



**Systematic Study on the genus *Iris* (Dictyoptera: Mantodea: Tarachodidae) from Sanghar Sindh**

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**Abstract:** The genus *Iris* represents by large No. of species from all over the world. During present survey its two species i-e *Iris oratoria* (Linne, 1758) and *Iris splendid* (Uvarov 1922) was re-described. They are good predators and considering best tool in biological control. It was noticed that their population became increase during March to August. Beside this, their important, morphological characteristics along with illustration and photographs were also provided.

**Keywords:** *Iris*, Predatory, Nature, Morphological, Characteristics, Population

**1. INTRODUCTION**

The genus *Iris* is represented by large No. of species from all over the world while in Sindh it represents 03 species viz: *I.splendida* Uvarov, *I.radians* Uvarov and *I.oratoria*. They are carnivorous, with peculiar habits of prey capture, camouflage and reproductive behavior. They are known to lay eggs in complex ootheca. These insects often remain motionless for many hours, in search of prey, and only the head rotates about 180° degrees to watch any disturbances caused by flying insects. The systematic position of the genus *Iris* Saussure is unstable, being assigned to Mantidae by Heller and Bohn (2011) or family Tarachodidae by Ehrmann (2002), Otte and Spearman (2005), Svenson and Whiting 2009; Battiston *et al.* (2010) we are following the later classification. However, the current system of Mantodea classification seems far from satisfactory and substantial changes are expected in the near future (Svenson and Whiting 2009). Different aspect of Praying mantis have been studied by different authors from all over the world i-e Ramme 1951; Kaltenbach 1963, 1976; Demirsoy 1979; Mukherjee *et al.* 1995; Wagan *et al.* 1995; Çiplak and Demirsoy 1997; Abu-Dannoun and Katbeh-Bader (2007), Chobanov and Mihajlova (2010) and Kment (2012) but, the work on this genus is very limited from this region. During field survey its two species have been captured and are being reported from this region.

**2. MATERIAL AND METHODS**

**2.1 Sampling**

Sampling were done from various localities of different ecological zones of Sanghar, through sweep net, searching on vegetation bushes, grasses, bark of tree, and agriculture land. Beside this, frequent survey

was also carried out at the night time because mantids attract towards light. The collected material was brought to the laboratory for detailed study. Identification was carried out with the aids of Maxwel *et al.*, (1998) and Mohammad *et al.* (2011). Sex was differentiated on the bases of abdominal segments mostly the female possess 6 abdominal segments and male with 8 segments.

**2.2 Killing and preservation**

The collected specimens were killed by means of potassium cyanide in standard entomological bottles after pinning the specimen they stretched on the stretching board and the attention was paid to the position of antenna, wings and legs in order to display important taxonomic characters. The fully dry specimen removed from the stretching boards and stored in the insect's boxes with the labels showing locality, date and collector's name. The taxonomic material was properly mounted, labeled and sorted and drawing line of taxonomic importance was made and photographs of the various species were taken out through camera (SONY. CORP. DSC. W630). Further, sample was kept isolated in order to avoid their cannibalistic behavior.

**3. RESULTS**

During the present study genus *Iris* was re-described with 02 species which are being discussed below:

**3.1 *Iris oratoria* (Linne, 1758)**

**Diagnostic feature**

Body small to moderate, slim and straight, head triangular eyes, oval shape with golden brown. Antenna yellowish with (60-70) segments in male, (59-69) segments in female pronotum rectangular small and narrow with yellowish green. Tegmina slightly oval

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shape, Tegmina anterior margin has green, thick and dry surface with 2 horizontal veins, while its posterior margin, transparent, thin and shiny. Hind wing with very large brown spot and continuous brown thick bands around it. Coxa triangular, trachanter oval shaped, femur carved with 10 small sharp hooks inner side and 11 outer sides. Tibia, with 6 small sharp spines inner and 4 outer. Abdomen yellowish green with 8 segments pair of cerci attached with ending segment.

**Table-1 Measurement of different body parts of *Iris oratoria* L. (mm)**

Body Parameters	Male (n=15) Mean ±SD	Female (n=15) Mean ±SD
Length of head	3.26 ± 0.88	4.2 ±0.67
Distance b/w compound eye	3.86 ± 0.74	4.2 ±0.86
Length of pronotum	9.46 ± 1.40	11.86 ±0.83
Length of tegmina	22.2 ± 3.25	24.86 ±3.22
Width of tegmina	5.66 ± 0.89	6.53 ±0.51
Length of wing	21.6 ± 2.9	25.06 ±1.03
Width of wing	11.73± 1.22	14.53 ±0.74
Length of sharp hook	3.46 ± 1.24	4.33 ±1.04
Length of femur	7.13 ± 0.83	7.26 ±0.59
Width of femur	3.66 ± 0.72	4.26 ±1.03
Length of trachanter	2.46± 0.51	3.13 ±0.74
Length of coxa	4.86 ± 0.91	6.13 ±0.63
Length of antenna	18.6 ± 1.24	20.26 ±1.16
Length of abdomen	22.33 ± 5.15	27.8 ±1.20
Total Body length	34.6 ± 3.11	34.73 ±1.38

### Remarks

Linnaeus (1758) reported this species from Mediterranean region and Naheed (2000) reported this from Sindh and stated that male size moderate, slender; antennae thin, head transverse and female as much as resembles to male. During present study, we have collected 10 males and 07 females all were smaller in size, while other all morphological characters are resemble with description given by Naheed (2000).

### 3.2 *Iris Splendida* Uvarov 1922

#### Diagnostic feature

Body yellowish green, small, slim, straight. Head triangular shape, two sharp hooks front of mouth. Antenna with 99-107 segments in male and 85-90 segments in female. Pronotum outer wall thick, prominent and rise upward. Hind wing with different coloration, bright sulphurous near outer margin. Coxa triangular shape, narrow, along with small sharp hooks outer side of coxa. Trachanter oval shape. Femur carved with 14 inner and 5 outer side small sharp hooks while Tibia has 11 inner and 09 outer sides' small hooks along

with bushy hair, one long sharp hook tip of tibia. Abdomen brown, slim, straight and narrow in shaped.

**Table-2 Measurement of different body parts of *Iris splendida* Uvarov, (mm)**

Body Parameters	Male (n=15) Mean ±SD	Female(n=15) Mean ±SD
Length of head	3.93 ±0.79	4.2 ±0.67
Distance b/w compound eyes	4.4 ± 0.73	4.2 ±0.86
Length of pronotum	9.46 ± 1.40	11.86 ±0.83
Length of tegmina	22.2 ± 3.25	24.86 ±3.22
Width of tegmina	5.66 ± 0.89	6.53 ±0.51
Length of wing	24.53± 1.35	25.06 ±1.03
Width of wing	13.83± 1.12	14.53 ±0.74
Length of sharp hook	3.73 ± 1.03	4.33 ±1.04
Length of femur	3.88 ± 1.63	7.26 ±0.59
Width of femur	3.66 ± 0.72	4.26 ±1.03
Length of trachanter	2.46± 0.51	3.26 ±0.59
Length of coxa	6.13 ±0.63	7.06 ± 1.70
Length of antenna	18.6 ± 1.24	18.53 ±1.64
Length of abdomen	22.33 ± 5.15	27.8 ±1.20
Total Body length	35.26 ±2.25	37.36 ± 3.11

### Remarks :

Uvarov (1922) reported only single female from Afghanistan later on Naheed (2000) reported its male from Sindh. During present investigation, we have collected 12 males and 10 females of *I. splendida*. The material under our observation showed that this species is smaller in size, margin of pronotum not denticulate, Tegmina extends to the end of abdomen and wings lack a black oval spot at the apex, while these characters was not reported by earlier workers.

### 4.

#### CONCLUSION

Present study suggests that praying mantis are good predators they should be used as bio-control agents in near future if their culturing made possible they could be utilize at commercial level. Beside this, they also offer some unique characteristic regarding their morphology.



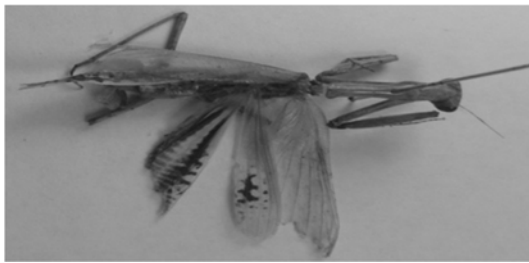
(a)



(b)

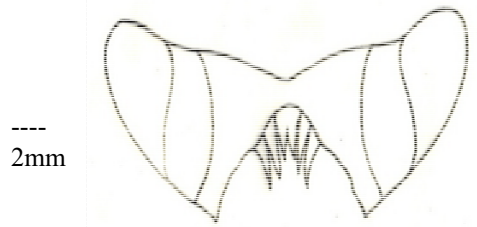


(c)



(d)

Plate I: (a) Dorsal view of *Iris oratoria* (b) the same but lateral view of (♂) (c) Dorsal view of *Iris splendida* the same but lateral view (♀)



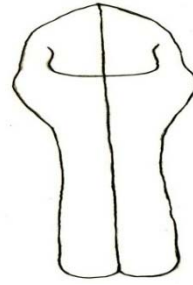
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2mm

(a)



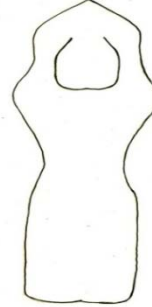
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(b)



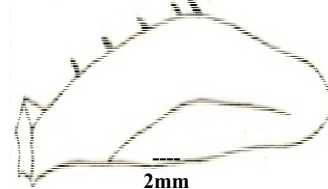
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2mm

(c)



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2mm

(d)



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2mm

(e)



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2mm

(f)

Plate II (a) Dorsal view of head *Iris oratoria* (b) the same but *I.splendida* (c)Dorsal view of Pronotum *I.oratoria* (d) the same but *I.splendida* (e)Dorsal view of femur *I.Oratoria* (f) the same but *I.splendid* ( bar line 2mm)

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