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MANTID (INSECTA : MANTODEA) FAUNA OF OLD BIHAR (BIHAR AND JHARKHAND) WITH SOME NEW RECORDS FOR THE STATE

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INTRODUCTION

Mantids (Insecta : Mantodea) popularly called “praying mantids” play very important role in the terrestrial ecosystems helping to check the populations of noxious insect pests. They are predatory insects actively feeding on a variety of other insects like grass hoppers, moths, flies, aphids etc and are also well known for their camouflage and mimicry. Being an active group of predatory insects they also destroy non-injurious and beneficial insects. Despite rich fauna in India, our knowledge on the diversity and biological attributes of the mantids is far from satisfactory. It was Mukherjee *et al* (1995) who compiled all the available information on Indian mantids which included 162 species under 68 genera and six families. In recent years increased attention has been paid on the taxonomic studies on the mantid fauna of India, along with the description of some interesting new taxa from the country (Ghate and Ranade, 2002, Ghate and Mukherjee, 2004, Thulsi Rao *et al.*, 2005, Sureshan *et al.*, 2004 a,b, 2006 a,b,c, Vyjayandi & Narendran, 2003, 2005, Vyjayandi *et al.* 2006, Vyjayandi, 2007). The present work is an attempt of discovering the mantid fauna of Bihar and Jharkhand (Old Bihar) based on recent collections made from Bihar and Jharkhand and on the information available in the literature. The specimens were identified following Mukherjee *et al.*, 1995 and Ehrmann (2002) was followed for recent classification. According to Mukherjee *et al.* (1995), there are 16 species of mantids belonging to 12 genera under 6 families are reported from Bihar. The present paper altogether deals with 25 species of mantids belonging to 21 genera and 8 families known from Bihar and Jharkhand (old Bihar state). 13 species under 12 genera and 5 families are collected and studied in the present work out of which 9 species belonging to 9 genera are reported for the first time from the state. The material studied is deposited in the collections of Zoological Survey of India, Gangetic plains regional station, Patna, Bihar.

The following abbreviations are used in the text.

BL-Body length (in mm, measured from anterior margin of head to tip of abdomen); PN-Pronotum; FW-Forewing ; M-Male, F-Female.

SYSTEMATIC ACCOUNT

Order MANTODEA

Family AMORPHOSCELIDAE

Subfamily AMORPHOSCELINAE

1. *Amorphoscelis annulicornis* Stal

1871. *Amorphoscelis annulicornis* Stal, *Ofvers. K. Vetensk Akad. Forh*, **28** : 401.

1915. *Amorphoscelis indica* Giglio-Tos. *Bull. Soc. Entomol. Ital.*, **46** : 33.

1956. *Amorphoscelis keiseri* Beier. *Verh. Naturf. Ges. Basel*. **67** : 33.

Distribution : India : Assam, Bihar, Daman & Diu, Himachal Pradesh, Kerala, Meghalaya, Orissa, Maharashtra, Tamil Nadu, West Bengal; Sri Lanka.

Remarks : Common species occurring on tree trunks in all warmer parts of India. It displays darting movement of cerci. Reported from Bihar with no further data (Mukherjee *et al.*, 1995).

Family HYMENOPODIDAE

Subfamily ACROMANTINAE

Tribe ACROMANTINI

2. *Hestiasula brunneriana* Saussure**

(Photo. 1)

1871. *Hestiasula brunneriana* Saussure. *Mem. Soc. Phys. Hist. Nat. Geneva*, **21** : 330.

1927. *Hestiasula brunneriana* Giglio-Tos. *Das Tierreich*, **50** : 545.

Material examined : 1 nymph (Male), Bihar, Patna district, Fathua, 9.i.2008; 1 nymph (male), Vaishali district, Gatarotola, 31.i.2009, coll.P.M.Sureshan.

Distribution : India : Andhra Pradesh, Kerala, Meghalaya, Orissa, Maharashtra, W. Bengal, Bihar; Bangladesh and Sri Lanka.

Remarks : The species is reported for the first time from Bihar.

3. *Ephestiasula pictipes* (Wood-Mason)**

1879. *Hestias pictipes* Wood-Mason. *Proc. Asiatic. Soc. Bengal*. 258.

1904. *Hestiasula pictipes* : Kirby. *Cat. Orth. Brit. Mus.* **1** : 288.

1914. *Ephestiasula pictipes* : Giglio-Tos. *Bull. Soc. Entomol. Ital.* **46** : 101.

Material examined : 1 nymph (Female), Bihar, Patna district, Saguni, 6.ii.2008, coll. P.M. Sureshan.

Distribution : India : Madhya Pradesh, Orissa, Maharashtra, Uttar Pradesh, Bihar.

Remarks : The species is reported for the first time from Bihar.

4. *Euantissa pulchra* (Fabricius)**

1787. *Mantis pulchra* Fabricius. *Mant. Ins.* **1** : 229.

1927. *Euantissa pulchra* : Giglio-Tos. *Das Tierreich*, **50** : 541.

Diagnostic characters : Body green. Forewing dark green, opaque, costal area yellow, rest green; hind wings transparent, basal part pink, posterior border with brown band. Frontal sclerite transverse with two lateral grooves below widely arched superior border, lateral grooves of vertex extending beyond the margin of eyes; fore femora with four external spines, four discoidal spines and twelve internal spines, all spines are black at tip only.

Measurements : BL F, 17; PN 5, FW 11.

Material examined : 1F, 2 nymph (female), Bihar, Patna district, Fathua, Janardhanpur, 11.ii.2009; 8 nymphs, Fathua, 8.i.2008, coll. P.M. Sureshan; 1 nymph. Bihar, Patna city, 25.ii.1967, coll. S.P. Pal.

Distribution : India : Eastern, North eastern and southern parts.

Remarks : A common species. Reported for the first time from Bihar.

Subfamily HYMENOPODINAE

5. *Creobroter laevicollis* (Saussure)**

(Photo 3)

1870. *Creobotra laevicollis* Saussure, *Mitt. Schweiz. Entomol. Ges.*, **3** : 242.

1904. *Creobroter laevicollis* : Kirby, *Cat. Orth. Brit. Mus.*, **1** : 291.

1927. *Creobroter laevicollis* : Giglio-Tos, *Das Tierreich*, **50** : 557.

Diagnostic characters : Vertex with a spine. Prozona of pronotum denticulate, metazona almost smooth. Fore coxae in female with 6-8 spines, in male with 5-6 spines. Fore wing with a small yellow spot latero-basally; eye-spot is a little in front of middle and contains one black dot; anal membrane mostly blackish in male, hyaline in female. Hind wing pink at base and sometimes at costal area; smoky patch is in the centre of wing, round, prominent and does not spread out from centre, much less prominent in male.

Measurements : BL M 29, F 29-30; PN M 6, F 6.5-7; FW M 26, F 24.

Material examined : 1M, 1F, Bihar, Nalanda Dist, Rajgir, 27.ix.2007, coll. P.M. Sureshan; 1F, Jharkhand, Dalma wild life sanctuary, Pindrapera, 6.viii.2008, coll. S. Sampath (Under light).

Distribution : India : Andhra Pradesh, Assam, Meghalaya, Sikkim, West Bengal, Jharkhand, Bihar; Indonesia : Java.

Remarks : This is the first record of the species from Bihar and Jharkhand.

Family LITURGUSIDAE

Subfamily LITURGUSINAE

Tribe LITURGUSINI

6. *Humbertiella ceylonica* Saussure*

(Photo 5)

1869. *Humbertiella ceylonica* Saussure. *Mitt. Schweiz. Entomol. Ges.* **3** : 62.

1891. *Theopompa sepentrionum* Wood-Mason. *A catalogue of the Mantodea* 2 : 64.

1927. *Humbertiella ceylonica* : Giglio-Tos. *Das Tierreich*. 50 : 64.

Diagnostic characters : Body deep brownish. Frontal sclerite black or blackish brown, superior margin less arched, usually brown in female and light brown or pale whitish in male; longer internal spines of fore femur black; forewing in male longer than body, reaching up to 5-6 abdominal segments in female.

Measurements : BL : M 31-32; PN : 6-7; FW 29.

Material examined : 2M, Jharkhand, Dalma Wild life sanctuary, Pindrapera, 6.viii.2008, coll. S. Sampath (under light).

Distribution : India : Orissa, Kerala, Karnataka, Jharkhand, Tamil Nadu, Assam, Uttar Pradesh, West Bengal, Madhya Pradesh, Maharashtra.

Remarks : The species has been already reported from Hazaribagh, Jharkhand (Mukerjee *et al.*, 1995).

Family MANTIDAE

Subfamily OXYOTHEPINAE

7. *Heterochaetula tricolor* (Wood-Mason)

1876. *Heterochaetula tricolor* Wood-Mason, *Ann. Nat. Hist.*, 18(4) : 441.

1927. *Heterochaetula tricolor* : Giglio-Tos, *Das Tierreich*, 50 : 287.

Distribution : India : Jharkhand, Maharashtra, Orissa, West Bengal.

Remarks : Reported from Singbhum : Chandil (Jharkhand) based on one female specimen (Mukherjee *et al.*, 1995).

Subfamily SCHIZOCEPHALINAE

8. *Schizocephala bicornis* (Linnaeus)**

(Photo 8)

1758. *Gryllus (Mantis) bicornis* Linnaeus. *Syst. Nat.* 1(10) : 426.

1767. *Mantis bicornis* Linnaeus. *Syst. Nat.* 2(12) : 691.

1781. *Mantis oculata* Fabricius. *Spec. Ins.* 1 : 348.

1792. *Mantis stricta* Olivier. *Ann. Sci. Nat.* 22 : 56.

1927. *Schizocephala bicornis* Giglio-Tos. *Das. Tierreich*, 50 : 237.

Material examined : 1 male nymph, Bihar, Vaishali district, Gatarotola, 31.i.2009, coll. P.M. Sureshan.

Distribution : India : Madhya Pradesh, Maharashtra, Uttar Pradesh, Kerala, West Bengal, Orissa, Bihar.

Remarks : The specimen collected from tall wild grass. Species reported for the first time from Bihar.

Subfamily AMELINAE

Tribe AMELINI

9. *Amantis fuliginosa* (Werner)**

(Photo 2)

1931. *Cimantis fuliginosa* Werner. *Proc. Zool. Soc. London*, 1330.

2002. *Amantis fuliginosa* (Werner) in Ehrmann, *Mantodea : Gott. der Welt. Nat. Tier-Veriag Gomb* : 56.

Diagnostic characters : Frontal sclerite carinate with arched upper margin. Pronotum short, metazona dorsally with median furrow, wings extending beyond abdominal tip; costal area of forewing with sinuous transverse veins, discoidal area widely meshed with distinct false veins, radial vein forked at base, all veins blackish, hind wings fuliginous (greyish).

Measurements : BL M 15; PN 3, FW 15.

Material examined : 1M, Jharkand, Dalma Wild life sanctuary, Pindrapera, 20.viii.2007, coll. S. Sampath (under light).

Distribution : India : Tamil Nadu, Jharkand, Kerala.

Remarks : High altitude species. Reported for the first time from Jharkand and North India.

Subfamily PARAMANTINAE

Tribe PARAMANTINI

10. *Hierodula tenuidentata* Saussure*

(Photo 9)

1869. *Hierodula tenuidentata* Saussure. *Mitt. Schweiz. Entomol. Ges.* **3** : 68.

1927. *Hierodula (Hierodula) tenuidentata* : Giglio-Tos. *Das Tierreich.* **50** : 444.

Diagnostic characters : Frontal sclerite a little wider than high; pronotum narrower after dilation and then almost parallel except near base. Prosternum with two blackish transverse bands in posterior part. Fore coxae with 5 short spines and few spinules among them, both wings longer than body, costal area greenish, discoidal area hyaline.

Measurements : BL : F, 59-72; PN 17-23, FW : 40-57.

Material examined : 1F, Jharkhand, Dalma wildlife sanctuary, Macalakocha, 12.xii.2008, coll. S. Sampath (under light); 1F, 1 nymph (male) Bihar, Muzafarpur, Bhagwanpur, 2.xii..2007, coll. P.M. Sureshan; 1F, Bihar, Patna, Jogipur, 25.ix.1970; coll. R.K. Varshney; 1F, Bihar, no other data; 1F, Bihar, Patna, Surajpur, 4.vii.1976, coll. Bindu.

Distribution : India : Andamans, Bihar, Jharkhand, Lakshadweep, Madhya Pradesh, Kerala, Orissa, Maharashtra.

Remarks : The blackish band of prosternum fades in old preserved specimens. Species already reported from Madhupur, Jharkhand (Mukherjee *et al.*, 1995).

11. *Hierodula bipapilla* (Audinet-Serville)

1839. *Mantis bipapilla* Audinet-Serville. *Hist. Nat. Ins. Orth.* 188.
 1889. *Hierodula patellifera* Westwood. *Revis. Mantid.* p. 35.
 1904. *Hierodula bipapilla* Kirby. *Cat. Orth. Brit. Mus.* 1 : 245.
 1927. *Hierodula (Hierodula) bipapilla* : Giglio-Tos. *Das Tierreich.* 50 : 448.

Distribution : India : Jharkhand, Himachal Pradesh, Uttar Pradesh, West Bengal; Indonesia, Java, China, Taiwan, Japan.

Remarks : Reported from Dhanbad (Jharkhand) based on one male specimen (Mukherjee *et al.*, 1995).

12. *Hierodula doveri* Chopard**

1924. *Hierodula doveri* Chopard, *Rec. Indian Mus.* 26 : 175.

Diagnostic characters : Frontal sclerite pentagonal, bicarinate, almost as wide as high, upper margin widely angular. Pronotum slender with oval supra coxal dilation, metasona of prosternum with two pairs of brownish dots and median strip of same colour. Fore coxae armed with 6 tubercular premarginal spines, femora with seven long and seven short spines, shorter spines are black at tip. Forewing with costal area yellow-green and densely reticulate.

Measurements : BL; M 59-64; PN : 21-23; FW : 42-46.

Material examined : 3M, Jharkhand, Dalma wild life sanctuary, Pendrapera, 20.viii.07, coll. S. Sampath (under light).

Distribution : India : Jharkhand, Karnataka, W. Bengal, Kerala, Orissa, Tamil Nadu.

Remarks : Reported for the first time from Jharkhand.

13. *Rhombodera doriana* Laidlaw

1931. *Rhombodera doriana* Laidlaw. *Entomol. Monthly Mag.* 88-90.

Distribution : India : Jharkhand.

Remarks : Known only from the holotype from Ranchi, Jharkhand (Mukerjee *et al.*, 1995).

14. *Rhombodera tectiformis* Saussure

1870. *Hierodula tectiformis* Saussure. *Mitt. Schweiz. Entomol. Ges.* 3 : 232.
 1927. *Hierodula (Rhombodera) tectiformis* : Giglio-Tos. *Das Tierreich.* 50 : 453.

Distribution : India : Jharkhand, Sikkim, Tamil Nadu, West Bengal.

Remarks : Reported from Madhupur, Jharkhand based on 1 male specimen (Mukherjee *et al.*, 1995).

Tribe MANTINI

15. *Mantis religiosa inornata* Werner**

(Photo 4)

1930. *Mantis inornata* Werner. *Proc. Zool. Soc. London*, 1930 : 689.

2002. *Mantis religiosa inornata* Werner in : Ehrmann, Mantodea, 216.

Diagnostic characters : Body green. Fore wings green, anterior half of costal area reddish brown and hyaline in discoidal area. Hind wings hyaline. Frontal sclerite with distinct median groove, superior margin arched. Pronotum long, metazona carinate, with two whitish spots ventrally. In fore legs coxal borders with 6-7 minute spines and few spinules, no callous spots, internal apical lobes divergent; claw groove of femora with yellow patch. Fore femora have 4 discoidal spines, 4 external spines and 15 internal spines, black at tips.

Measurements : BL; F 67; PN, 23, FW 55.

Material examined : 1F, Bihar, Patna, Rajendra Nagar, 10.x.1996, coll. Bolanath.

Distribution : India : Kerala, Maharashtra, Orissa, Bihar, Uttar Pradesh.

Remarks : This the first record of the species from Bihar.

16. *Stalia apicalis* (Saussure)

1871. *Mantis apicalis* Saussure, *Mem. Soc. Geneve*, **21** : 291.

1877. *Stalia apicalis* : Stal, *Bih. K. Svenska Vetensk Akad. Handl.* **4**(10) : 55.

1904 *Pseudomantis apicalis*: Kirby, *Cat. Orth. Brit. Mus.*, **1** : 235.

1927. *Stalia apicalis* : Giglio-Tos. *Das Tierreich*, **50** : 411.

Distribution : India : Andhra Pradesh, Arunachal Pradesh, Bihar, Himachal Pradesh, Uttar Pradesh, West Bengal; Australia.

Remarks : Reported from Bihar with no further data (Mukherjee *et al.*, 1995).

17. *Stalia maculata* (Thunberg)

1784. *Mantis maculata* (Thunberg). *Nov. Ins. Spec.*, **3** : 61.

1897. *Stalia maculata* : Bolivar. *Ann. Soc. Entomol. France*, **66** : 309.

1927. *Stalia maculata* Giglio-Tos. *Das Tierreich*, **50** : 410.

Distribution : India : Andhra Pradesh, Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Kerala, Madhya Pradesh, Orissa, Maharashtra, Uttar Pradesh, Sikkim, West Bengal; Eastern Asia.

Remarks : The species is reported from Bihar with no further details (Mukherjee, *et al.*, 1995).

Subfamily MANTINAE

Tribe POLYSPILOTINI

18. *Tenodera superstitiosa* (Fabricius)

1781. *Mantis superstitiosa* Fabricius, *Spec. Ins.*, **1** : 348.

1871. *Tenodera superstitiosa* : Stal, *Ofvers k. Vetensk Akad. Forh.*, **28** : 390.

1927. *Tenodera superstitiosa* : Giglio-Tos. *Das Tierreich*, **50** : 415.

Distribution : India : Andamans, Bihar, Punjab, Uttar Pradesh; Africa.

Remarks : Reported from Bihar with no further details (Mukherjee *et al.*, 1995).

Subfamily MIOMANTINAE

Tribe RIVETININI

19. *Deiphobe infuscata* (Saussure)

1871. *Phasmomantis infuscata* Saussure, *Mem. Soc. Phy. Hist. Nat. Geneve*, **21** : 130.

1927. *Deiphobe infuscata* : Giglio-Tos, *Das Tierreich*, **50** : 488.

2006. *Deiphobe infuscata* : Vyjayandi. *J. Ent. Res.* **30**(4) : 339-361.

Distribution : India : Bihar, Himachal Pradesh, Kerala, Jammu & Kashmir, Madhya Pradesh, Tamil Nadu, Uttar Pradesh. Andhra Pradesh, Jharkhand.

Remarks : Reported from Madhupur, Palamu, Kijrum and Mundu in Jharkhand (Mukherjee *et al.*, 1995).

Family TOXODERIDE

Subfamily TOXODERINAE

Tribe TOXODEROPSINI

20. *Toxoderopsis taurus* Wood-Mason*

(Photo 7)

1889. *Toxoderopsis taurus* Wood-Mason, *J. Asiatic Soc. Bengal*, **58** : 320.

1927. *Toxoderopsis taurus* : Giglio-Tos, *Das Tierreich*, **50** : 569.

Measurements : BL M 97; PN 22, FW 44.

Material examined : 1F, Jharkhand, Hazaribagh National Park, 27.ix.1975, coll. R. K. Varshney.

Distribution : India : Jharkhand, Maharashtra, Orissa; Pakistan.

Remarks : Reported from Chotanagpur, Dhanbad (Jharkhand) (Mukherjee *et al.*, 1995).

Family TARACHODIDAE

Subfamily TARACHODINAE

21. *Didymocorypha lanceolata* Fabricius

1798. *Mantis lanceolata* Fabricius, *Syst. Entomol. Suppl.*, p. 191.

1877. *Schizocephala (Didymocorypha) ensifera* Wood-Mason, *Ann. Mag. Nat. Hist.*, (4)19 : 222.

1877. *Pyrgocotis gracilipes* Stal., *Bih. K. Svenska VetenskAkad. Handl.*, **4**(10) : 17.

1882. *Didymocorypha ensifera* : Wood-Mason, *J. Asiatic. Soc. Bengal*, **51** : 24.

1889. *Pyrgocotis ensifera* : Wood-Mason, *Revisio... Mantidarum*. p. 3.

1889. *Pyrgocotis gracilipes*: Westwood, *Revisio... Mantidarum*. p. 3.

1897. *Didymocorypha lanceolata*: Bolivar, *Ann. Soc. Entomol. France*, **66** : 303.

Distribution : India : Jharkhand, Karnataka, Madhya Pradesh, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal; Sri Lanka.

Remarks : One female (nymph) specimen reported from Rajmahal Hills, Jharkhand (Mukherjee *et al.*, 1995).

Family IRIDOPTERYGIDAE
 Subfamily TROPIDOMANTINAE
 Tribe TROPIDOMANTINI

22. *Tropidomantis guttatipennis* Stål*

1877. *Tropidomantis guttatipennis* Stal, Bih. K. Svenska Vetensk Akad Handl., 4(10) : 51.

1915. *Eomantis guttatipennis* : Giglio-Tos, Bull. Soc. Entomol. Ital., 46 : 47.

Diagnostic characters : A pair of minute elongate tubercles present between frontal sclerite and median ocellus of male. In female, whitish patches on frontal sclerite and ocelli visible. Fore femur with a shallow pit bordered by 3rd discoidal and proximal 2 external spines. Female with 9-10 external spines on fore tibiae, of which proximal two minute. Fore wing in female sub-opaque, with pale whitish central opaque spots in a few cells in basal half; in male, entire forewing almost hyaline.

Material examined : 1M, Jharkhand, Dalma wild life sanctuary, Pindrapera, 29.ix.2009, coll. S. Sampath (under light).

Measurements : BL M 24.0, PN 5, FW 18.

Distribution : India : Assam, Maharashtra, Bihar, Jharkhand, Gujarat, Karnataka, Tamil Nadu, West Bengal; Tibet.

Remarks : Mukerjee *et al.*, 1995 mentioned the distribution of the species in Bihar without any details.

Subfamily NANOMANTINAE
 Tribe NANOMANTINI

23. *Parananomantis brevis* Mukherjee**

(Photo 6)

1995. *Parananomantis brevis* Mukherjee. *Oriental Insects* : 29. 260.

Diagnostic characters : Body delicate, brownish yellow. Vertex with upper margin almost straight, lateral lobes prominent and separated by grooves; frontal sclerite transverse, superior margin arched and laterally sinuate.; pronotum with supra coxal dilation moderate, metazona almost as long as fore coxa with very fine linear carina, not raised; fore femur with straight upper margin, 4 external spines . proximal two of them little closer to each other, discoidal spines 3, tibia with 7 external spines with considerable gap between proximal two, second spine (from base) much longer than first, hind metatarsus little longer than other segments combined. ; supra anal plate broad, triangular and rounded at end and briefly carinate near at base.

Measurements : BL M 24-25 F 26-27; PN M 6-7, F 7; FW M 16, F 17-18.

Material examined : 2M, 2F, Jharkhand, Dalma wild life sanctuary, Pindrapera, 29.ix.2009, coll. S. Sampath (under light).

Distribution : India : Assam, Himachal Pradesh, Karnataka, Jammu, Manipur, West Bengal, Jharkhand.

Remarks : The species is reported for the first time from Jharkhand with first record of the female.

Family EMPUSIDAE

Subfamily EMPUSINAE

Tribe EMPUSINI

24. *Empusa fasciata* Brulle

1832. *Empusa fasciata* Brulle, *Exp. Moree*, 31 (Sec. 2) : 83.

1927. *Empusa fasciata* : Giglio-Tos, *Das Tierreich*, 50 : 637.

Distribution : India : Bihar; Philippines.

Remarks : Reported from Bihar with no further data (Mukherjee *et al.*, 1995).

25. *Gongylus trachelophyllus* Burmeister

1838. *Empusa (Gongylus) trachelophylla* Burmeister, *Handb. Entomol.*, 2 : 54.

1871. *Gongylus trachelophyllus* : Saussure, *Mem. Soc. Geneve*, 21 : 186.

1927. *Gongylus trachelophyllus* : Giglio-Tos, *Das Tierreich*, 50 : 635.

Distribution : India : Jharkhand, Orissa.

Remarks : Reported from Chotanagpur (Jharkhand) (Mukherjee *et al.*, 1995).

Systematic list of Mantodea of Bihar and Jharkhand (Old Bihar)

(Classification followed Ehrmann, 2002)

*collected and studied **First record from the state

Class INSECTA

Order MANTODEA

Family AMORPHOSCELIDAE

Subfamily AMORPHOSCELINAE

1. *Amorphoscelis annulicornis* Stal. (Bihar)

Family HYMENOPODIDAE

Subfamily ACROMANTINAE

Tribe ACROMANTINI

2. *Hestiasula brunneriana* Saussure** (Bihar)

3. *Ephestiasula pictipes* (Wood-Mason)** (Bihar)

4. *Euantissa pulchra* (Fabricius)** (Bihar)

Subfamily HYMENOPODINAE

5. *Creobroter laevicollis* (Saussure)** (Bihar & Jharkhand)

- Family LITURGUSIDAE
Subfamily LITURGUSINAE
6. *Humbertiella ceylonica* Saussure* (Jharkhand)
Family MANTIDAE
Subfamily OXYOTHESPHINAE
7. *Heterochaetula tricolor* (Wood–Mason) (Jharkhand)
Subfamily SCHIZOCEPHALINAE
8. *Schizocephala bicornis* (Linnaeus)** (Bihar)
Subfamily AMELINAE
Tribe AMELINI
9. *Amantis fuliginosa* (Werner)** (Jharkhand)
Subfamily PARAMANTINAE
Tribe PARAMANTINI
10. *Hierodula tenuidentata* Saussure* (Bihar & Jharkhand)
11. *Hierodula bipapilla* (Audinet-Serville) (Jharkhand)
12. *Hierodula doveri* Chopard** (Jharkhand)
13. *Rhombodera doriana* Laidlaw (Jharkhand)
14. *Rhombodera tectiformis* Saussure (Jharkhand)
Tribe MANTINI
15. *Mantis religiosa inornata* Werner** (Bihar)
16. *Statilia apicalis* (Saussure) (Bihar)
17. *Statilia maculata* (Thunberg) (Bihar)
Subfamily MANTINAE
Tribe POLYSPILLOTINI
18. *Tenodera superstitiosa* (Fabricius) (Bihar)
Subfamily MIOMANTINAE
Tribe RIVETININI
19. *Deiphobe infuscata* (Saussure) (Jharkhand)
Family TOXODERIDAE
Subfamily TOXODERINAE
Tribe TOXODEROPSINI
20. *Toxoderopsis taurus* Wood-Mason* (Jharkhand)

Family TARACHODIDAE

Subfamily TARACHODINAE

21. *Didymocorypha lanceolata* Fabricius (Jharkhand)

Family IRIDOPTERYGIDAE

Subfamily TROPIDOMANTINAE

Tribe TROPIDOMANTINI

22. *Tropidomantis guttatipennis* (Stal)* (Jharkhand)

Subfamily NANOMANTINAE

Tribe NANOMANTINI

23. *Parananomantis brevis* Mukherjee** (Jharkhand)

Family EMPUSIDAE

Subfamily EMPUSINAE

Tribe EMPUSINI

24. *Empusa fasciata* Brulle (Bihar)

25. *Gongylus trachelophyllus* Burmeister (Jharkhand)

SUMMARY

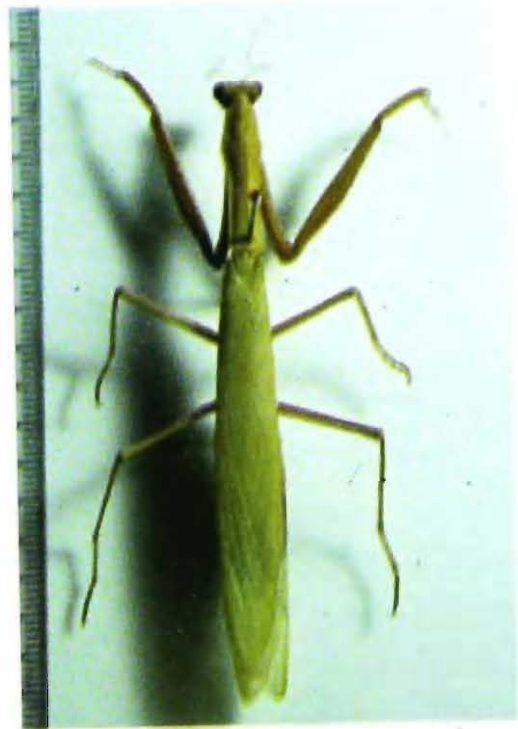
The order Mantodea of old Bihar state (present Bihar and Jharkhand) is represented by 25 species belonging to 21 genera, 16 subfamilies and 8 families. Among these the family Mantidae has maximum representation (9 genera 13 species), followed by Hymenopodidae (4 genera, 4 species), Empusidae (2 genera, 2 species), Iridopterygidae (2 genera, 2 species), Amorphoscelidae (1 genus, 1 species), Liturgusidae (1 genus, 1 species), Toxoderidae (1 genus, 1 species), and Tarachodidae (1 genus 1 species). Most of the species are reported from the new Jharkhand state (13 nos.), and Bihar (5 species), both Bihar and Jharkhand (2 species) and 5 species are reported from Bihar with no further details of the locality. The species *Rhombodera dorianae* Laidlaw is known only from Jharkhand (Ranchi). The species *Empusa fasciata* Brulle, and *Gongylus trachelophyllus* Burmeister are very rare and known only from Bihar, Jharkhand and Orissa. The occurrence of *Amantis fuliginosa* (Werner) in the forests of Dalma wild life sanctuary, Jharkhand is interesting. This is a high altitude species earlier reported only from the forested tracts of Tamil Nadu and Kerala. The study proved that the mantid fauna of the states of Bihar and Jharkhand is very poorly studied. Since most parts of Bihar and Jharkhand are practically unexplored for the mantid fauna, serious attempts for faunistic surveys and field collection of these insects will be highly rewarding.

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Photos 1-5: 1. *Hestiasula brunneriana* Saussure, male nymph; 2. *Amantis fuliginosa* (Werner), male; 3. *Creobroter laevicollis* (Saussure), male; 4. *Mantis religiosa inornata* Werner, female 5. *Humbertiella ceylonica* Saussure, male



Photos 6-9: 6. *Parananomantis brevis* Mukherjee, female; 7. *Toxoderopsis taurus* Wood-Mason, female, 8. *Schizocephala bicornis* (Linnaeus), male nymph; 9. *Hierodula tenuidentata* Saussure, female.