A consolidated account on six genera of Mantodea (Dictyoptera) from Sindh, Pakistan

Sadaf Fatimah*, Riffat Sultana, Aneela Chandio, Farheen Deeba, Jeram Das, Mohan Lal, Muhammad Siddique Dayo

Department of Zoology, University of Sindh, Jamshoro, Sindh, Pakistan
*Email: sadaffatimah45@gmail.com

Received: 18 December 2023 / Revised: 13 January 2024 / Accepted: 23 January 2024 / Published online: 23 January 2024.


Abstract
The order Mantodea is updated, resulting in the recognition of ten species, of which four are described herein as new regional species i.e Empusa fasicata (Brulle, 1832), Empusa spinosa (Krauss, 1902), Iris orientalis (Wood-Mason, 1882) and Rivetinula fraterna (Saussure, 1871) are recorded as new country and state records. Differences from similar species and a taxonomic key to species of Sindh, Pakistan are provided.

Keywords: Mantodea, Consolidated, new record, Taxonomic key, difference

Introduction
Order Mantodea was considered a minor order of insects because it was based on a single family of mantidae in which a few species occurred. Previously Roy and Ehrmann (2002), Otte and Spearman (2005) estimated 2300–2450 species in Mantodea. But now this group is recognized as one of the major order of Dictyoptera, which consists of 33 families about 460 genera, and more than 2,500 species Svenson and Whiting (2004). Mantis is easily differentiated from other insects because of its large, triangular head and compound eyes. A joint neck is also remarkably flexible; can rotate the head nearly 180 degrees. Praying mantis visual range of up to 20 meters and have a dynamic vision for long distances. But the most probably fantastic body features are the grasping forelegs, folded under the thorax region “praying “gesture. The praying mantis is found in various habitats. Generally located in tropical, subtropical, arid forests, deserts, and grasslands, although
some others can be found in mild cold areas, where prey is available in great numbers. Praying mantis spend most of their time in the Paddy ecosystem, Pond ecosystem, Grassland ecosystem, Banana ecosystem, Mango ecosystem, home gardens, and forests and are also attracted to light during night time. Mantis change its feeding behavior during different stages of its life. In the first instar stage, mantis eat small insects such as tiny cockroaches, flies, and their siblings, etc. In the later instar stage, it captures much larger insects, but in the adulthood, it preys on a different type of insects i.e. small scorpions, frogs, lizards, birds, fish, snakes, jassids, white flies, grasshoppers, caterpillars, psyllids, *Aphis craccivora* Koch, Mosquitoes (Culex sp., Aedes sp.), scale insects, mealy bugs, *Rhopalosiphum maidis* Fitch, *Helicoverpa armigera* Hubn, *Peregrinus maidis* Aslma, caterpillars *H. armigera*, homopterous insect pests. Mantis capture their prey with tricky, flexible, and thorny “grasping legs” Beckman et al. (2003)(Sathe and Patil 2014). All species of Mantodea have a natural tendency to camouflage attitude through which they can easily adapt to their environment Grimaldi and Engel (2005). The present work consists of 04 families’ i.e. Empusidae, Eremiaphilidae, Mantidae, and Rivetinae. Approximately 40 species were reported from Pakistan. Some researchers i.e. Wagan and Mughal (1995), Wagan et al. (1995), Naheed (2000), Sultana et al. (2016), Fatima (2017), Fatimah et al. (2018), paid more attention to classification. Apart from that Soomro et al. (2001), Soomro et al. (2000a), Soomro et al. (2000b) and Naeem and Yousaf (1996-1999), Fatimah et al. (2016), Chandio (2019), Fatimah et al. (2021), Fatimah et al. (2022) and Fatimah et al.(2022) all above entomologists took intensive attempts on other parameters of mantis in recent years. The aim of the present study a consolidate new fauna of mantis from Sindh, Pakistan, because many families, subfamilies, tribes, genera, and species statuses were revised/ rearranged their classification so that we have extensively surveyed many new localities and also touched reported areas by earlier workers. We have collected rich numbers of species and also successfully found new regional recorded species. Sindh province is located at 25.8943° N and 68.5247° E. Sindh province is affluent with agricultural fields, where a variety of different seasonal crops are cultivated. During current research, we have surveyed 8 districts and 10 localities. The climate condition of upper Sindh is warm and dry, but middle and lower Sindh is warm and humid.

**Material and methods**

Many intensive field surveys of Jacobabad, Kashomr/kandkot, Qambar/ Shahdadkot, Larkana, Shikarpur, Ghotki, Sukkur, and Khairpur were carried out from June 2019 to September 2021.
specimens were collected with the help of an insect net, hand-picked method, and light trapping technique they were brought to the Entomology Biological Control Research Laboratory at the University of Sindh, Jamshoro. For a further detailed study, authentic information about the identification names of specimens and collected sites is given. Identification was carried out under a stereoscope binocular microscope and identified up to species level with the aid of Saussure (1871), Giglo-Tos (1919-1927), Wang (1993), Terra (1995), Maxwell et al. (1998), Ehrmann (2002) and Sex was differentiated on the bases of gender identification tools given by Fatimah et al. (2016) mostly the female possess 6 abdominal segments while have male with 8 segments. The collected specimens were sprayed with potassium cyanide/chloroform and they died within 15-25 minutes after that pinned and stretched on the stretching board. Attention was paid to the position of antenna, wings, and legs to display important taxonomical characteristics. The fully dried specimen was removed from the stretching boards and stored in the insect’s boxes and labeled showing locality, date, and collector’s name. The collected samples were properly preserved and a drawing line of important taxonomic features was sketched and some photographs of the various species were also captured (SONY.CORP. DSC. W630).

Results

Superfamily Hymenopoidea
Family Empusidae
Subfamily Blepharodinae
Genus Blepharopsis Rehn, 1902

Blepharopsis mendica Fabricius, 1775

*Mantis mendica* (Fabricius, 1775) (Figures 1-6, Table 1-3)

**Material examined:** PAKISTAN- Sindh Prov. • 2♂; Riffat, Sadaf; 4 Apr.2019; Kot Khrwali N 28.2440°, E 69.5646°, 4♂, 5♀; Sadaf, Riffat; 7 Apr.2019, Ghogharo N 27.6025°, E 67.4755°, 1♂ Riffat, Sadaf; 12 Apr. 2019; Dokri N 27.3800°, E 68.0925°, 1♂,1♀; Sadaf, Riffat; 14 Apr.2019; Hashim Ali Chang N 27.5256°, E 68.7551°, 1♀; Sadaf, Riffat;18 Apr.2019; Dasti N 28.0390°, E 68.4138°, 2♀; Riffat, Sadaf; 20 Apr.2019; Dakhan N 27.95°, E 68.63°.

Description

Body medium to large size; malachite green coloration, wide and heavy, pronotum diamond shape; robust; shorter and wide; enclosed with numerous spines; with covered bushy hair. Facial shield
with the median point of its dorsal margin produced and curving dorsal–cephalad, vertex less prominent, tegmina and wing fully developed; coxa, femur, trochanter, and tibia covered with hair, coxa triangular shape, and broad with spines.

**Male. LH** 4.0 ± 0.86(mm), LA 14.0 ± 1.87(mm), LP 14.0 ± 1.74(mm), LAB. 33.33 ± 3.90(mm), LT. 39.55 ± 3.04(mm), WT. 11.33 ± 1.32(mm), LW 37.55 ± 4.33(mm), WW. 20.44 ± 2.74(mm), LF.13.88 ± 1.05(mm), WF.5.22 ± 0.83(mm), TBL 58.55 ± 6.24(mm).

**Female. LH.** 525 ± 0.88(mm), LA 16.25 ± 0.70(mm), LP 14.62 ± 1.06 (mm), LAB 35.75 ± 2.37(mm), LT 38.62 ± 1.92(mm), WT 12.0 ± 0.92(mm), LW 39.5 ± 3.89(mm), WW 22.8 ± 1.12(mm), LF 15.62 ± 0.74(mm), WF 6.12 ± 0.83(mm), TBL 58.0 ± 5.87(mm).

**Ecology**

This species is widespread in various bushes and thorny fields of upper Sindh, Pakistan. Many crops that are affected by *B.mendica* are *S. vulgare, M.alba, Nicotiana tabacum L.* This species is mostly found in South Asia, the Middle East, and North African countries.

**Global Distribution**

Afghanistan, Algeria, Chad, China, Cyprus, Egypt, India, Iran, Israel, Jordan, Lebanon, Libya, Morocco, Niger, Oman, Pakistan, Portugal, Somalia, Canary Island, Sudan, Tunisia and USA.(Battiston, 2016)

**Remarks**

This species was first time founded by Fabricius, (1775). Ehmann (2011) reported this species from Palestine's unidentified area and Kocak and Kema, (2017) collected it from Turkey. Furthermore, Naheed (2000) reported that from lower Sindh, and Fatima (2017) reported from central Sindh. During the present study I have collected (08) males and (09) females from various localities of upper Sindh, but particularly good numbers of specimens were collected from the field of Ladyfinger Ghogharo N 27.6025°, E 67.4755°.*B.mendica* very actively engages or assiduously performs mimic and cryptic coloration behavior in leaves and dry shrubs (Becerra et al. 2001). At the end of the winter season, the nymphal stage appears but in the spring season, it reaches the adult stage.Battiston et al. (2010). This species is globally known as Arab mantis, Devil's flower mantis, Egyptian flower mantis, and Thistle mantis Battiston (2016).

**Subfamily Empusinae**

**Tribe Empusini**
Subtribe Empusina

Genus *Empusa* Illiger, 1798

*Empusa pennata* Thunberg, 1815

*Empusabrachyptera* (Fischer-Waldheim, 1846)

*Empusa pauperata* (Fabricius, 1781): 346-347.

*Empus pauperata* (Thunberg, 1784): 61.


*Empusa pauperata* (Fabricius, 1787): 227.

*Empusa pauperata* (Olivier, 1792): 627.

*Empusa pauperata* (Fabricius, 1793): 17.

*Empusa pauperata* (Lichtenstein, 1802): 24.

*Empusa pauperata* (Stoll, 1813): 33-34.


*Gryllus unicornis* (Linne, 1763: 396

*Empusa unicornis* (Bolivar, 1897): 315.

*Mantis fronticornis* (Stoll, 1813): 30, 31.

*Empusa fronticornis* (Audinet-Serville, 1839): 144.

*Empusa humbertiana* (Saussure, 1869): 60-61.

*Empusa servillii* (Saussure, 1872): 88.

*Empusa servillii* (Saussure and Zehntner 1895): 239-240.

(Figures 1-6, Table 1-3)

**Material examined:** PAKISTAN- SINDH PROV.• 3♀; Sadaf, Riffat; 20 Apr.2019; Miro chandio N 27.7667°, E 68.1000°, 2♂; Riffat, Sadaf; 22 Apr.2019; Kot Khrwali N 28.2440°, E 69.5646°, 1♀; Sadaf, Riffat; 24 Apr.2019; Ghogharo N 27.6025°, E 67.4755°, 1♀; Sadaf, Riffat; 23 May.2019; Dokri N 27.3800°, E 68.0925°, 2♀; Riffat,Sadaf; 23 Apr.2019; 24 Apr.2019; Hashim Ali Chang N 27.5256°, E 68.7551°, 1♀; Sadaf, Riffat; 26 Apr.2019; Mirpur mathalo N 28.0271°, E 69.3235°, 1♀; Sadaf, Riffat; 27 Apr.2019; Sumar chachar N 28.2457°, E 68.1797°, 1♀; Sadaf, Riffat; 28 Apr.2019; Naudero N 27.6670°, E 68.1161°, 1♀; Riffat, Sadaf; 26 Apr.2019; Mirpur mathalo N 28.0271°, E 69.3235°, 1♀; Sadaf, Riffat; 27 Apr.2019; Sumar chachar N 28.2457°, E 68.1797°, 1♀; Sadaf, Riffat; 28 Apr.2019; Naudero N 27.6670°, E 68.1161°, 1♀; Riffat, Sadaf; 6 May.2019; Bero Chandio N 27.5789°, E 68.1161°, 1♀; Sadaf,
Riffat; 8 May.2019; Bangul Dero N 27.5639°, E 68.2151°, 1♀; Sadaf, Riffat; 12 May.2019; Garhi Sahib Khan N 27.5725°, E 68.3816°, 1♀; Sadaf, Riffat; 15 May.2019; Dakhan N 27.95°, E 68.63°, 1♀; Sadaf, Riffat; 20 May.2019; Dasti N 28.0390°, E 68.4138°.

Description
Body moderate, elongated in size, pear green coloration, head cone-shaped, two compound eyes spherical, antennal with 70-72 segments, vertex horn, pronotum long and slim, pronotal dilation, anterior part of pronotum crossed by a transverse sulcus, pronotum outer wall broad and rise upward along with small sharp hooks, tegmina ellipse shape, coxa triangular in shape, trochanter oval shape, tibia with 15-18 spines inner side and 20-25 outer side, femur rod-shaped slightly tubercle, abdomen elongated and slender, pair of cerci attached on ending segment of the abdomen also.

Female: LH 7.83 ± 0.38 (mm), LA 11.94 ± 0.80 (mm), LP 26.05 ± 1.05(mm), LAB 42.5 ± 1.54(mm), LT 49.94 ± 1.76 (mm), WT 8.66 ± 0.76(mm), LW 41.11 ± 1.81(mm), WW15.44 ± 0.51(mm), LF 13.11 ± 0.32(mm), WF 1.41 ± 0.42(mm), TBL 70.38 ± 0.69(mm).

Ecology
Empusa pennata are broadly distributed in various fields. Agricultural fields affected by this species are Sorghum vulgare and Morus abla L.

Global Distribution
Algeria, Bangladesh, China, the Canary Islands, Europe, India, Iran, Libya, Morocco, Pakistan, Sardinia, Sicilian, Spain, and the USA. (Shveta et al.2016)

Remarks
This species was first time recorded from Jordan after it Chopard (1921) was recorded from Iraq. This species probably covers the widest distribution from the Mediterranean basin to the Middle East. Firstly Naheed (2000) collected male and female specimens of this species from Sindh. This species is considered very unique due to its lateral margin of pronotum which provides the guidelines to create a species or sub-species on the basis of pronatal spines. Observed extraordinary ability of this species to live in diverse habitats such as Miro Chandio N 27.7667°, E 68.1000°, Kot Khrwali N 28.2440°, E 69.5646°, Ghogharo N 27.6025°, E 67.4755°, Dokri N 27.3800°, E 68.0925°, Hashim Ali Chang N 27.5256°, E 68.7551°, Mirpur mathalo N 28.0271°, E 69.3235°, Sumar chachar N 28.2457°, E 68.1797° but more numbers of specimens were founded from Miro
chandio. After *Mantis religiosa* and *Hierodula transcusica*, this species is considered as third dominant species in Sindh, Pakistan.

*Empusa fasciata* Brulle, 1832

Figures 1-6, Table 1-3

**Material examined.** PAKISTAN-Sindh Prov. • 5♀; Sadaf, Riffat; 16 May.2019; Mar Jaffer kharto N 28.2442°, E 69.1834°, 3♀; Sadaf, Riffat 20 May.2019; Hashim Ali Chang N 27.5256°, E 68.7551°, 2♀; Riffat, Sadaf; 24 May.2019; Dokri N 27.3800°, E 68.0925°, 1♀; Sadaf, Riffat; 26 May.2019; Sumar chachar N 28.2457°, E 68.1797°, 1♀; Sadaf, Riffat; 30 May.2019; Ghogharo N 27.6025°, E 67.4755°.

**Description**

Body moderate, flat, sea green coloration, compound round eyes, antennae slightly bipectinate, head conical, a beak-like projection, vertex produced an ocular horn, two separate edges parallel constrictions, pronotum long and tapering, fore facial shield along with vertical carina, pointed three ocelli, tegmina and wings fully developed very exceed beyond the abdomen, tegmina much opaque rough thicker surface, abdomen shorter and wider regularly medusoid pattern, pair of cerci attached on ending of body segment.

**Female:** LH 7.75 ± 0.45 (mm), LA 11.91 ± 0.99 (mm), LP 26.25 ± 1.138(mm), LAB 36.75 ± 0.62(mm), LT 45.41 ± 0.51 (mm), WT 5.91 ± 0.66 (mm), LW 38.5 ± 0.52 (mm), WW 14.33 ± 0.49 (mm), LF 13.33 ± 0.49 (mm), WF 1.75 ± 0.33 (mm), TBL 68.41 ± 0.66 (mm).

**Ecology**

*Empusa fasciata* good numbers of specimens were collected from various fields of upper Sindh i.e Mar Jaffer kharto N 28.2442°, E 69.1834°, Hashim Ali Chang N 27.5256°, E 68.7551°, Dokri N 27.3800°, E 68.0925°, Sumar chachar N 28.2457°, E 68.1797°, Ghogharo N 27.6025°, E 67.4755°.

*E. fasciata* first time recorded from this region, so the present study confirmed the occurrence of this species, crops are affected by this species are *S. vulgare*, Guava, Caster *Ricinus communis* L. Grasses.

**Global Distribution**

Afghanistan, Algeria, Bangladesh China, Georgia, India, Iran, Iraq, Kazakhstan, Pakistan, Russia, Syria, Turkey, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan (Shveta et al.2016).

**Remarks**
Previously this species was reported globally from various countries of Europe and Asia continents i.e. Afghanistan, Algeria, Bangladesh, China, Georgia, India, Iran, Iraq, Kazakhstan, Pakistan, Russia, Syria, Turkey, Tajikistan, Turkmenistan, Ukraine, Uzbekistan Roy (2004) and Dannoun and Bader (2007) great numbers of nymphs reported from Jordan. During the present research, this species was first time recorded from Sindh, Pakistan. *E. fasciata* closely share common morphological characteristics with *Empusa unicornis* excluding tegmina, hind wing rough texture/thicker surface, and shorter abdomen.

**Empusa spinosa** Krauss, 1902

*Empusa spinosa* (Krauss, 1902)53-54.

*Empusa spinosa* (Mukherjee et al., 2014):30: 51.


(Figures 1-6, Table 1-3)

**Material examined.** PAKISTAN-Sindh Prov. • 2♀; Sadaf, Riffat, 24 May.2019; Hashim Ali Chang N 27.5256°, E 68.7551° and 1♀; Sadaf, Riffat; 28 May.2019; Dad Ali 28.2505° N, 69.1768° E.

**Description**

Body slim and slender, greenish-yellow, head elongated, compound eyes oval in shape, filiform antennae of female, vertex conical protuberance with vertex, pronotum long and slender numerous spines, narrow apex, bifurcate apex, frontal sclerite carinated, fore coxae shorter than pronotum, elongated and prominent black band on apical, point edge of fore femora, fore femora slightly straightforward, mid and hind femora absent of ventral spines, pairs of wings fully developed, extended over abdomen.

**Female:** LH 0.57 ± 0.57 (mm), LA 13.66 ± 0.28 (mm), LP 27.33 ± 0.57 (mm), LAB 39.33 ± 0.57(mm), LT 44.33 ± 1.15 (mm), WT 5.66 ± 0.28 (mm), LW 39.6 ± 0.57 (mm), WW 13.33 ± 0.28 (mm), LF 13.66 ± 0.57 (mm), WF 13.33 ± 0.28 (mm), TBL 71.33 ± 0.57 (mm)

**Ecology**

*Empusa spinosa* consider a very active ambush predatory nature. This species was first time reported from district Khairpur, particularly at coordinate area Hashim Ali Chang N 27.5256°, E 68.7551°. Crops affected by this species are Mango *Mangifera indica L.*
Global Distribution

Africa, Afghanistan, Bangladesh China, Europe, India, Iran, Iraq, Kazakhstan, Malaysia, Natal, Oman, Pakistan, Saudi Arabia, Socotra, and Yemen (Shveta et al. 2016) and (Singh et al. 2018).

Remarks

Earlier genus *Empusa* only 01 species out of 11 species was reported from Sindh Pakistan. Globally this species was reported from Africa, Asia, Australia, and Europe continent. (Ramesh et al, 2018) reported *E. spinosa* for the first time in India. According to his observations diagnosis characteristics of this species are internal spines of the fore femora have 3-4 spines and two small black spots on the costal margin. During the present study poor literature data availability regarding this species, but I have observed 4-5 spines inner side of the fore femora and no evidence of two small black spots on the coastal region.

Superfamily Eremiaphiloidea

Family Eremiaphilidae

Subfamily Iridinae

Tribe Iridini

Genus *Iris* Saussure, 1869

*Iris oratoria* (Linnaeus, 1758)

*Gryllus (Mantis) oratorius* (Linne, 1758).

*Mantis dentata* (Goeze, 1778).

*Mantis bella* (Salzmann, 1817).

*Ameles minima* (Charpentier, 1825).

*Mantis fenstrata* (Brulle, 1832).

(Figures 1-6, Table 1-3)

Material examined. PAKISTAN- SINDH Prov. 1♂, 5♀; Sadaf, Riffat; 10 June. 2019; Goth Dulla Lakhan N 27.7244°, E 68.8228°, 1♀; Sadaf, Riffat; 12 June. 2019; Gheeralo N 27.8483°, E 67.9106°, 1♂, 2♀; Riffat, Sadaf; 16 June.2019; Dokri N 27.3800°, E 68.0925°, 1♂, 1♀; Sadaf, Riffat; 17 June.2019; Ghogharo N 27.6025°, E 67.4755°, 1♂, 2♀; Sadaf, Riffat; 18 June.2019; Garhi Sahib Khan N 27.5725°, E 68.3816°, 3♀; Sadaf, Riffat; 19 June. 2019; Dad Ali N 28.2505°, E 69.1768°, 1♂, 1♀; Riffat, Sadaf; 22 June.2019; Dakhan N 27.95°, E 68.63°, 1♂,
1♀; Sadaf, Riffat; 23 June. 2019; Sumar Chachar N 28.2457°, E 69.179°, 1♀; Sadaf, Riffat; 26 June. 2019; Naudero N 27.6670°, E 68.1161°, 1♂, Riffat, Sadaf; 28 June. 2019. Garhi Sahib Khan N 27.5725°, E 68.3816°.

Description

Body male slim and slender, female much wider and short, male corn coloration, female mustard coloration, antennae setaceous, head transverse, broader, compound eyes conical, facial shield wider, high along with tubercles at the middle margin, facial clypeus faintly downturn at the middle, pronotum equal in both sides, prozona twice shorter than metazoan, intersected anterior margin, mid margin spherical, wings fully developed but tegmina slightly over pointed at abdomen tegmina longer than hind wings, dark brown extension eye spots at surface of tegmina, sub-genital plate wider than supra-genital plate.

Male. LH 3.94 ± 0.05 (mm), LA 17.97 ± 0.04 (mm), LP 7.97 ± 0.075 (mm), LAB 17.8 ± 0.08 (mm), LT 19.94 ± 0.078 (mm), WT 4.92 ± 0.095 (mm), LW 18.02 ± 0.07 (mm), WW 11.05 ± 0.07 (mm), LF 6.92 ± 0.075 (mm), WF 2.68 ± 0.069 (mm), TBL 31.8 ± 0.79 (mm).

Female. LH 2.85 ± 0.13 (mm), LA 17.9 ± 0.06 (mm), LP 7.95 ± 0.087 (mm), LAB 17.81 ± 0.063 (mm), LT 19.76 ± 0.078 (mm), WT 4.788 ± 0.07 (mm), LW 18.02 ± 0.083 (mm), WW 10.105 ± 0.089 (mm), LF 6.74 ± 0.05 (mm), WF 2.74 ± 0.62 (mm), TBL 29.99 ± 0.06 (mm).

Ecology

Iris oratoria is widely distributed in the field. They complete their life cycle within 06 months. Crops affected by this species are Sarcopoterium spinosum, Ononis natrix, Scrophularia xanthoglossa, and Dittrichia viscosae.

Global Distribution

Algeria, Albania, Bulgaria, Chad, Cyprus, Egypt, France, Greece, Italy, Israel, Iran, Jordan, Kosovo, Libya, Lebanon, Macedonia, Morocco, Pakistan, Portugal, Spain, Serbia, Syria, Tunisia, Turkey and Vojvodina. (Mukherjee et al. 1995), (Wagan et al. 1995), (Kment, 2012), (Sultana et al. 2016).

Remarks

Iris oratoria (Linnaeus, 1758) commonly known as Mediterranean praying mantids. This species mostly dispersed from the west Mediterranean to India Battiston et al. (2010). (Maxwell, 1998)
the first time recorded from southern California. Presences of this species are also reported from ecological zones i.e. Ethiopian, Oriental, Palearctic, and Nearctic zones. *I. oratoria* is considered an African originiated species particularly native to Algeria Uvarov (1931). Maxwell (1999), and Dannoun and Bader (2007) studied other parameters such as biology and cannibalism behavior. Life cycle duration from mid-March to December. Males of this species are more active and attracted to artificial light. Previously Wagan et al. (1995), Naheed (2000), Sultana et al. (2016), Fatima (2017), and Fatimah et al. (2018) were reported and provided account descriptions from Sindh Pakistan.

*Iris orientalis* Wood-Mason, 1882


*Iris orientalis* (Uvarov, 1931): 237, 238.


*Iris orientalis* (Mukherjee, Hazra and Balderson 1992):68


*Iris orientalis* (Mondal and Shishodia 1997):200


*Iris orientalis* (Mukherjee, Das and Hazra, 2005):146.


(Figures 1-6, Table 1-3)

**Material examined.** PAKISTAN-Sindh Prov. • 3♀; Sadaf, Riffat; 20 June.2019; Kot Khrwali N 28.2440°, E 69.5646°, 68.63°, 1♂; Riffat, Sadaf; 22 June.2019; Naudero N 27.6670°, E 68.1161°, 1♀; Sadaf, Riffat; 24 June.2019; Garhi Sahib Khan N 27.5725°, E 68.3816°.

**Description**

Body medium, stout, slender, emerald and brown coloration, head triangular, depression at mid, much wider than high, eyes rounded, and vertex slightly convex, pronotum elongated, sturdy, metazona twice longer than prozona, middle lateral curved, coxa shorter and narrow, femora
longer than coxae, femora slightly rounded external side, brachypterous winged, abdomen robust and elongated, cerci short, supra-anal plate longer than sub-anal plate.

**Female.** LH 4.98 ± 0.083 (mm), LA 18.96 ± 0.05 (mm), LP 8.56 ± 0.054 (mm), LAB 22.42 ± 0.083 (mm), LT 9.96 ± 0.054 (mm), WT 4.16 ± 0.054 (mm), LW 8.06 ± 0.054 (mm), WW 4.06 ± 0.08 (mm), LF 7.82 ± 0.083 (mm), WF 2.66 ± 0.089 (mm), TBL 31.02 ± 0.083 (mm).

**Ecology**

*Iris orientalis* (Wood-Mason, 1882) uncommonly exceeded in fields. Agricultural fields are affected by this species are Scropholaria xanthoglossa, China rose *Hibiscus rosa-sinensis*.

**Global Distribution**

Afghanistan, Croatia, Cyprus, Egypt, France, Greece, India, Israel, Italy, Java, Jordan, Morocco, Nepal, Pakistan, Portugal, Spain peninsula, Mallorca, Tunisia, Turkey, United States (Shveta et al. 2016).

**Remarks**

This species was the first time reported Wood-Mason (1882) from Kulu Valley N 31°57′28.82″ - E 77°06′34.11″, 1231 West and Kangra N 32°06′04.91″ - E 76°16′22.65″, 710 in North West Himalayans. Uvarov (1931), Beier (1935), Mukherjee et al. (1995), Ehrmann (2002), Vyjayandi (2007) and Mukherjee et al. (2014) recorded from India. Mukherjee et al. (1995) and Ehrmann (2002) reported from Java. While that Beier (1962) and Mukherjee et al. (1992) described from NW-Himalaya. Therefore Beier (1962) and Ehrmann (2002) reported from Afghanistan. Ehrmann and Borer (2015) collected from Nepal. Apart from that Mukherjee et al. (2014) and Ehrmann (2002) recorded from unidentified localities of Pakistan. During present study I have collected and described *Iris orientalis* (Wood-Mason, 1882) first time from upper Sindh, Pakistan.

**Family Rivetinida**

**Subfamily Rivetininae**

**Tribe Rivetinini**

**Genus Rivetinula** La Greca, 1977

*Rivetinula fraterna* Saussure, 1871

(Figures 1-6, Table 1-3)
Material examined: PAKISTAN- SINDH Prov.- 3♀; Sadaf, Riffat; 26 June.2019; Garhi Sahib Khan N 27.5725°, E 68.3816°, 1♂; Riffat, Sadaf; 27 June. 2019; Dasti N 28.0390°, E 68.4138°.

Description

Body long, stout very robust broader, and weighty, wood brown or dirty grey, head wider triangular, globular eyes, ommatidium prominent, front facial shield elevated and broader, antennae long and thicker, no carina, vertex faintly concave, pronotum long and oval elongated, sturdy with denticulated, pronotum jointed vertex oval in shape, the mid margin of pronotum much wider than anterior and posterior, metaziona expended from the lateral region, 2 ventral plates of the prothorax along with oblique girdles, 7-8 spines inner side of coxa almost same in size and shape, femora lateral inner side straight and external rounder curved in shape with altered shape numerous spines, femora narrow and shorter than pronotum, coxa shorter and narrow than the femur, brachypterous wings, wings wood brown, contrasted with pale white coloration crescent spot at apex extended, hind wing eye spot shorter and rounded in shape, abdomen wider and weighty, elongated sub-genital plate.

Female: LH 3.37 ± 0.38 (mm), LA 27.57 ± 0.40 (mm), LP 18.7 ± 0.46 (mm), LAB 38.72 ± 0.48 (mm), LT 23.57 ± 0.33 (mm), WT 8.27 ± 0.12 (mm), LW 20.4 ± 0.33 (mm), WW 7.9 ± 0.2 (mm), LF 18.17 ± 0.17 (mm), WF 3.35 ± 0.20 (mm), TBL 68.97 ± 0.22 (mm).

Ecology

This species is distributed in upper Sindh. Agricultural fields are affected by Rivetinula fraterna (Saussure, 1871). Bamboo Dendrocalamus strictus, Caster Ricinus.

Global Distribution

India, Saudi Arabia and Pakistan. (Ehrmann, 2002), (Patel, and Singh, 2016)

Remarks

This species was first time reported by Saussure (1871) from India, after it more than 100 years gap, Ehrmann (2002) reported this species from India and Saudi Arabia. Later Mukharjee et al. (2005) also reported this species from west India. Fortunately, we have collected first-time specimens of this species from Pakistan. Mukharjee et al. (2005) do not mention apical sharp spines in the mid and hind femora, but during the present research, we have also not observed apical sharp spines in the mid and hind regions.
Superfamily Mantoidea

Family Mantidae

Subfamily Hierodulinae

Tribe Hierodulini

Genus *Hierodula* Burmeister, 1838

*Hierodula transcaucasica* Brunner Von Wattenwyl, 1878

*Hierodula transcaucasica* (Brunner de Wattenwyl, 1878): 88.

*Sphodromantis transcaucasica* (Kirby, 1904b): 244.

*Hierodula (H.) transcaucasica* (Giglio-Tos, 1927): 444.

*Hierodula (Sphodromantis) transcaucasica* (Beier, 1935): 88.

*Sphodromantis transcaucasica* (Beier, 1962): 112.


*Hierodula transcaucasica* (S.fatimah et. al., 2018): 2, 1, 19-23.

(Figures 1-6, Table 1-3)

**Material examined.** PAKISTAN-SINDH Prov. • 7♀; Sadaf, Riffat; 10 July. 2019; Dakhan N 27.95°, E 68.63°, 1♂; Sadaf, Riffat; 12 July.2019; Dasti N 28.0390°, E 68.4138°, 2♀; Riffat, Sadaf; 14 July.2019; Kot Khrwali N 28.2440°, E 69.5646°, 1♂; Riffat, Sadaf; 17 July.2020; Sumar Chachar N 28.2457°, E 69.1797°, 2♀; Mar Jaffer Khan N 28.2442°, E 69.1834°, 1♂; Riffat, Sadaf; 18 Aug.2020; Ghogharo N 27.6025°, E 67.4755°, 2♀; Sadaf, Riffat; 25 Aug. 2020; Dokri N 27.3800°, E 68.0925°, 2♀ Miro Chandio N 27.7667°, E 68.1000°, 1♀; Sadaf, Riffat; 27 Aug. 2020; Gheeralo N 27.8483°, E 67.9106°, 1♀; Riffat, Sadaf; 29 Aug.2020; Goth Dulla Lakhan N 27.7244°, E 68.8228°, 2♀; 5 Sep.2020; Mirpur Mathelo N 28.0721°, 69.3235°, 2♀; 8 Sep.2020; Hashim Ali Chang N 27.5256°, E 68.7551°, 1♀; 12 Sep.2020; Bangul Dero N 27.5639°, E 68.2152°.

**Description**

Body medium to large, heavy, stout, green coloration, head sturdy, broad, projected rounded eyes with tubercles at internal edges, setaceous antennae, protuberance of front facial shield faintly
extended, vertex with small lumps, pronotum robust, wider than longer, crenulated lateral at prozona, shorter than metazona, supra coxal dilation absent, wings extended slight over abdomen tegmina semi-transparent, white three-cornered patch or fleck located at near center margin, coxae yellowish green in color shorter than femora, femora obvious equal to pronotum, flat than pronotum, ventral upper margin of pronotum white band rounded shape, abdomen wider, supra anal plate small.

**Female.** LH3.56 ± 0.63 (mm), LA 18.48 ± 1.53 (mm), LP 16.08 ± 0.90 (mm), LAB 34.96 ± 2.35 (mm), LT 41.24 ± 1.42 (mm), WT 12.68 ± 1.14 (mm), LW 31.28 ± 1.06 (mm), WW 14.36 ± 1.03 (mm), LF16.2 ± 1.04 (mm), WF 6 ± 0.68 (mm), TBL 46.08 ± 18.35(mm).

**Ecology**

This species widely distributed various localities of upper Sindh, Pakistan. Several agricultural crops are affected i.e Grasses, *A. squmosa*, Bamboo *Dendrocalamus strictus*, *Psidium guajava L*, Subabul *Leucaena leucocephala*.

**Global Distribution**

Albania Afghanistan, Armenia, Aserbaidschan, Georgia, Greece, Kalmykia, Iran, Caucasus, Nepal, Pakistan, Turkestan, Turkey, Tajikistan, Ujbekistan, Kazakhstan. (Patel and Singh, 2016), (Naheed, 2000), (Fatima, 2017), (Fatimah et al. 2018).

**Remarks**

*Hierodula transcaucasica* widely spreaded species throughout world. Fatima (2017), Fatimah et al. (2018) and Chandio (2019) reported from lower and middle Sindh, Pakistan. Battiston et al. (2018) and Heyden (2018) collected fromAlbania, Afghanistan, Caucasus, Crimea, Iran, Ukraine, Turkey, and Greece. Recently Zlatkov et al. (2020) recorded this species first time from Bulgaria. At present study this species first time reported from upper Sindh. *H. transcaucasica* Brunner von wattenwyl (1878) noticed dominant species during current research.

**Hierodula coarctata** Saussure, 1869

*Hierodula coarctata* (Saussure, 1869): 67.

*Hierodula coarctata* (Saussure, 1871a): 85-86.
Hierodula coarctata (Borre, 1883: 81.
Hierodula coarctata (Westwood, 1889: 34.
Parhierodula coarctata (Giglio-Tos, 1912):124.
Parhierodula (Parhierodula) coarctata (Giglio-Tos, 1927): 459.
Hierodula coarctata (Ehrmann, 2002): 177.
(Figures 1-6, Table 1-3)

Material examined. PAKISTAN- SINDH Prov. • 4♀; Sadaf, Riffat; 15 Oct.2020; Sumar Chachar N 28.2457°, E 69.1797°, 2♀; Riffat, Sadaf; 18 Oct.2020; Dokri N 27.3800°, E 68.0925°, 1♀; Sadaf, Riffat; Ghogharo N 27.6025°, E 67.4755°, 2♀ Nov.2020; Miro Chandio N 27.7667°, E 68.1000°, 1♀; Sadaf, Riffat; 25 Feb. 2021; Goth Dulla Lakhan N 27.7244°, E 68.8228°, 1♀; Sadaf, Riffat; 25 Mar. 2021; Mirpur Mathelo N 28.0721°, E 69.3235°, 1♀; Riffat, Sadaf; 30 Mar.2021 Bangul Dero N 27.5639°, E 68.2152°.

Description
Body medium to large, lemon yellow, head triangular robust and wider, compound eyes, ocelli very prominent, front facial shield smooth, pronotum wider, robust, oval like supra coxal, mid elongated carina, pronotum brown in color, coxa inner regular 4 spine, coxa longer than wider, femur inner side smooth and external 7 discoidal spines, outer side slightly rounded, tegmina and hind wings developed well, coastal area thick horizontal line center triangular white blotch or spot, surround light brown shade, abdomen yellowish brown.

Female. LH 3.41 ± 0.30 (mm), LA 15.65 ± 0.41 (mm), LP 15.94 ± 0.35 (mm), LAB 32.12 ± 0.27 (mm), LT 39.2 ± 0.74 (mm), WT 11.06 ± 0.40 (mm), LW 30.47 ± 0.27 (mm), WW 13.44± 0.20 (mm), LF 14.63 ± 0.26 (mm), WF 4.55 ± 0.12(mm), TBL 52.45 ± 0.31(mm).

Ecology
Good numbers of this species are distributed in different areas of upper Sindh, Pakistan. Some agricultural fields are affected i.e. Bamboo Dendrocalamus strictus, M. alba, Cajanus cajan Mill.

Global Distribution
India, Java, Nepal, Pakistan. (Patel and Singh, 2016), (Chandio, 2019)

Remarks
This species was first time reported by Saussure (1869) from India. Later Ehrmann (2002), Mukherjee et al. (1995), Mukherjee et al. (2014), Ghate (2005), and Singh et al. (2018) also reported from India, from Australia Giglio-Tos (1927). Apart from that Roonwal and Bhasin (1951) first time reported this species from Pakistan, after half-century Naheed (2000) collected from lower Sindh, and Chandio (2019) re-reported this species from District Dadu. But recently we have collected from different localities and habitats. Chandio (2019) gave a description of female specimens in green color, but at present research, we have collected and noticed lemon yellow female specimens of this species.

**Subfamily Mantinae**

**Statilia maculata** Thunberg, 1784

*Mantis maculata* (Olivier, 1792): 634.
*Mantis (Mantis) maculate* (De Haan, 1842): 77.
*Pseudomantis maculate* (Saussure, 1871a): 37.
*Statilia maculate* (Joshi and Manandhar 2001): 37.
*Pseudomantis haanii* (Saussure, 1871b): 37, 276-277.
*Pseudomantis haanii* (Saussure, 1872a): 24-25.
*Pseudomantis haanii* (Brunner de Wattenwyl 1893): 66.
*Statilia haanii* (Giglio-Tos 1912): 6-8.
*Statilia maculata var. hyaline* (Giglio-Tos, 1927): 410-411.
*Statilia maculata var. hyalina* (Beier, 1935): 92.
*Statilia haani var. major* (Werner, 1922b): 154.
*Statilia maculata continentalis* (Werner, 1935): 495-496.

(Figures 1-6, Table 1-3)
Material examined: PAKISTAN- SINDH Prov. • 4♀; Sadaf, Riffat; 14 Nov.2020; Sumar Chachar N 28.2457°, E 69.179°, 1♀; Riffat, Sadaf; 18 Nov.2020; Naudero N 27.6670°, E 68.1161°, 1♀; Sadaf, Riffat; 20 Nov.2020; Ratodaro N 27.8003°, E 68.2922°, 1♀; Sadaf, Riffat; 29 Dec. 2020 Garhi Sahib Khan N 27.5725°, E 68.3816°, 1♀; Riffat, Sadaf; 27 Dec.2020; Dad Ali N 28.2505°, E 69.1768°, 1♀; Riffat, Sadaf; 24 Dec.2021 Dakhan N 27.95°, E 68.63°.

Description

Body large fawn to granola coloration, head straightforward triangular, rounded vertex no evident bulge, brownish dots at clypus, filiform antennae, compound eyes spherical, slightly conical lateral side, pronotum elongated, robust, stout, midway prozona carinated, metazona short and narrow, mesosternum black blotch, black spots on coxal joint and at mid femora mid black band, submarginal spines triangular, spreading apical lobes, femora pale yellow patch encircle tiny black line, 4-5 outer, 3-4 discoidal, 12-13 internal spines, spines black at tips, coxae slim, narrow, femora longer, wider than coxa, wings fully developed, wings equal to abdomen, apex conical shape, hind wing semi-transparent, costal area fawn color.

Female. LH 1.91 ± 0.12 (mm), LA 10.53 ± 0.12 (mm), LP 14 ± 0.122 (mm), LAB 31.01 ± 0.10 (mm), LT 32.87 ± 0.34 (mm), WT 6.98 ± 0.07 (mm), LW 26.02 ± 0.083 (mm), WW 14.05 ± 0.07 (mm), LF 13.05 ± 0.11 (mm), WF 297 ± 0.06 (mm), TBL 50.12 ± 0.08 (mm).

Ecology

Statilia maculata are commonly distributed in the field. Crops affected by this species are S. vulgare, Caster Ricinus, and Guava.

Global Distribution

Borneo, China, India, Japan, Java, Labuan, Laos, Myanmar, Malaysia, Maluku Islands, Nepal, New Guinea, Pakistan, Philippines, Sri Lanka, Sumatra, Thailand and Vietnam. (Patal and Singh, 2016), (Soomro et al. 2002), (Chandio, 2019)

Remarks

This species is known as the “Asian Jumping Mantis”. Statilia maculata holotypes males reported from Japan and India. Furthermore synotypes male collected from Java. Vyjayandi (2007) also reported from India. Soomro et al. (2013) reported from lower Sindh and Chandio (2019) reported
from middle Sindh. During the present work, we have collected this species first from upper Sindh. We agree to the account description of this species given by Chandio (2019) except for coloration.
Figure 1. Male and Female dorsal view of 1 Blepharopsis mendica ♀, Female dorsal view of 2 Empusa pennata ♀, 3 E. fasciata ♀, 4 E. spinosa ♀, Male and Female dorsal view of 5, 6 Iris oratoria ♂♀, 7 I. orientalis ♀, Female dorsal view of 8 Rivetinula fraterna ♀, Female dorsal view of 9 Hierodula transcaucasia ♀, 10 H. coarctata ♀ F Male and Female dorsal view of 11 Statilia maculata ♀. Abbreviations: D, dorsal, L, lateral. Scale bars = 2 mm.
Figure 2. Head dorsal view of 1 Blepharopsis ♀, 2 Empusa ♀, 3 Iris ♂, 4 Rivetinula ♀, 5 Hierodula ♀, 6 Statilia ♀. Abbreviation D-Dorsal Scale bars = 2 mm.
Figure 3. Pronotum dorsal view of .1 *Blepharopsis* ♀, .2 *Empusa* ♀, Pronotum dorsal view of .3 *Iris* ♂, Pronotum dorsal view of .4 *Rivetinula* ♀, Pronotum dorsal view of .6 *Statilia* ♀. Abbreviation D-Dorsal Scale bars = 2 mm.
Figure 4. Tegmina dorsal view of 1 Blepharopsis ♀, 2 Empusa ♀, 3 Iris ♂, 4 Rivetinula ♀, 5 Hierodula ♀, 6 Statilia ♀. Abbreviations: D, dorsal, L, lateral. Scale bars = 2 mm.
Figure 5. Femur and Coxa dorsal view of 1 Blepharopsis (F), 2 Empusa (F), 3 Iris (M), 4 Rivetinula (F), 5 Hierodula (F), 6 Statilia (F). Abbreviations: D, dorsal, M, male, F, female. Scale bars = 2 mm.
Key to the families of order Mantodea Sindh

1. Body moderate to large, thin less elongated, wings hyaline, reddish near distal edges......................................................... Rivetinidae
   - Body small to large thick, more elongated, wings hyaline, dark green near the distal edges......................................................... Mantidae

2. Pronotum diamond/rambos shaped, robust shorter and wider enclosed with numerous spines............................................. Empusidae
   - Pronotum wider, raise upward, internally enclosed with different rectangular patches............................................. Eremiaphilidae

Key to the genera of order Mantodea Sindh

1. Vertex produced into a long horn; pronotum short and robust; pronotum with small numerous spines; antennae bipectinate in male......................................................... Blepharopsis
   - Vertex produced into a short cone; pronotum long and narrow; pronotum enclose with long sharp spines; antennae never bipectinate in male......................................................... Empusa

2. Body large and weighty. Tegmina and wing brachypterous; less reaching apical third of abdomen......................................................... Rivetinula
   - Body short and light. Tegmina and wing reaching apical end of abdomen.............................................................. Iris

3. Body medium and broad, vertex prominently appear and with tegmina triangular white band......................................................... Hierodula
   - Body large and slender, vertex less prominently appear and with no evident of tegmina triangular white band.............................................................. Statilia

Key to the species order Mantodea Sindh
**Table 1.** Distribution percentage-wise, Genera and Species from upper Sindh, Pakistan

<table>
<thead>
<tr>
<th>No. S</th>
<th>Family</th>
<th>Genus</th>
<th>Genus %</th>
<th>No. of Species</th>
<th>Species %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Empusidae</td>
<td>2</td>
<td>33.33%</td>
<td>4</td>
<td>40%</td>
</tr>
<tr>
<td>2.</td>
<td>Eremiaphilidae</td>
<td>1</td>
<td>16.66%</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>3.</td>
<td>Mantidae</td>
<td>2</td>
<td>33.33%</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>4.</td>
<td>Rivetinidae</td>
<td>1</td>
<td>16.66%</td>
<td>2</td>
<td>20%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>4</td>
<td>100%</td>
<td>10</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Table 2.** Distribution fauna of praying mantids from upper Sindh, Pakistan

<table>
<thead>
<tr>
<th>Order</th>
<th>Family</th>
<th>Subfamily</th>
<th>Tribe</th>
<th>No. genera</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mantidae</td>
<td>Hierodulinae</td>
<td>Hierodulini</td>
<td>(1)</td>
<td>Hierodula coarctata (Saussure, 1869)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hierodula transcausicaica (Brunner vonwattenwyl, 1878)</td>
</tr>
<tr>
<td>Mantinae</td>
<td></td>
<td></td>
<td>(1)</td>
<td>Statilia maculata (Thunberg,1784)</td>
<td></td>
</tr>
</tbody>
</table>
**Table 3.** List of upper Sindh, visited localities and their coordinates

<table>
<thead>
<tr>
<th>Country</th>
<th>Province</th>
<th>Region</th>
<th>Sector</th>
<th>Exact Site</th>
<th>Latitude</th>
<th>Longitude</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td>Sindh</td>
<td>Sindh</td>
<td>Shikarpur</td>
<td>Garhi Sahib Khan</td>
<td>27.5725° N</td>
<td>68.3816° E</td>
<td><strong>Rivetinula fraterna</strong> Saussure, 1871</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Dakhan</td>
<td>27.95° N</td>
<td>68.63° E</td>
<td><strong>Hierodula transcaucasica</strong> Brunner von wattenwyl, 1878</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kashmor</td>
<td>Kot Khrwali</td>
<td>28.2440° N</td>
<td>69.5646° E</td>
<td><strong>Iris orientalis</strong> Wood-Mason, 1882</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sumar chachar</td>
<td>28.2457° N</td>
<td>69.1797° E</td>
<td><strong>Hierodula coarctata</strong> Saussure, 1869</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mar jaffer Kharto</td>
<td>28.2442° N</td>
<td>69.1834° E</td>
<td><strong>Archimantis latistyla</strong> Serville, 1839</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Kamber</td>
<td>Ghogharo</td>
<td>27.6025° N</td>
<td>67.4755° E</td>
<td><strong>Empusa fasicata</strong> Brulle, 1832</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Gheeralo</td>
<td>27.8483° N</td>
<td>67.9106° E</td>
<td><strong>Empusa pennata</strong> Thunberg, 1815</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sukkur</td>
<td>Goth Dulla Lakhan</td>
<td>27.7244° N</td>
<td>68.8228° E</td>
<td><strong>Iris oratoria</strong> Uvarov, 1922</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Khairpur</td>
<td>27.5256° N</td>
<td>68.7551° E</td>
<td><strong>Empusa spinosa</strong> Krauss, 1902</td>
</tr>
</tbody>
</table>
References


Uvarov, B.P. (1931). A New Mantid from Baluchistan. Annals Maginze Natural History Volume (10), Issue (8), 418-419.


