyptera* (Pallas, 1773) and *Mantis religiosa* Linnaeus, 1758. Subsequently, *Hierodula tenuidentata* Saussure, 1869 was first recorded in Ili, Xinjiang (Liu *et al.* 2021), and *Severinia turcomaniae* (Saussure, 1872) was first recorded in Shihezi, Xinjiang (Wu 2021a). Wu (2021b) recorded three species in Xinjiang: *I. polystictica*, *E. pennicornis* and *B. brachyptera*, and provided photographs of living individuals. However, none of these studies represent a comprehensive assessment of the Mantodea of Xinjiang, and a checklist of species of this region remains absent. This paper presents a taxonomic reassessment of the Mantodea of Xinjiang, including 6 families, 9 genera, and 11 species. It also describes one new species: *Iris aydingkolica* **sp. nov.**, and two species newly recorded in China. This study provides a foundation for further understanding of the Mantodea diversity in Xinjiang.

● Material and methods

The classification system follows Schwarz & Roy (2019). Descriptive terminology for adult morphology and the male genitalia follows Brannoch *et al.* (2017) and Schwarz & Roy (2019). Genitalia were dissected in 10% KOH solution, rinsed with pure water, and finally stored in 70% ethanol in Eppendorf tubes for further research. Photographs were taken with a Nikon digital camera (Tokyo, Japan). The distribution map was produced with Relief Map, free map data available at <https://maps-for-free.com/>.

The specimens are deposited in the following institutions or private collections: **CAU** China Agricultural University, Beijing, China; **CWC** Collection of Chao Wu, Beijing, China; **SEM** Shanghai Entomological Museum, Chinese Academy of Sciences, Shanghai, China; **IZCAS** Institute of Zoology, Chinese Academy of Sciences, Beijing, China.

The holotype of the new species is deposited in **IZCAS**.

Abbreviations

afa, phalloid apophysis; **ant**, antenna; **avts**, anteroventral tibial spines; **ey**, compound eye; **ce**, cercus; **CS9**, ♂ coxosternite; **ds**, discoidal spines; **fb**, femoral brush; **gs**, genicular spur; **L4A**, sclerite extending over the ventral wall of ventral phallomere; **L4B**, sclerite extending over the dorsal wall of left phallomere; **lf**, lower frons; **loa**, membranous lobe; **mz**, metazona; **oc**, ocellus; **paa**, apical process of left phallomere; **pvfs**, posteroventral femoral spines; **pz**, prozona; **R3**, anteriorly extending sclerite of right phallomere; **s6**, sternite 6; **s7**, sternite 7; **sdpl**, lateral secondary distal process; **sdpm**, median secondary distal process; **sl9**, stylus; **t10**, tergite 10 (supraanal plate); **ts**, tibial spur; **vpr**, vertical process.

● Taxonomy

Order Mantodea Latreille, 1802 螳螂目

Family Gonypetidae Westwood, 1889 跳螳科

Genus *Armene* Stål, 1877 砾螳属 Newly recorded genus for China

Type species: *Mantis pusilla* Eversmann, 1859.

***Armene pusilla* (Eversmann, 1859) 戈壁砾螳 Newly recorded species for China**

Figs 1C; 2A, B, D; 11A; 13A

Mantis pusilla Eversmann, 1859: 124–125.

Armene pusilla: Beier 1935: 31; Ehrmann 2002: 71.

Material examined. CHINA: 1♀: Xinjiang, Altay, Koktokay; 47.2154°N, 89.8849°E; 1200m; 20.VII.2025; leg. Shao-Shan Wang (CWC). 3♂: Xinjiang, Altay, Qinghe; 46.7621°N, 90.3355°E; 1320m; 27.VII.2025; leg. Yu-Chen Zheng & Zu-Qi Mai (CWC). 1♀: Xinjiang, Yining, Tekes; 43.1820°N, 82.2864°E; 1400m; 9.VII.2022; leg. Sheng Du (CWC). 2♀, 1♂: Xinjiang, Hefeng (=Hoboksar), Baiyang River; 850m; 9.IX.1960; leg. Shu-Yong Wang (IZCAS).

KAZAKHSTAN: 1♀ (IZCAS).

Measurements (length in mm). Body (head to abdomen end): male 15.6–16.1, female 16.2–16.6; body (head to wings): male 18.1–18.7, female 16.3–16.5; pronotum: male 3.0–3.1, female 3.7–3.9; fore coxae: male 3.1–3.2, female 4.0–4.2; fore femora: male 3.8–3.9, female 4.2–4.4; fore tibiae: male 2.6–2.8, female 3.1–3.2; hind femora: male 4.5–4.9, female 4.6–4.8; hind tibiae: male 5.1–5.3, female 5.3–5.5; forewings: male 14.2–14.6, female 11.9–12.3; hind wings: male 12.8–13.2, female 11.4–11.9.

Diagnosis. Small-sized mantis. Body bright to dark brown, with mottled dark spot pattern. Pronotum short, narrower than head, approximately rhombus-shaped; ratio of metazona length to prozona length about 1.15–1.19 (male) / 1.21–1.25 (female). Prothoracic legs robust; coxae much longer than pronotum; femora robust, with four posteroventral spines, four discoidal spines and 7–8 anteroventral spines, with one posteroventral and one anteroventral genicular spine, claw groove lying near base; fore tibiae with 11 posteroventral and 9 anteroventral spines; tarsus longer than tibia, first joint of tarsi as long as combined length of the remaining segments. Forewings translucent, surpassing abdomen in males, but shorter than abdomen in females. Hind wings broad, transparent and colourless, slightly infumate at the tip, apex rounded.

Remarks. Lindt (1974) described the subspecies *A. p. seravshanica* based on specimens from Tajikistan.

Distribution: China (Xinjiang); Russia; Afghanistan; Mongolia; Tajikistan and Turkey.

Family Rivetiniidae Ehrmann & Roy, 2002 柳螳科

Genus *Rivetina* Berland & Chopard, 1922 柳螳属 Newly recorded genus for China

Type species: *Mantis baetica* Rambur, 1838.

***Rivetina nana* Mistshenko, 1967 中亚柳螳 Newly recorded species for China**

Figs. 1A, B; 3; 11C; 13B

Rivetina nana Mistshenko, 1967: 701; Ehrmann 2002: 313; Shcherbakov & Savitsky 2015: 191–193.

Material examined. CHINA: 5♂, 1♀: Xinjiang, Ili, Huocheng, Tukai Desert; 43.9367°N, 80.8007°E; 570m; 18.VII.2025; leg. Yu-Chen Zheng & Zu-Qi Mai (CWC). 4♂, 1♀: Xinjiang, Ili, Huocheng; 43.8796°N, 80.6958°E; 500m; 25–29.VI.2025; leg. Shao-Shan Wang (CWC). 1♂: Xinjiang, Ili, Tokkuztara 43.0383°N, 83.0560°E; 700m; 4.VII.2023 (CWC). 1♀: Xinjiang, Xinyuan; 23.VIII.1957; leg. Chun-Pei Hong (IZCAS). 1♀: Xinjiang, Yining River Valley; 550m; 16.VIII.1957; leg. Chun-Pei Hong (IZCAS).

Measurements (length in mm). Body (head to abdomen end): male 46.9–53.6, female 48.1–53.3; body (head to wings): male 44.3–52.7, female 29.8–37.8; pronotum: male 11.7–12.9, female 12.3–14.7; fore coxae: male 9.5–10.3, female 9.8–11.4; fore femora: male 10.1–11.6, female 10.5–13.3; fore tibiae: male 6.9–7.6, female 7.2–8.4; hind femora: male 15.8–16.7, female 15.9–17.4; hind tibiae: male 19.6–20.1, female 19.8–20.8; forewings: male 36.0–37.3, female 16.5–17.8; hind wings: male 32.8–34.3, female 12.7–14.4.

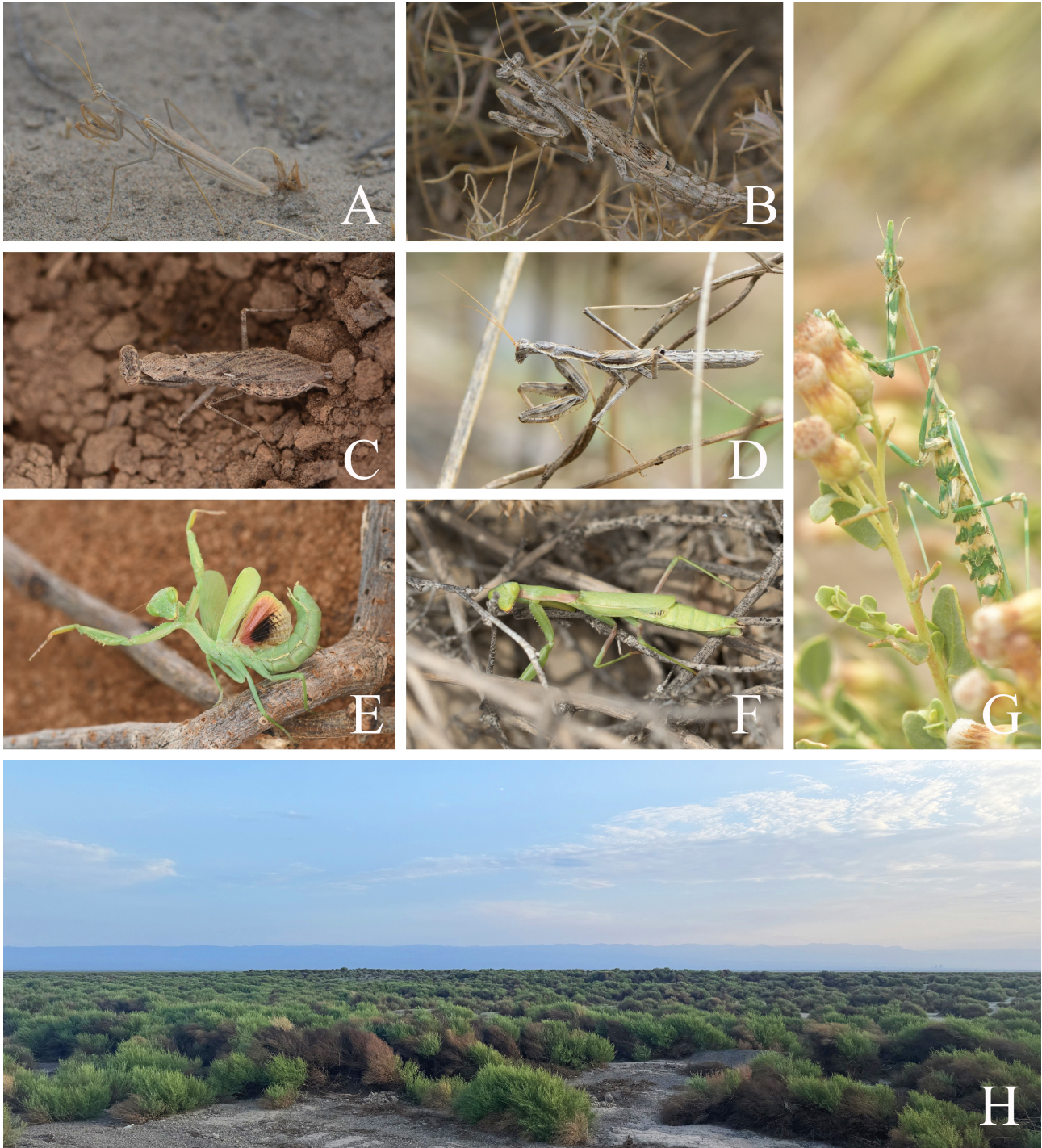


FIGURE 1. Mantodea of Xinjiang in natural habitat and the ecological habitat in Xinjiang, China: **A** *Rivetina nana*, male **B** *R. nana*, female **C** *Armene pusilla*, female **D** *Bolivaria brachyptera*, male **E** *Iris aydingkolica* sp. nov., female (Paratype) **F** *I. polystictica polystictica*, female **G** *Empusa pennicornis*, female **H** Aydingkol Lake, Turpan. **A, B, G, H** photograph © Yu-Chen Zheng **F** photograph © Zhi-Liang Wang, published with permission.

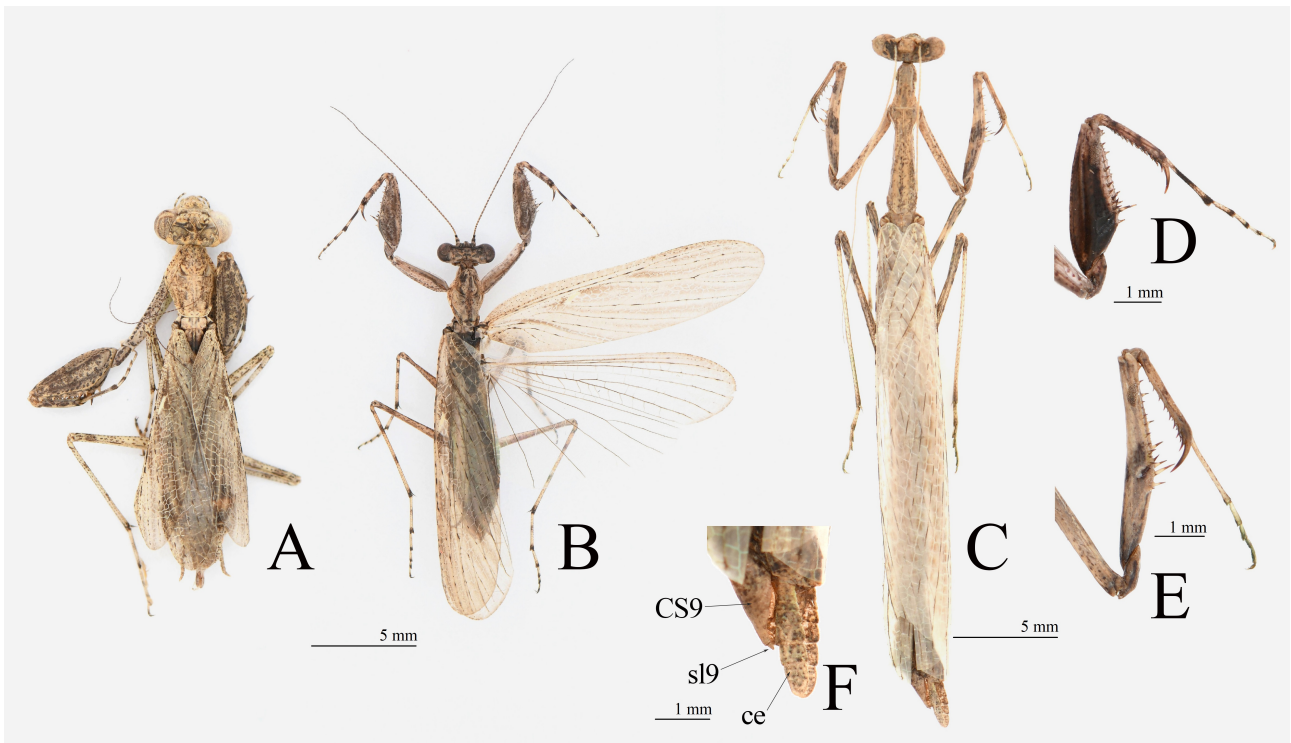


FIGURE 2. *Armene* and *Severinia* from Xinjiang: **A, B, D** *A. pusilla* (Eversmann) **C, E, F** *S. turcomaniae* (Saussure) **A** female **B–F** male **A–C** body in dorsal view **D, E** prothoracic legs, ventral view **F** end of abdomen, lateral view.

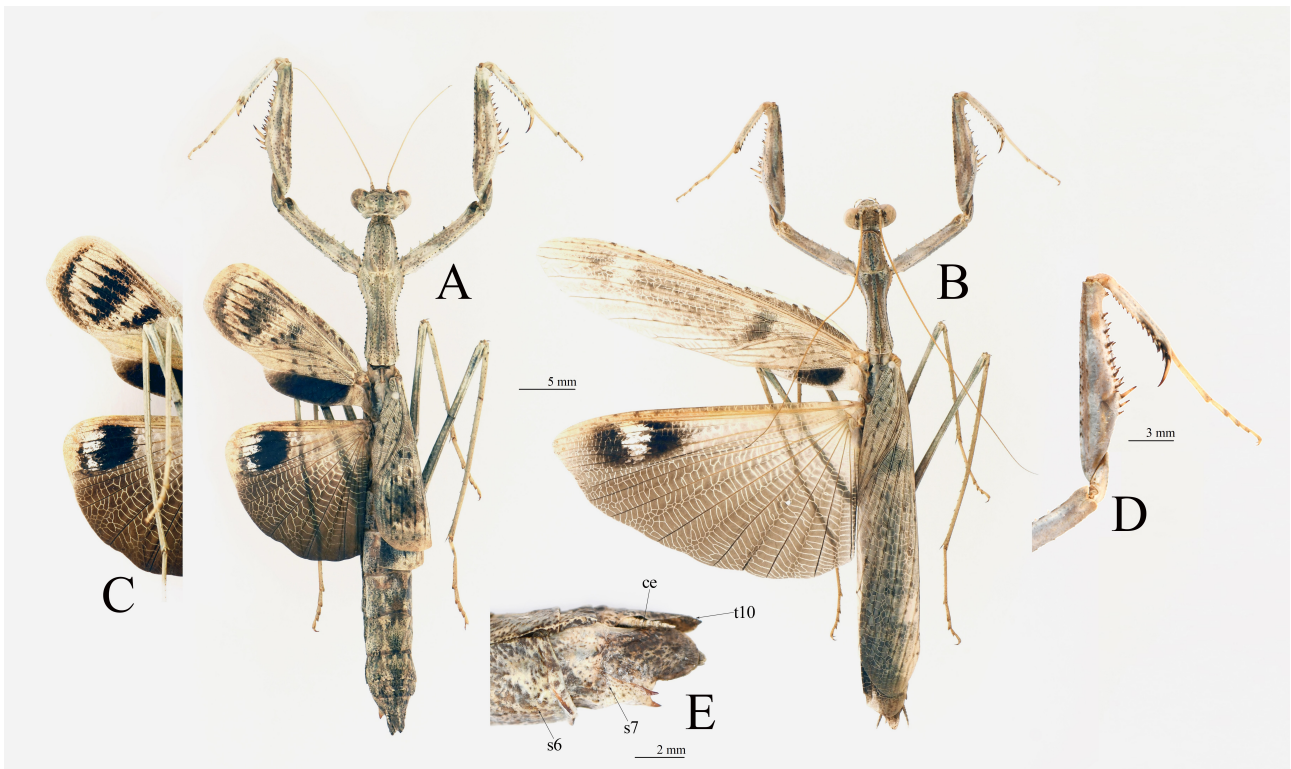


FIGURE 3. *Rivetina nana* Mistshenko: **A, B** body in dorsal view **C** wings, ventral view **D** prothoracic leg, ventral view **E** end of abdomen, lateral view. **A, C, E** female **B, D** male.

Diagnosis. Medium-sized mantis, robust, but slightly slender in males. Body bright to dark brown, with mottled dark spot pattern. Pronotum elongate; lateral margin of pronotum with small black spine-like tubercles; ratio of metazona length to prozona length about 1.88–1.90 (male) / 1.84 (female). Prothoracic legs robust; coxae slightly shorter than pronotum; femora with four posteroventral spines, four discoidal spines and 11–12 anteroventral spines, with one posteroventral and one anteroventral genicular spine, claw groove lying near base; fore tibiae with 7–8 posteroventral and 11–12 anteroventral spines; tarsus as long as tibia, first joint of tarsi as long as combined length of the remaining segments. Wings long, reaching the base of the anal plate in males, but short in females. Hind wings smoky brown with light transversal veins, with a bright eye-spot in the apical part. Sternite 6 ventrally with a rugose tip area, and sternite 7 ventrally with 2 sharp spines in the female.

Distribution: China (Xinjian); Russia; Kazakhstan; Uzbekistan.

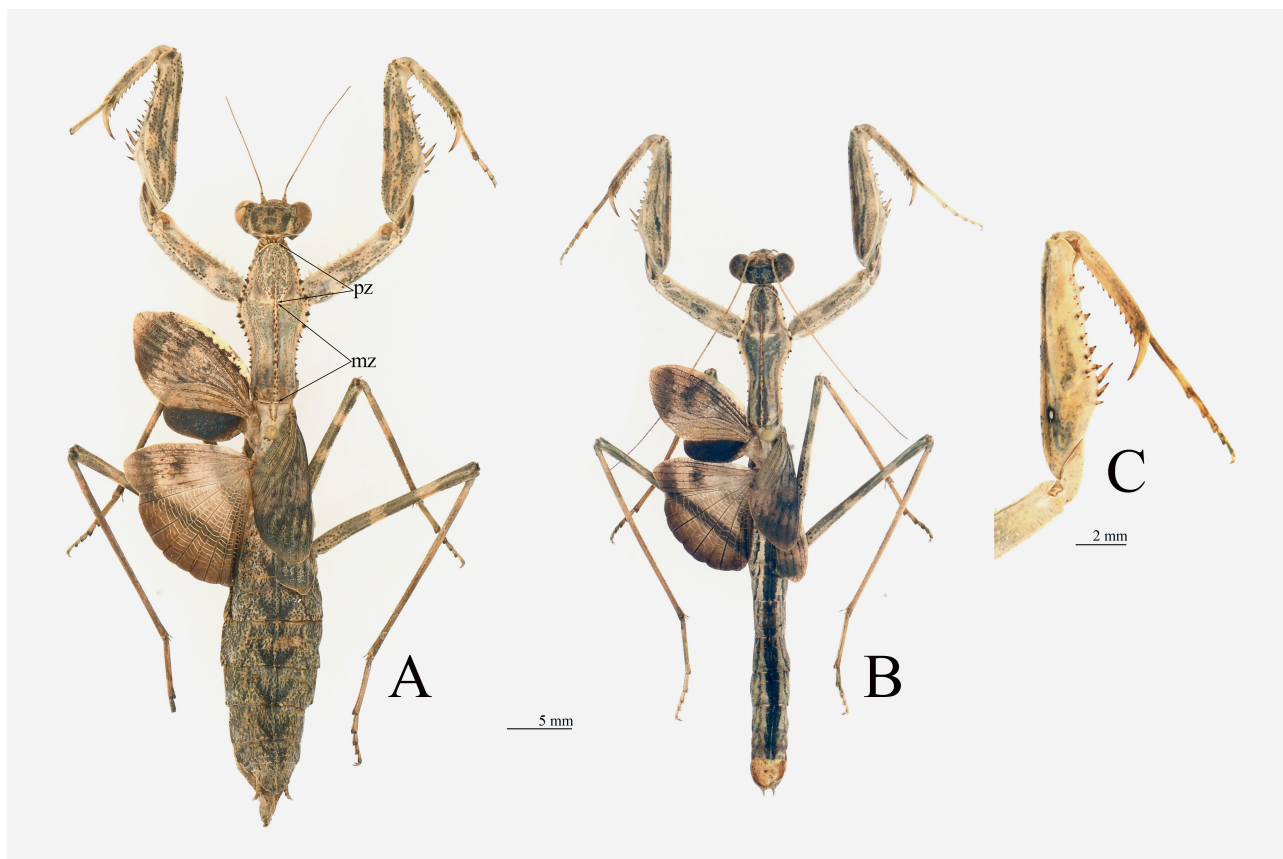


FIGURE 4. *Bolivaria brachyptera* (Pallas): **A, B** body in dorsal view **C** prothoracic leg, male, ventral view. **A** female **B** male, cerci and genitalia have been removed.

Genus *Bolivaria* Stål, 1877 搏螳属

Type species: *Mantis brachyptera* Pallas, 1773.

Bolivaria brachyptera (Pallas, 1773) 短翅搏螳

Figs. 1D; 4; 11D; 13D

Mantis brachyptera Pallas, 1773: 728.

Bolivaria brachyptera: Giglio-Tos 1927: 482; Beier 1935: 110; Wang 1993: 103–104; Ehrmann 2002: 82; Zhu *et al.* 2012: 181–183; Wu 2021a: 135; Wu 2021b: 82–83.

Material examined. CHINA: 1♀: Xinjiang, Altay, Burqin; 47.8041°N, 86.8861°E; 490m (CWC). 1♀, 1♂: Xinjiang, Shihezi; 7.VII.2020 (CWC). 1♂: Xinjiang, Altay, Burqin Habahe; 18.VII.2009; leg. Xin-Lei Huang (IZCAS). 1♀:

Xinjiang, Altay, Burqin; 16.VII.2009; leg. Zhi-Liang Wang (IZCAS). 1♀: Xinjiang, Fukang, Hongshan Reservoir; 4.X.2010; leg. Yang-Cheng Xu (CWC). 1♀: Xinjiang, Shihezi, Jiangjunshan Mt.; 690m; 14.VII.2025; leg. Yu-Chen Zheng (CWC).

Measurements (length in mm). Body (head to abdomen end): male 42.5–47.1, female 50.6–53.2; body (head to wings): male 24.3–27.9, female 32.5–34.1; pronotum: male 11.5–12.1, female 13.7–14.2; fore coxae: male 8.9–9.6, female 10.5–11.3; fore femora: male 10.8–11.6, female 12.7–13.5; fore tibiae: male 7.6–8.5, female 8.2–9.1; hind femora: male 13.9–14.8, female 14.9–16.2; hind tibiae: male 16.8–17.5, female 17.2–18.7; forewings: male 9.2–10.8, female 11.8–13.0; hind wings: male 8.7–9.1, female 10.1–11.4.

Diagnosis. Medium-sized mantis, robust. Body bright to dark brown, with mottled dark spot pattern. Pronotum robust; lateral margin of pronotum with black spine-like tubercles; ratio of metazona length to prozona length about 1.84 (male) / 1.65–1.67 (female). Prothoracic legs robust; coxae shorter than pronotum; femora with four posteroventral spines, four discoidal spines and 13–15 anteroventral spines, with one posteroventral and one anteroventral genicular spine, claw groove lying near base; fore tibiae with 9 posteroventral and 11–12 anteroventral spines; tarsus as long as tibia, first joint of tarsi as long as combined length of the remaining segments. Wings strongly shortened in both sexes, hind wings smoky brown with black-purple edge.

Remarks. Wang (1993) first recorded the distribution of this species in Xinjiang, China. This species is widely distributed from Eastern Europe to Central Asia.

Distribution: China (Xinjiang); Europe to Central Asia.

Family Eremiaphilidae Saussure, 1869 埃螳科

Genus *Iris* Saussure, 1869 虹螳属

Type species: *Gryllus (Mantis) oratorius* Linnaeus, 1758.

Iris polystictica polystictica (Fischer-Waldheim, 1846) 芸芝虹螳

Figs. 1F; 5A–C, F; 7A, D, F; 11E; 12A, B, F–H; 14

Mantis oratoria polystictica Fischer-Waldheim, 1846: 102.

Iris polystictica Giglio-Tos, 1927: 332; Lindt 1961: 53; Zhang 1989: 184; Wang 1993: 147–148; Zhu *et al.* 2012: 162–164; Wu 2021a: 139; Wu 2021b: 86–87.

Iris polystictica polystictica: Ehrmann 2002: 194; Shcherbakov *et al.* 2013: 16–18.

Iris oratoria: Hu & Huang 2013:10 (erroneously identified).

Material examined. CHINA: 1♀: Xinjiang, Fukang Observatory Ecol. Syst. Desert; 44.2920°N, 87.9342°E; 474m; 11.VI.2007; leg. Ye Liu (CWC). 2♂: Xinjiang, Shihezi; 44.1961°N, 86.0855°E; 710m (CWC). 1♀, 1♂: Xinjiang, Altay, Burqin; 47.8041°N, 86.8861°E; 450m; 18.VII.2009; leg. Xin-Lei Huang (IZCAS). 2♀: Xinjiang, Urumqi, Changji; 29.VIII.2009; leg. Xiao-Yu Zhu (CWC). 4♂: Xinjiang, Karamay; 45.4290°N, 85.0651°E; 280m; 23.VII.2025; leg. Yu-Chen Zheng & Zu-Qi Mai (CWC). 3♂: Xinjiang, Altay, Chemurchek; 47.4942°N, 87.6691°E; 490m; 25.VII.2025; leg. Yu-Chen Zheng & Zu-Qi Mai (CWC). 2♀, 1♂: Xinjiang, Yining River Valley; 550m; 16.VIII.1957; leg. Chun-Pei Hong (IZCAS). 1♀: Xinjiang Qapqal (SEM). 1♂: Xinjiang Korla (SEM). 6♀, 4♂: Xinjiang, Kashgar, Shihezi, and other places (CAU).

Measurements (length in mm). Body (head to abdomen end): male 32.8–38.5, female 42.3–44.6; body (head to wings): male 34.5–39.5, female 29.6–32.9; pronotum: male 9.3–10.2, female 12.1–12.8; fore coxae: male 6.8–7.1, female 8.9–9.3; fore femora: male 7.9–8.2, female 9.4–10.1; fore tibiae: male 5.2–5.5, female 7.2–7.6; hind femora: male 8.8–9.2, female 11.4–11.8; hind tibiae: male 9.4–9.8, female 11.7–12.9; forewings: male 23.7–28.3, female 14.3–16.2; hind wings: male 22.8–25.2, female 12.2–13.1.

Diagnosis. Medium-sized mantis, green or yellowish brown, the inner of the first joint of the tarsi black. Pronotum elongate; ratio of metazona length to prozona length about 2.29–2.37 (male) / 2.13–2.16 (female).

Prothoracic legs robust; coxae shorter than pronotum; femora with five posteroventral spines, four discoidal spines and 12–14 anteroventral spines, with one posteroventral and one anteroventral genicular spine; fore tibiae with 11–13 posteroventral and 12–14 anteroventral spines; tarsus slightly longer than tibia, first joint of tarsi as long as the combined length of the remaining segments. Wings are fully developed in males, but shortened in females, only reaching the middle of the abdomen. Fore wings translucent. Hindwings are brightly coloured, pale red on the leading edge and base; centre of the anal field with a large black spot, nearly circular; more curved and shorter black spots radiating in concentric black stripes, like water ripples; these stripes are extremely dense in some specimens.

Comments. Zhang (1989) first recorded the distribution of this species in Xinjiang, China. Shcherbakov *et al.* (2013) identified specimens from regions adjacent to Xinjiang in Russia as *I. p. polystictica*, and this treatment is followed here. Sjöstedt (1933) described the subspecies *I. p. mongolica* based on two females from Inner Mongolia, China. Unlike *I. p. polystictica*, the anteroventral large spines of the fore femora in *I. p. mongolica* are pale except for the black tip. However, this character may not be stable (Shcherbakov *et al.* 2013). For example, some brown-bodied specimens of *I. p. polystictica* have entirely dark anteroventral large spines, while green specimens may possess pale spines. Yang (1998) described *Iris yulinica* based on specimens from Yulin, Shaanxi, but did not mention any diagnostic differences between this species and *I. p. polystictica* or *I. p. mongolica*. In the original description, only female characters and an illustration of a female specimen were provided. The type series was designated as 1♂ (holotype) and 1♀ (allotype). However, examination shows that the holotype specimen is female and the allotype specimen is male. The illustrated female specimen in the original description bears no type label, but the collection data matches the original description. This series of inconsistencies is confusing, but it does not change the fact that two of these three specimens are the type specimens of *I. yulinica* (Fig. 8). The anteroventral large spines of these specimens are not entirely black, including a brown one, which agrees with the characteristics of *I. p. mongolica*.

After examining the type specimens of *I. yulinica* and specimens of *I. p. mongolica* from Inner Mongolia, I found no valid diagnostic characters separating the two species. Therefore, *I. yulinica* is treated as a junior synonym of *I. p. mongolica*, as *Iris polystictica mongolica* Sjöstedt, 1933 = *Iris yulinica* Yang, 1999 **syn. n.** However, the relationship between *I. p. mongolica* and the other subspecies of *I. polystictica*, including *I. p. shahdarinica* and *I. p. shugnanica* from Tajikistan (Lindt, 1963), requires further study based on specimens from additional localities. Compared with *I. p. polystictica* from northern Xinjiang and southern Russia, *I. p. mongolica* from Inner Mongolia, Shaanxi, Gansu and other regions is slightly smaller in body size; the lateral secondary distal process (sdpl) of the ventral phallomere of the male external genitalia is sharper and longer (Fig. 12E), but other characteristics of both sexes are almost identical to those of the former (Fig. 5 D, E; 7C). Differences in male external genitalia between specimens from Xinjiang and Inner Mongolia were also noted by Wang (1993).

Distribution: China (Xinjiang); Russia; Central Asia to Eastern Europe.

Iris aydingkolic sp. nov. 艾丁湖虹螳

<https://zoobank.org/66E5FA3A-9F71-459E-B04E-9A515785C918>

Figs. 1E, H; 5H; 6; 7B, E, G; 11G; 12C, D, I, J; 14

Material examined. Holotype. ♂: CHINA: Xinjiang, Turpan, Aydingkol Lake; 42.8399°N, 88.9024°E; –100m; 1.VIII.2025; leg. Yu-Chen Zheng & Zu-Qi Mai (IZCAS). **Paratypes.** 2♀, 1♂: CHINA: Xinjiang, Turpan, Aydingkol Lake; 42.8399°N, 88.9024°E; –100m; 1~2.VIII.2025; leg. Yu-Chen Zheng & Zu-Qi Mai (IZCAS).

Description of male.

Head. Triangular, wider than long. Eyes rounded, slightly exophthalmic. Ocelli large, central ocellus larger than lateral ocelli; juxta-ocular tubercles not elevated. Lower frons transverse, sub-pentagonal, dorsal margin arched, ventral margin almost flat, about 1.5 times as wide as high, with smooth surface. Clypeus wider than high, with weakly median keel. Antennae filiform; scapes inflated; flagelli slender, long, but not exceeding body length.

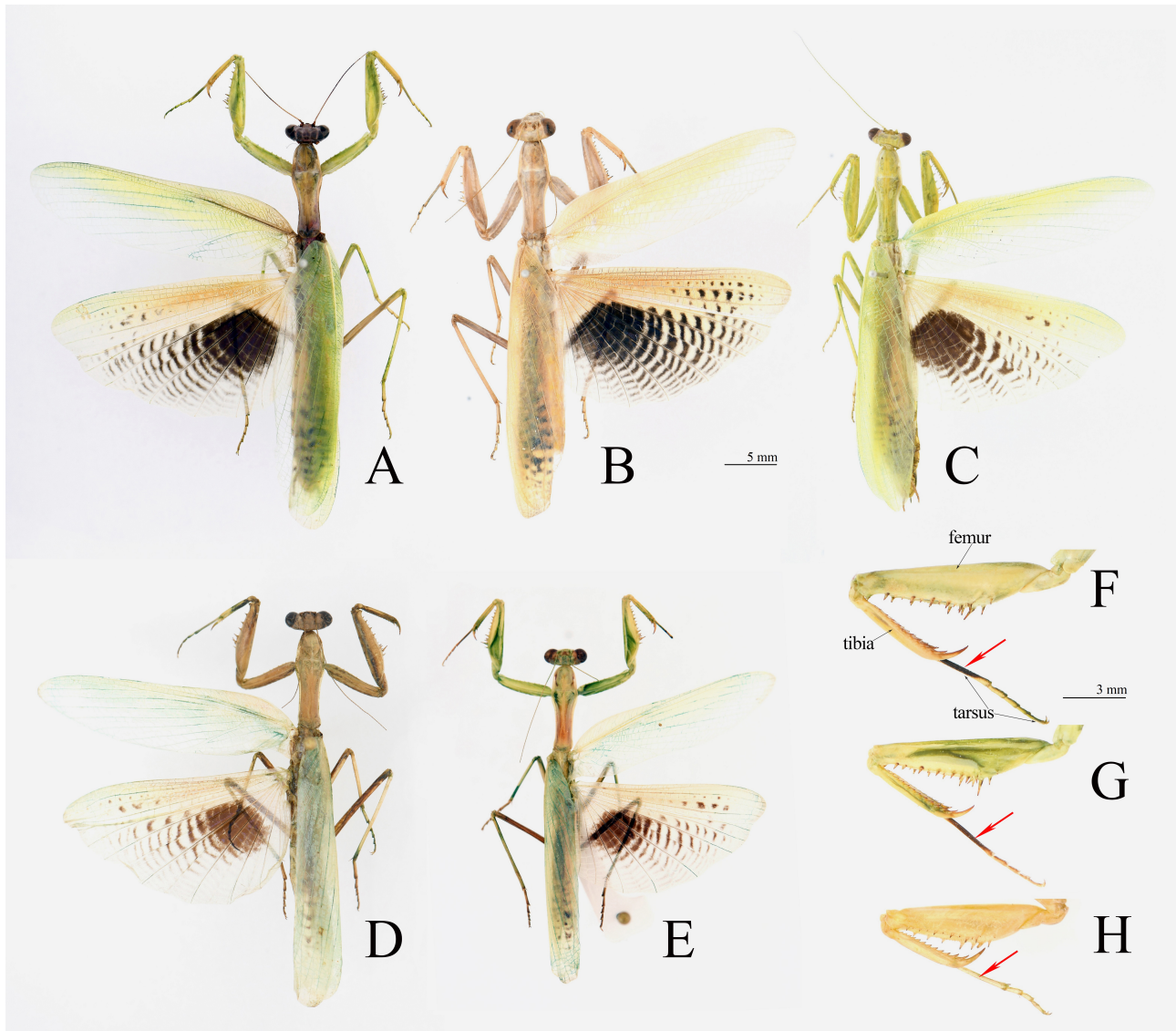


FIGURE 5. Males of *Iris* spp.: **A–C, F** *I. polystictica polystictica* (Fischer-Waldheim) **D, E, G** *I. polystictica mongolica* Sjöstedt **H** *I. aydingkolica* sp. nov. (Holotype). **A–E** body in dorsal view **F–H** prothoracic legs, ventral view.

Pronotum. Elongated, more or less robust. Supracoxal dilation not very distinct, rounded; lateral margin of the pronotum smooth without denticulations. Ratio of metazona length to prozona length about 2.13–2.30.

Prothoracic Legs. Elongate, robust. Coxae shorter than pronotum, but longer than the metazona, with a series of small denticles on the anterior margin, sparse; femora slightly longer than coxae; dorsal margin straight, without dilation. Femora bearing five posteroventral spines, between which a series of small tubercles; with 4 discoidal spines, 12 anteroventral spines, as well as one posteroventral and one anteroventral genicular spine; claw groove lying near base. Tibiae slender, with 11 posteroventral and 12 anteroventral spines; dorsal margin straight, posteroventral spines slightly decumbent. Tarsus as long as tibia; first joint of tarsi slightly longer than combined length of the remaining segments.

Meso- and metathoracic Legs. Long and slender, pilose. Femora with a ventral carina, without dilatations or projections. Tarsus shorter than tibia; the first joint of tarsi shorter than combined length of the remaining segments.

Wings. Forewings fully developed, long and narrow, reaching base of anal plate, but not extending beyond its apex; costal area and anterior half of discoidal area opaque, remaining area hyaline. Hindwings shorter than forewings, translucent, red on the leading edge, and the colour gradually fades toward the remaining area; centre of

the anal field with a large black spot, narrow, not circular, with sparse small black spots on the periphery.

Abdomen. Long and narrow, tergites and sternites simple. Supraanal plate parabolic, with a rounded posterior edge. Cerci simple, hairy, short and slightly flattened, terminal joint conical. Male subgenital plate longer than wide, trapezoidal, with short styli.

External genitalia. Right phallomere with fda narrowed towards apex with minute setae; pia well-developed, dentate in lateral view, shape of denticles on pia variable; pva strongly sclerotized with irregular dentures in the inner side, lateral with blunt lobe. Ventral phallomere pyriform, left margin of ventral phallomere with sclerotized fold, right margin membranous. Apex of L4A extending into curved process, strongly sclerotized; sdpl large and robust, conical, with a sharp tip; sdpm blunt, truncated. L4B of left phallomere slightly convex, left margin sclerotized; afa strongly sclerotized, split into two long spines, very sharp, the two spines curve inward slightly, their tips nearly touching; loa short, with a brush-like cluster of hairs on base; paa digitiform, elongated, bent dorsad.

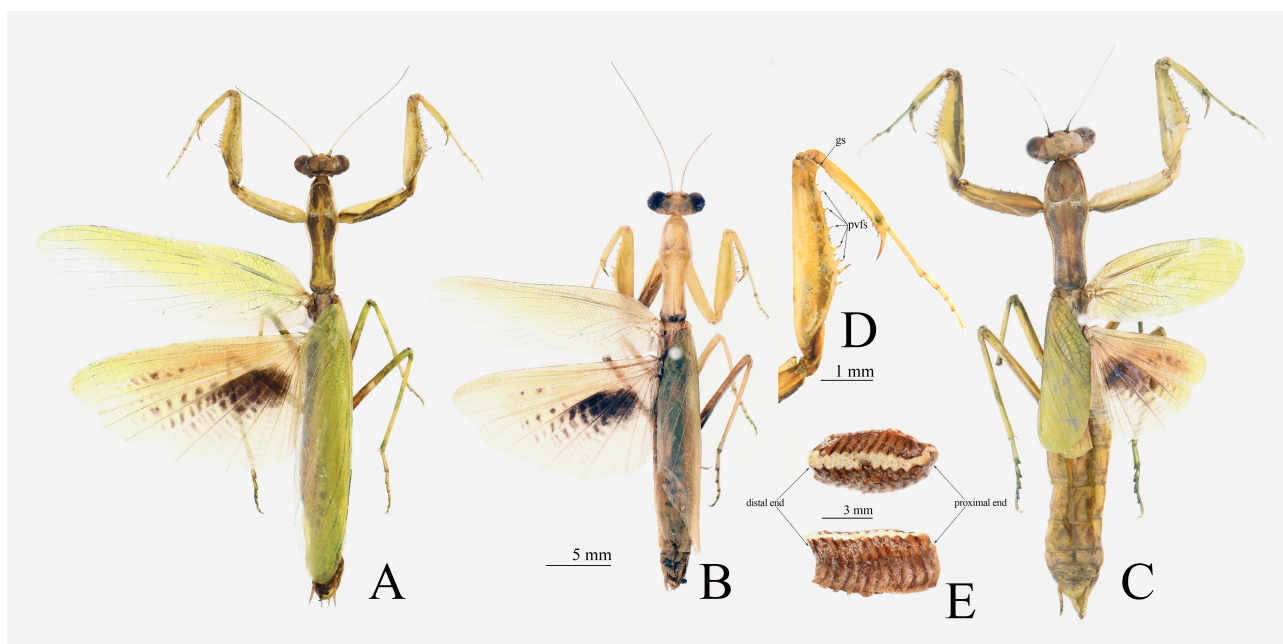


FIGURE 6. *Iris aydingkolica* sp. nov.: A–C body in dorsal view D prothoracic leg, dorsal view E oothecae. A, B, D male C female B, D Holotype A, C Paratypes.

Female.

Similar to males, but more robust. Ocelli small, antennae short; lateral margin of the pronotum with small denticulations, ratio of metazona length to prozona length about 2.11–2.18. Fore femora bearing five posteroventral spines, four discoidal spines, 12 anteroventral spines; tibiae with 10–11 posteroventral and 12 anteroventral spines. Wings strongly shortened, reaching only the abdominal tergite 4; forewings opaque, anterior half of hindwings opaque, remaining area hyaline. Abdomen long and wide, supraanal plate with a rounded posterior edge, cerci similar to males.

Colouration. Body green or yellowish-brown, antennae yellowish-green. The inner of the fore legs (including the anteroventral spines and tarsus) same colour as the body, only all the spines tip yellowish-brown. Forewings overall similar in colour to the body; hind wings yellowish-red with black spots.

Etymology: The new species is named after the type locality, Aydingkol Lake.

Measurements (length in mm).

Body (head to abdomen end): male 27.6–35.8, female 32.3–35.7; body (head to wings): male 26.1–34.3, female 23.8–25.1; pronotum: male 7.3–8.6, female 9.7–10.0; fore coxae: male 4.5–6.4, female 6.1–6.5; fore femora: male 5.6–7.0, female 7.2–7.4; fore tibiae: male 3.8–4.9, female 5.5–5.7; hind femora: male 6.9–8.2, female 7.5–7.7; hind

tibiae: male 7.5–9.1, female 8.9–9.2; forewings: male 16.2–22.8, female 11.9–12.2; hind wings: male 15.4–19.8, female 8.8–9.0.

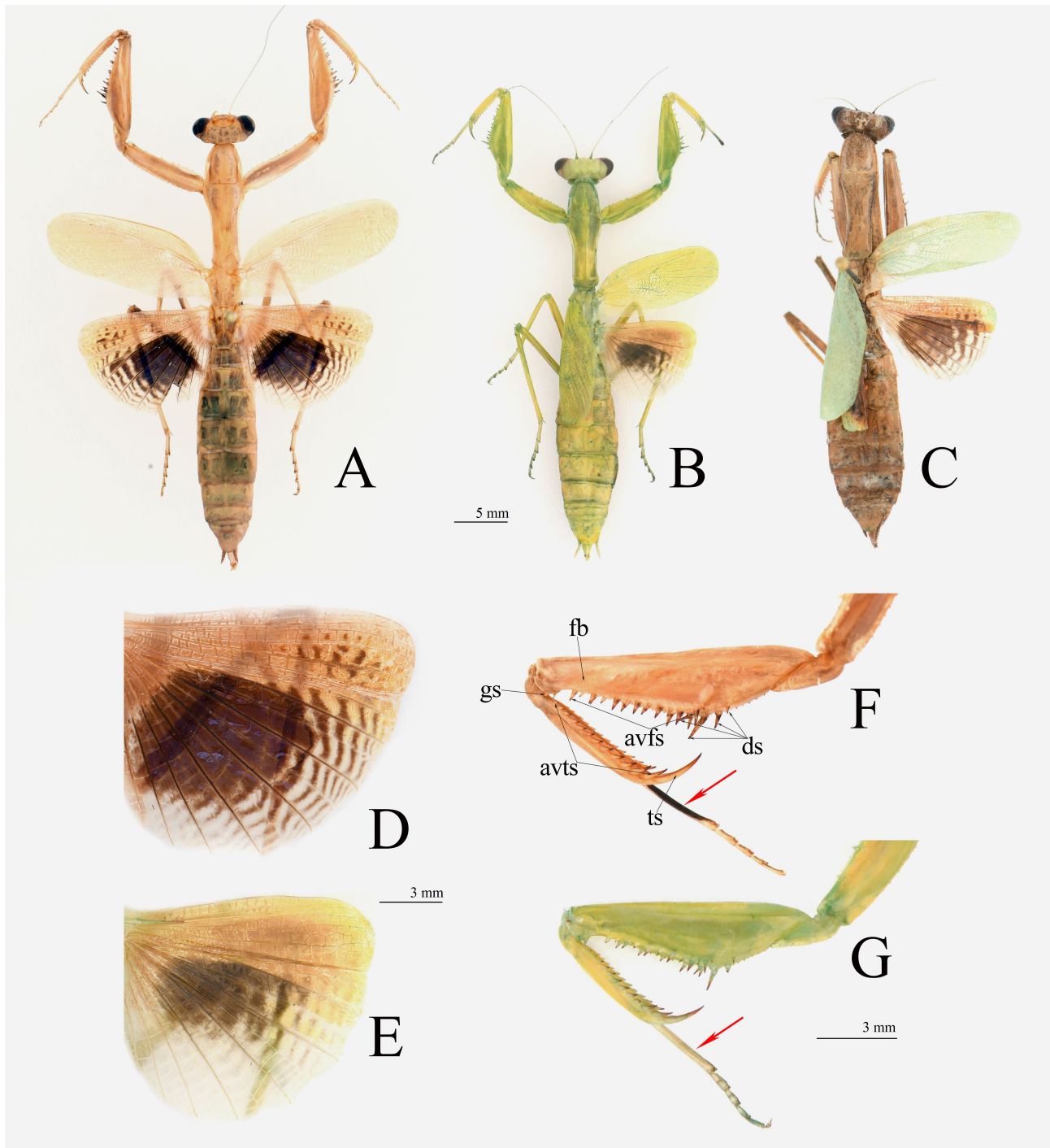


FIGURE 7. Females of *Iris* spp.: **A, D, E** *I. polystictica polystictica* (Fischer-Waldheim) **B, E, G** *I. aydingkolica* sp. nov. (Paratype) **C** *I. polystictica mongolica* Sjöstedt. **A–C** body in dorsal view **D, E** hindwings, dorsal view **F, G** prothoracic legs, ventral view.

Diagnosis. The new species is similar to *I. polystictica*, but smaller in size; they differ in the following characteristics. – Inner of the first joint of tarsi same colour as the body in *I. aydingkolica* sp. nov., while in *I. polystictica* (including *I. p. mongolica*) is black (Fig. 5G). – Black spots of hindwings are sparse in *I. aydingkolica*, but the black spots are dense and radiating in concentric black stripes in *I. polystictica*. – The sdpl of male external genitalia is large and robust, conical in *I. aydingkolica* sp. nov., while in *I. polystictica* is small and sharp. – The afa

of male external genitalia of *I. aydingkolica* **sp. nov.** is longer than that of *I. polystictica*. This new species is only found in the Aydingkol Lake region, located below sea level, with the type locality about –100 m, the Tianshan Mountains separate species *I. polystictica* and *I. aydingkolica* **sp. nov.**.

Distribution: China (Xinjiang, South of the Tianshan Mt.).

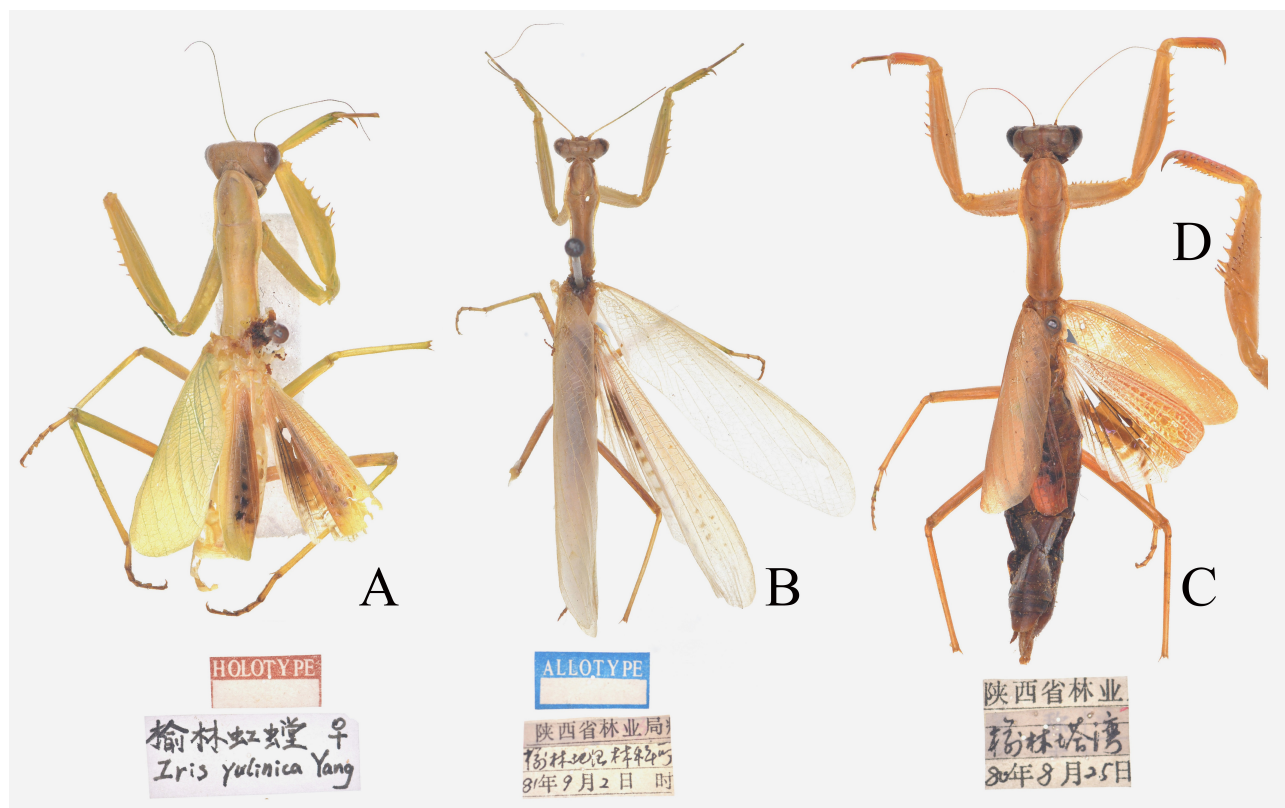


FIGURE 8. Types of *Iris yunlinica* Yang, 1999 (CAU): **A** Holotype, female **B** Allotype, male **C** no type label, female **D** prothoracic leg, female, ventral view.

Family Toxoderidae Saussure, 1869 箭螳科

Genus *Severinia* Finot, 1902 漠芒螳属

Type species: *Heterochaeta lemoroï* Finot, 1893.

Severinia turcomaniae (Saussure, 1872) 土库曼漠芒螳

Figs. 2C, E, F; 11B; 13C

Oxythespis turcomaniae Saussure, 1872: 61.

Severinia turcomaniae: Ehrmann 2002: 316; Shcherbakov & Savitsky 2015: 182–190; Wu 2021a: 141.

Material examined. CHINA: 1♂: Xinjiang, Ili; V.2022; leg. Xiang-Yu Guan (CWC). 2♂: Xinjiang, Shihezi; 15.VI.2019 (CWC). 7♂: Xinjiang, Fukang Observatory Ecol. Syst. Desert; 44.2920°N, 87.9342°E; 474m; 11.VI.2007; leg. Ye Liu (IZCAS).

Measurements (length in mm). Body (head to abdomen end): male 27.8–32.9, female about 31–38 (by Shcherbakov & Savitsky, 2015); body (head to wings): male 25.6–30.6; pronotum: male 6.2–7.1; fore coxae: male 4.0–4.7; fore femora: male 4.9–5.4; fore tibiae: male 2.8–3.2; hind femora: male 5.8–6.5; hind tibiae: male 7.7–8.4; forewings: male 17.6–19.4; hind wings: male 18.1–19.7.

Diagnosis. Small-sized mantis. Body very slender, bright brown, with small dark spots. Head transversal, eyes with a small apical tubercle. Pronotum very narrow; ratio of metazona length to prozona length about 2.38–2.40

(male). Prothoracic legs elongate; coxae shorter than pronotum; femora with four posteroventral spines, four discoidal spines and 10–12 anteroventral spines, claw groove lying near middle; fore tibiae with 5–6 posteroventral and 7–9 anteroventral spines; tarsus longer than tibia, first joint of tarsi as long as the combined length of the remaining segments. Male forewings translucent, long, but not concealing last 2–3 tergites; hind wings broad, transparent and colourless. Female forewings short, only concealing 1–2 tergites, about 6 mm. Cerci strongly flattened, with each segment wide, rounded apically.

Remarks. Lindt (1977) published 6 subspecies of this species from Turkmenistan, but the validity of these subspecies needs to be re-evaluated. Wu (2021a) recorded the distribution of this species in Xinjiang for the first time. Shcherbakov & Govorov (2021) documented intriguing biological information about this species; their nymphs can inhabit *Ceratocarpus arenarius* L. (a species of tumbleweed) to facilitate long-range dispersal and colonisation of new localities.

Distribution: China (Xinjiang); Russia; Turkmenistan; Tajikistan; Afghanistan; and Mongolia.

Family Empusidae Burmeister, 1838 锥螳科

Genus *Empusa* Illiger, 1798 锥螳属

Type species: *Mantis pauperata* Fabricius, 1781.

Empusa pennicornis (Pallas, 1773) 浅色锥螳

Figs. 1G; 9; 11H, I

Mantis pennicornis Pallas, 1773: 728.

Empusa pennicornis: Giglio-Tos 1927: 639; Beier 1934: 5; Zhang 1989: 184; Wang 1993: 58–159; Ehrmann 2002: 82; Roy 2004: 8; Zhu *et al.* 2012: 120–121; Wu 2021a: 144; Wu 2021b: 90.

Material examined. CHINA: 1♂: Xinjiang, Ili, Khorgas; 17.VI.2019; 800m; leg. Hao Huang (CWC). 2♂: Xinjiang, Shihezi; VI.2009; leg. Xiao-Yu Zhu (CWC). 2♀, 2♂: Xinjiang, Bole, N. Alatao Mountain; 330m; 24.V.2014; leg. Xi-Ma Da (CWC). 1♀: Xinjiang, Altay, Peitun 47.4234°N, 87.7543°E; 25.VI.2014; leg. Ying-Chao Ji (CWC). 1♀: Xinjiang, Karamay; 45.4290°N, 85.0651°E; 280m; 31.VII.2025; leg. Yu-Chen Zheng & Zu-Qi Mai (CWC). 2♂: Xinjiang, Tuoli (SEM).

Measurements (length in mm). Body (head to abdomen end): male 51.1–55.2, female 59.7–62.3; body (head to wings): male 62.5–64.6, female 64.3–67.8; pronotum: male 19.8–21.0, female 21.7–23.8; fore coxae: male 9.2–10.6, female 10.9–12.7; fore femora: male 9.8–11.5, female 12.0–13.7; fore tibiae: male 6.7–7.3, female 7.3–8.2; hind femora: male 11.5–13.5, female 14.8–15.4; hind tibiae: male 14.3–15.2, female 16.7–17.5; forewings: male 34.9–37.3, female 30.2–33.7; hind wings: male 35.6–37.4, female 28.8–30.7.

Diagnosis. Medium-sized mantis. Body very slender, overall bright green, with mottled white spots and bands. Head with long conical process, apical bilobed; antennae pectinate and long in male, but filiform and short in female. Pronotum elongate, very narrow; ratio of metazona length to prozona length about 6.75–6.78 (male) / 6.53–6.55 (female). Prothoracic legs elongate; coxae shorter than pronotum; femora with four posteroventral spines, four discoidal spines and 20–23 anteroventral spines, claw groove lying near middle; tibiae with 18–20 posteroventral and 21–23 anteroventral spines; tarsus longer than tibia, first joint of tarsi as long as combined length of the remaining segments. Meso- and metathoracic legs very long, with femora having one ventral lobe on the distal part. Wings long in both sexes; forewings narrow, translucent; hind wings broad, transparent and colourless.

Remarks. Lindt (1976, 1977, 1978, 1979) successively published 15 subspecies distributed in Central Asia based on subtle differences. The stability of these characteristics is questionable, and their validity needs to be re-evaluated. Zhang (1989) first recorded the distribution of this species in Xinjiang, China.

Distribution: China (Xinjiang); Europe to Central Asia.

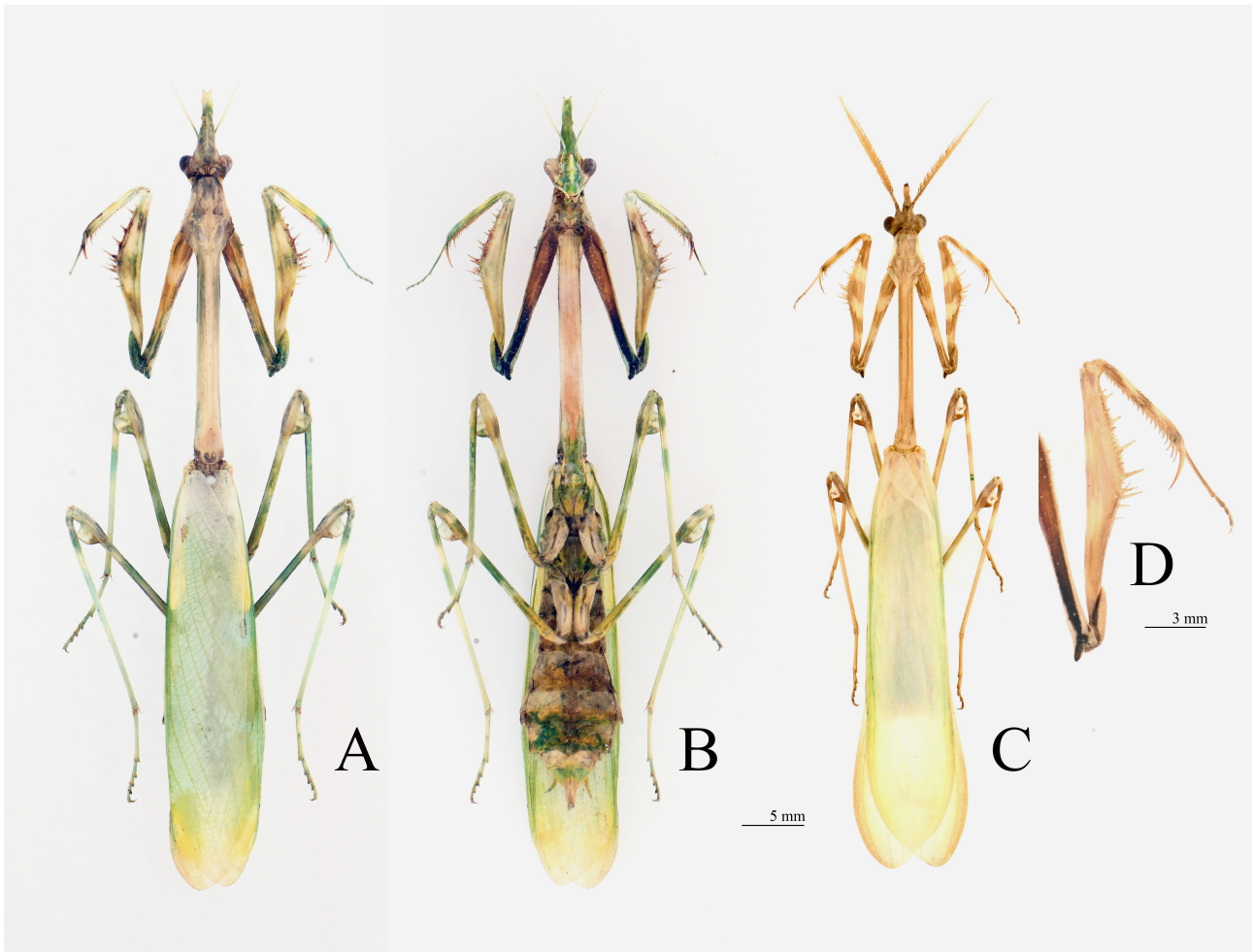


FIGURE 9. *Empusa pennicornis* (Pallas): **A, C** body in dorsal view **B** body in ventral view **D** prothoracic leg, ventral view. **A, B** female **C, D** male.

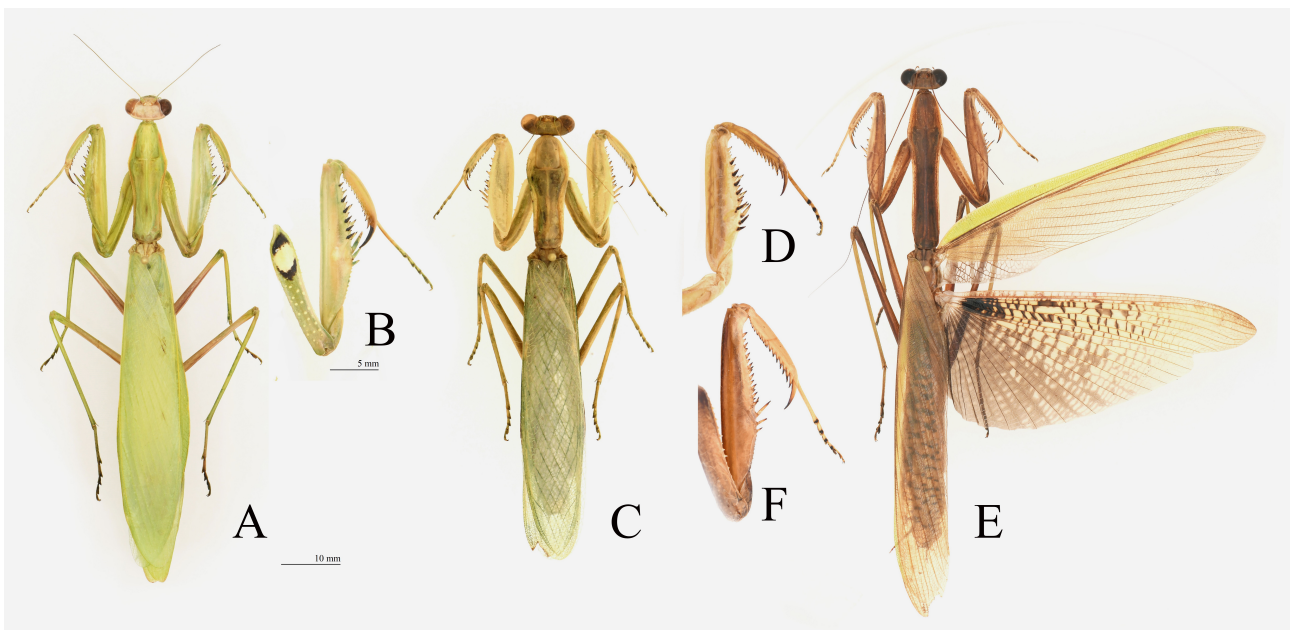


FIGURE 10. Mantidae from Xinjiang: **A, B** *Mantis religiosa beybienkoi* Bazyluk **C, D** *Hierodula tenuidentata* Saussure **E, F** *Tenodera sinensis* Saussure. **A, C, E** body in dorsal view **B, D, F** prothoracic legs, ventral view.

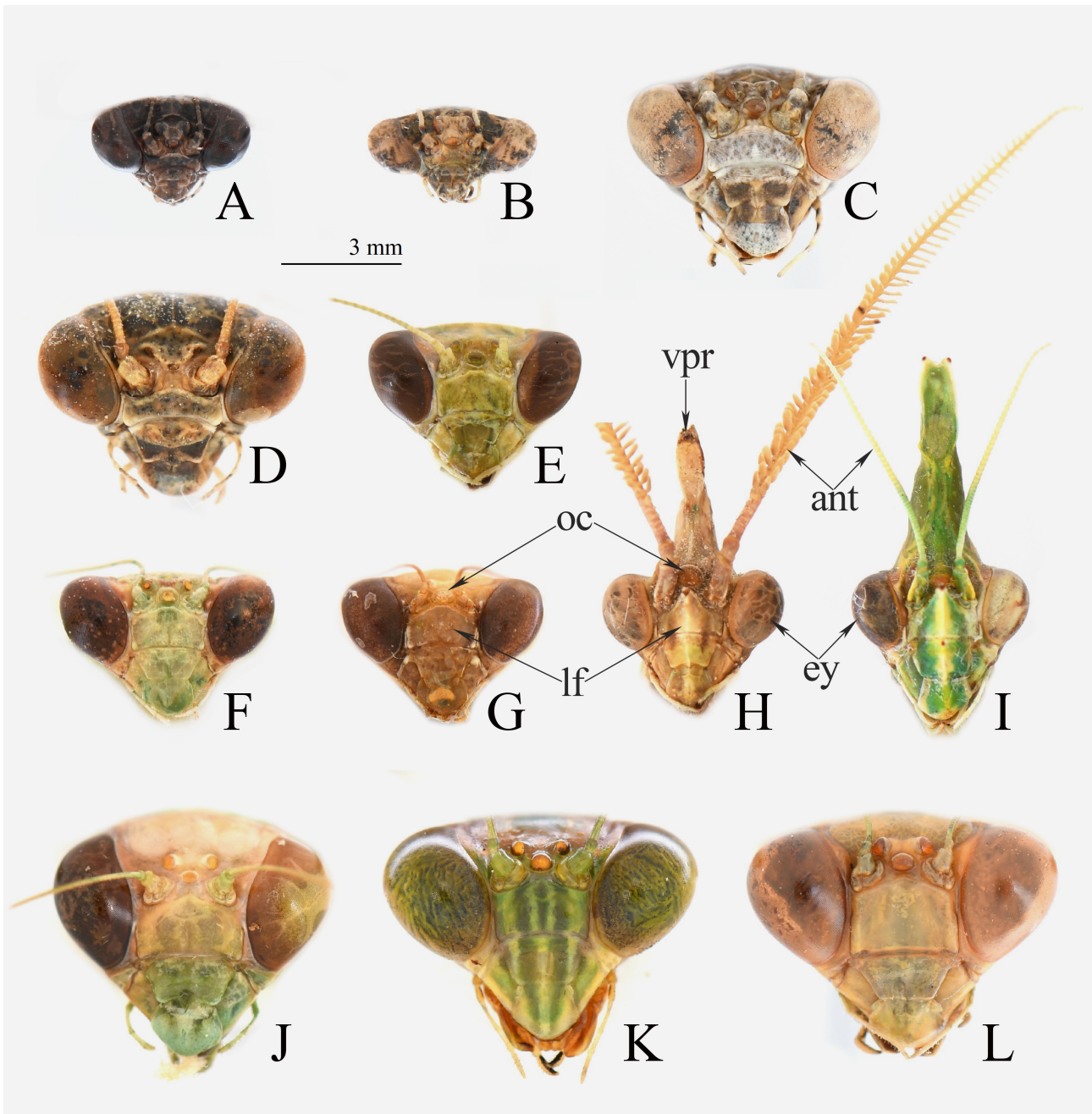


FIGURE 11. Head of Mantodea, anterior view: A *Armene pusilla* B *Severinia turcomaniae* C *Rivetina nana* D *Bolivaria brachyptera* E *Iris polystictica polystictica* F *I. polystictica mongolica* G *I. aydingkolica* sp. nov. H, I *Empusa pennicornis* J *Mantis religiosa beybienkoi* K *Tenodera sinensis* L *Hierodula tenuidentata*. A–H, K, L male I, J female.

Family Mantidae Latreille, 1802 螳科

Genus *Mantis* Linnaeus, 1758 螳属

Type species: *Gryllus (Mantis) religiosus* Linnaeus, 1758.

***Mantis religiosa beybienkoi* Bazyluk, 1960 薄翅螳西北亚种**

Figs. 10A, B; 11J

Mantis religiosa bey-bienkoi Bazyluk, 1960: 257–260; Shcherbakov *et al.* 2013: 18–19.

Mantis religiosa beybienkoi: Ehrmann 2002: 216.

Material examined. CHINA: 1♀: Xinjiang, Altay, Burqin Habahe; 18.VII.2009; leg. Xin-Lei Huang (CWC). 3♀, 2♂: Xinjiang, Hefeng, Baiyang River; 850m; 9.IX.1960; leg. Shu-Yong Wang (IZCAS).

TAJKISTAN: 1♀: Dangara region, Sebiston, Nurek Sea; 38.1735°N, 69.1529°E; 1345m; 20.VIII.2013 (IZCAS).

Remarks. Large-sized mantis, body length 45–65 mm (males 45–50 mm, females 50–65 mm); body green or brown; the inner of fore coxae with an oval black spot at the base, the spot with or without a white in the centre; hind wings transparent and colourless. *Mantis religiosa* is a very common and widely distributed species. Lindt (1974a, b) described *M. r. langoalata* and *M. r. latinota* based on specimens from Uzbekistan and Kazakhstan, respectively. The distribution ranges of these two subspecies overlap almost entirely with that of *M. r. beybienkoi*; thus, their validity is questionable. The type specimen of *M. religiosa* is believed to have been collected from Africa (Ehrmann, 2002), and populations from different regions of Eurasia have been successively described as nine subspecies; however, considering the widespread and continuous distribution of this species, the validity of some subspecies needs to be reassessed.

Distribution: China (Xinjiang, Inner Mongolia, Gansu); Russia; Mongolia.

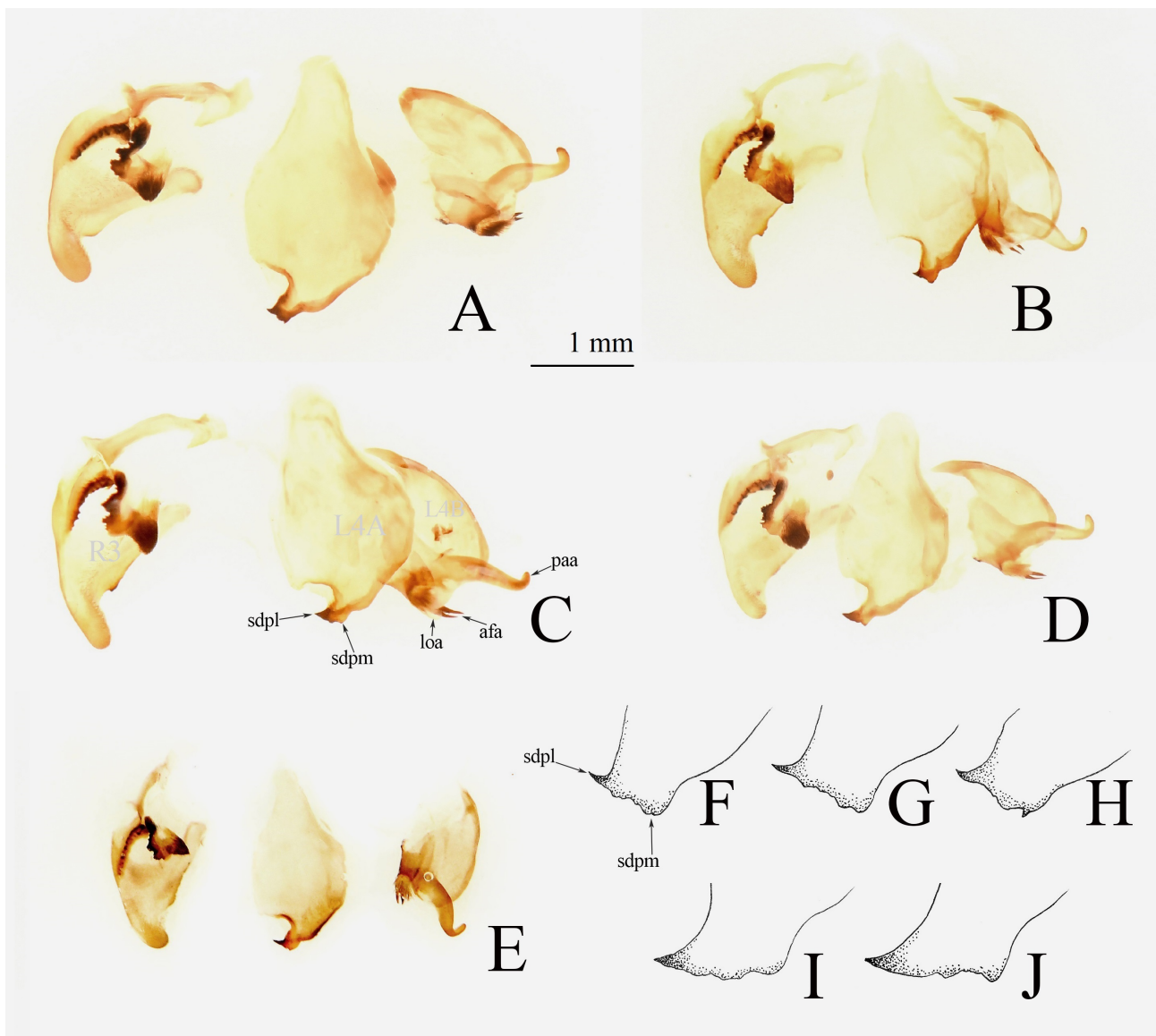


FIGURE 12. Male genitalia of *Iris* spp., disarticulated genital complex, ventral view: **A, B, F–G** *I. polystictica polystictica* **C, D, I, J:** *I. aydingkolica* **sp. nov.** **E** *I. polystictica mongolica*.

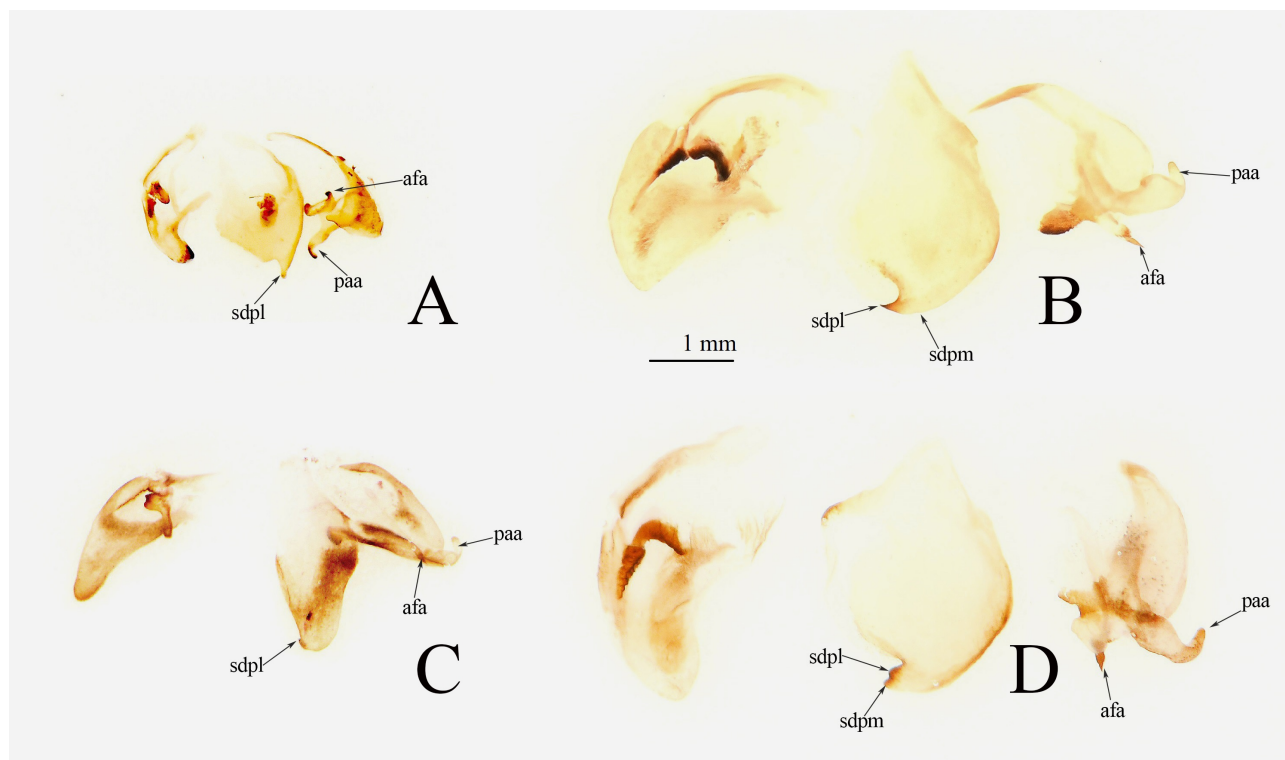


FIGURE 13. Male genitalia of Mantodea from Xinjiang, disarticulated genital complex, ventral view: **A** *Armene pusilla* **B** *Rivetina nana* **C** *Severinia turcomaniae* **D** *Bolivaria brachyptera*.

Genus *Tenodera* Burmeister, 1838 刀螳属

Type species: *Mantis fasciata* Olivier, 1792.

Tenodera sinensis Saussure, 1870 中华刀螳

Figs. 10E, F; 11K

Tenodera aridifolia var. *sinensis* Saussure, 1870: 417.

Tenodera sinensis: Wang 1993: 133; Ehrmann 2002: 350; Zhu *et al.* 2012: 216–220; Wu 2021a: 171; Wu 2021b: 160–161.

Material examined. CHINA: 1♂: Xinjiang, Urumqi; 17.VIII.2020. (CWC).

Remarks. Very large-sized mantis, body length 65–100 mm (males 65–90 mm, females 70–100 mm). Body green or brown, if brown, the edges of the forewings remain green; inner of prothoracic legs without spot; hindwings with dark mottled pattern and large black spot at the base. Although this species is widely distributed and common in China, it has hardly been recorded in Northwest China, especially Xinjiang (Wang, 1993). There have been a few records of this species around cities in Xinjiang in recent years; it could be an alien species. The picture identified as *Iris oratoria* in Hu & Huang (2013) was actually *Tenodera sinensis*. This book was published in 2013, so this species had appeared in the Xinjiang region before that.

Distribution: East Asia; North America (Invasive species).

Tenodera angustipennis Saussure, 1869 狭翅刀螳

Tenodera angustipennis Saussure, 1869: 69; Wang 1993: 130; Ehrmann 2002: 349; Zhu *et al.* 2012: 222–225; Wu 2021b: 164–165.

Remarks. No material was examined from Xinjiang. Some reliable specimen records come from entomologist Mr Zi-Yang Ni in Xinjiang, who collected this species in a treelawn in Shihezi City, suspected to be an alien species (8 July 2020, pers. comm.). This species is similar to *Tenodera sinensis*, but comparatively slender; hindwings

transparent, slightly smoky, and without the large black spots.

Distribution: Eastern China; Russia; Korean Peninsula; and Japan.

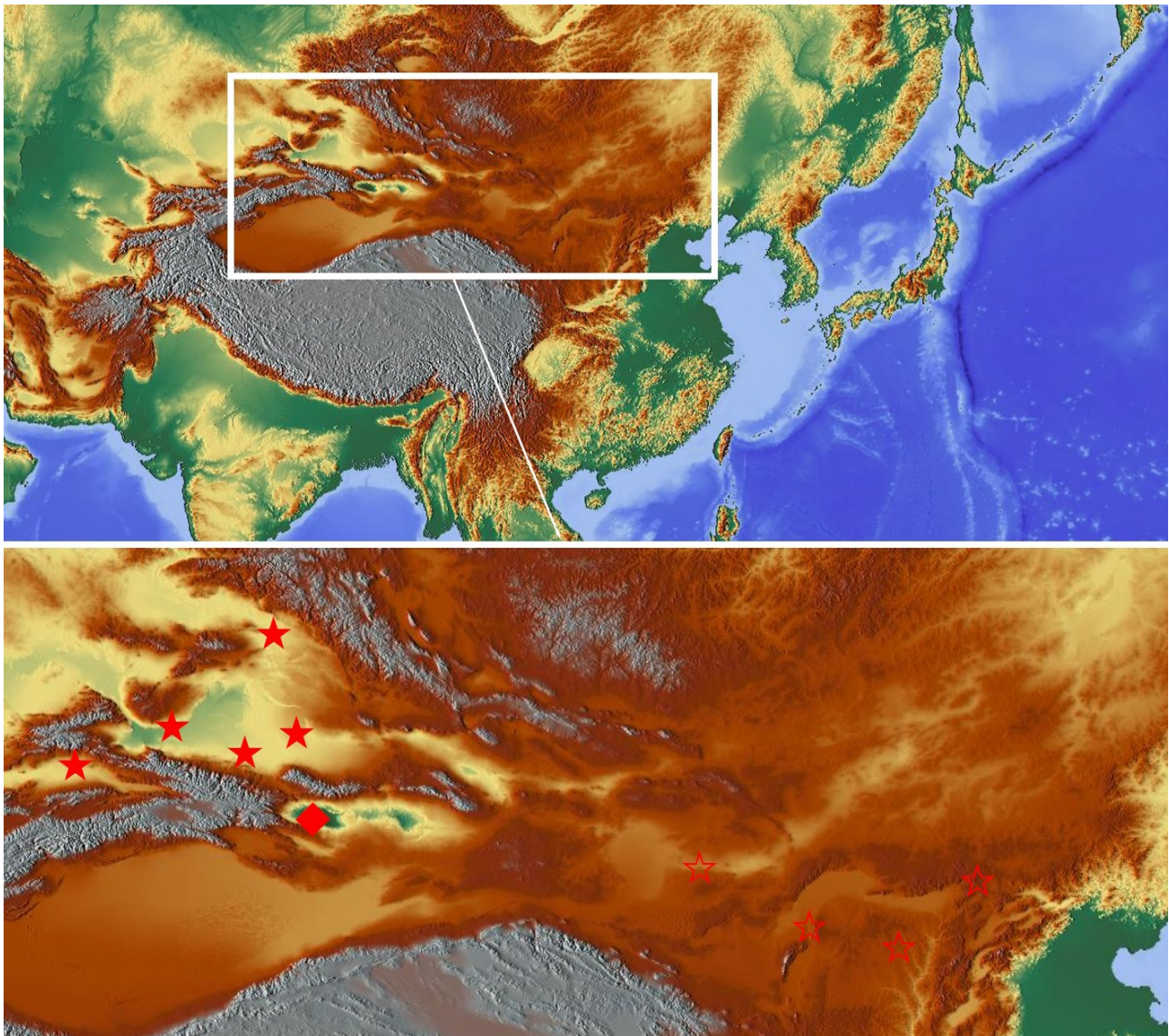


FIGURE 14. Distribution map of the distribution *Iris* spp. in China: ★ *I. polystictica polystictica* ☆ *I. polystictica mongolica* ▲ *I. aydingkolica* sp. nov.

Genus *Hierodula* Burmeister, 1838 斧螳属

Type species: *Mantis (Hierodula) membranacea* Burmeister, 1838.

Hierodula tenuidentata Saussure, 1869 细齿斧螳

Figs. 10C, D; 11L

Hierodula tenuidentata Saussure, 1869: 68; Ehrmann 2002: 183; Liu *et al.* 2021: 413–415.

Material examined. CHINA: 1♂: Xinjiang, Ili, Yining; 43.88°N, 81.24°E; 650m; 8.VIII.2015 (CWC).

TAJIKISTAN: 2♀, 1♂: Dangara region, Sebiston, Nurek Sea; 38.1735°N, 69.1529°E; 1345m; 2013.VIII.20 (IZCAS).

Remarks. Large-sized mantis, body length 55–75 mm. Body green or brown; inner of prothoracic legs without spot; forewings with white stigma, hindwings transparent and colourless. Lindt (1963) described the subspecies *H. t. darvasica* based on specimens from Tajikistan; specimens from Xinjiang may belong to this subspecies in terms

of geographic distribution. It is worth noting that there are differing opinions regarding the relationship between *H. tenuidentata* Saussure, 1869 (*sensu stricto* in India) and *H. transcaucasica* Brunner-Wattenwyl, 1878 (*sensu stricto* in the Caucasus region); these two species may be synonymous, but not all researchers agree with this view. A species complex is thus used to refer to *H. tenuidentata* and *H. transcaucasica*, as the complex *H. tenuidentata/transcaucasica* (De ViVo, 2024; Moulin & Benaiche, 2025).

Distribution: China (Xinjiang); India; Nepal; Pakistan; Tajikistan; Turkmenistan; and Afghanistan.

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● References

- Bazyluk W 1960: Die geographische Verbreitung und Variabilität von *Mantis religiosa* (L.) (Mantodea, Mantidae) sowie Beschreibungen neuer Unterarten. *Annales Zoologici*, 16 (15): 231–272.
- Beier M 1934: *Mantodea, Fam. Mantidae, Subfam. Sibyllinae und Empusinae*. Genera Insectorum, 197. Desmet-Verteneuil, Bruxelles, 10 pp., 1 pl.
- Beier M 1935: *Mantodea, Fam. Mantidae, Subfam. Mantinae*. Genera Insectorum, 203. Desmet-Verteneuil, Bruxelles, 146 pp., 8 pls. (Nachträge 1937, 3 pp.)
- De ViVo M 2024: Analysis of potential niche shifts in alien pairs of mantis species (Insecta, Mantodea) with comments on the current taxonomic and ecological knowledge. *Journal of Orthoptera Research*, 33 (2): 217–227.
<https://doi.org/10.3897/jor.33.111057>
- Ehrmann R 2002: *Mantodea — Gottesanbeterinnen der Welt*. Natur und Tier-Verlag, Münster, 519 pp.
- Eversmann E 1859: Orthoptera Volgo — Uralensia. Mantodea. *Bulletin de la Société Impériale des Naturalistes de Moscou*, 32: 122–125.
- Fischer-Waldheim G 1846: Orthoptera Imperii Rossici. *Nouveaux mémoires de la Société impériale des naturalistes de Moscou*, 8: 87–105.
- Giglio-Tos E 1927: *Das Tierreich. 50. Lfg. — Orthoptera Mantidae*. Walter de Gruyter & Co., Berlin, xl + 707 pp.
- Hu H-Y & Huang R-X 2013: *Coloured Pictorial Handbook of Insects in Xinjiang*. Xinjiang University Press, Xinjiang, 300 pp. [胡红英 & 黄人鑫 2013: 新疆昆虫原色图鉴 新疆大学出版社, 新疆, 300 pp.]
- Lindt II 1961: A new mantid species from Gissarsk Valley (Tadzhikistan). *Doklady Akademii Nauk Tadzhikskoi SSR*, 4 (3): 53–58.
- Lindt II 1963: Notes on Mantoidea of Badakshan (Tadzhikistan). *Trudy Zoologicheskogo Instituta Akademiya Nauk SSR*, 24: 3–20.
- Lindt I.I. 1974a: Description of a new subspecies *Mantis religiosa* LINNÉ (Mantoidea) from Aktau ridge (Tadzhikistan). *Doklady Akademii Nauk Tadzhikskoi SSR*, 17 (1): 71–73.
- Lindt II 1974b: New subspecies of *Mantis religiosa* from Central Asia. *Izvestiya Akademii Nauk Tadzhikskoi SSR*, 56: 50–53.
- Lindt II 1976: Orthoptera -Mantodea *Empusa pennicornis* Pallas. *Doklady Akademii Nauk Tadzhikskoi SSR*, 19 (11): 66–68.
- Lindt II 1977a: New subspecies of *Empusa pennicornis* Pallas (Mantoidea, Empusidae) from Central Asia. *Doklady Akademii Nauk Tadzhikskoi SSR*, 20 (2): 59–62.

- Lindt II 1977b: New subspecies of *Empusa pennicornis* from Central Asia. *Izvestiya Akademii Nauk Tadzhikskoi SSR*, 66 (1): 9–12.
- Lindt II 1977c: On the systematics of *Amblythespis turcomaniae* Saussure, with a description of new forms. *Izvestiya Akademii Nauk Tadzhikskoi SSR*, 67 (2): 3–14.
- Lindt II 1978: The new subspecies of *Empusa pennicornis* Pallas (Mantodea) from Uzbekistan and Tadzhikistan. *Doklady Akademii Nauk Tadzhikskoi SSR*, 21 (1): 60–63.
- Lindt II 1979: On the subspecies of *Empusa pennicornis* Pallas-Mantodea. *Izvestiya Akademii Nauk Tadzhikskoi SSR*, 74 (1): 24–31.
- Liu Q-P, Liu Z-J, Wang G-L & Yin Z-X 2021: Taxonomic revision of the praying mantis subfamily Hierodulinae of China (Mantodea: Mantidae). *Zootaxa*, 4951 (3): 401–433.
<https://doi.org/10.11646/zootaxa.4951.3.1>
- Mistshenko LL 1967: New species of the genus *Rivetina* Berl. et Chop. From Kazakhstan, Turkomania and Asia minor. *Revue d'Entomologie USSR*, 46 (3): 699–711.
- Moulin N & Benaïche L 2025: Reconstructing the invasion and the life-history data of alien species of Mantodea in France. *Bulletin de la Société entomologique de France*, 130 (1): 55–68.
https://doi.org/10.32475/bsef_2346
- Pallas PS 1773: *Reise durch verschiedene Provinzen des Russischen Reiches in den Jahren 1768–1774*. – Akademie Buchhandlung, St. Petersburg, 728pp.
- Roy R 2004: Réarrangements critiques dans la famille des Empusidae et relations phylogénétiques (Dictyoptera, Mantodea). *Revue française d'Entomologie (N. S.)*, 26 (1): 1–18.
- Saussure H 1869: Essai d'un Système des Mantides. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 3 (2): 49–73.
- Saussure H 1870: Additions au Système des Mantides. *Mitteilungen der Schweizerischen Entomologischen Gesellschaft*, 3 (5): 221–244.
- Saussure H 1872: Mélanges orthoptérologiques. IV me Fascicule. Mantides et Blattides. *Mémoires de la Société de Physique et d'Histoire naturelle de Genève*, 23 (2): 1–164, 3pls.
- Schwarz CJ & Roy R 2019: The systematics of Mantodea revisited: an updated classification incorporating multiple data sources (Insecta: Dictyoptera). *Annales de la Société Entomologique de France (N.S.)*, 55 (2): 101–196.
<https://doi.org/10.1080/00379271.2018.1556567>
- Shcherbakov E & Govorov V 2021: Riders on the storm? A short note on the biology of *Severinia turcomaniae* (Saussure, 1872) (Mantodea: Toxoderidae). *Annales de la Société Entomologique de France (N.S.)*, 57 (4): 372–378.
<https://doi.org/10.1080/00379271.2021.1950050>
- Shcherbakov E & Savitsky V 2015: New Data on the Fauna, Taxonomy and Ecology of Praying Mantises (Dictyoptera, Mantodea) from Russia. *Entomological Review*, 95 (2): 181–199.
<https://doi.org/10.1134/S0013873815020049>
- Shcherbakov E, Yakovlev RV & Titov SV 2013: Notes on the fauna of praying mantids (Mantodea) of the Kulunda steppe. *Amurian Zoological Journal*, 5 (1): 16–20.
<https://doi.org/10.33910/1999-4079-2013-5-1-16-20>
- Sjöstedt Y 1933: Schwedisch-chinesische wissenschaftliche Expedition nach den nordwestlichen Provinzen Chinas. *Arkiv för Zoologi*, 25A (4): 1–4.
- Wang T-Q 1993: *Synopsis on the classification of Mantodea from China*. Shanghai Scientific and Technological Literature Publishing House, Shanghai, 177 pp. [王天齐 1993: 中国螳螂目分类概要. 上海科学技术出版社, 上海, 177 pp.]
- Wu C 2021a: *Natural History of Mantodea*. The Straits Publishing House, Fuzhou, 212 pp. [吴超 2021a: 螳螂的自然史. 海峡出版社, 福州, 212 pp.]
- Wu C 2021b: *A Photographic Guide to Mantis in China*. Chongqing University Press, Chongqing, 200 pp. [吴超 2021b: 常见螳螂野外识别手册. 重庆大学出版社, 重庆, 200 pp.]
- Yang C-K 1998: Mantodea. In: Chen S-C (Editor) *Pictorial handbook of rare and precious insects in China*. Beijing: China Forestry Publishing House; p. 33. [杨集昆 1998: 螳科. 见: 陈树春 (主编) 中国珍稀昆虫图鉴. 中国林业出版社, 北京, p. 33.]
- Zhang G-Z 1989: Three Species of Mantidae-New Records from China. *Entomotaxonomia*, 11(3): 184 [张国忠 1989: 中国螳螂科三新记录种. 昆虫分类学报, 11 (3): 184.]

Zhu X-Y, Wu C & Yuan Q 2012: *Mantodea in China*. Xiyuan Publishing House, Beijing, 331 pp. [朱笑愚, 吴超 & 袁勤 2012: 中国螳螂. 西苑出版社, 北京, 331 pp.]

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