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An updated knowledge on the insect and spider diversity of the coastal areas of Purba Medinipur District, West Bengal

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ABSTRACT

To protect and conserve the faunal diversity of any ecosystem, it is essential first to understand the existing fauna within that specific ecosystem. Information on the coastal belt fauna in West Bengal is fragmented; therefore, this paper attempts to collate data on insects and spiders from coastal areas to understand their diversity for better conservation and sustainable utilization. It summarizes the known insect and spider faunal diversity of the coastal belt of Purba Medinipur district and its various habitats, drawing from published literature and other lesser-known sources of information. Based on existing data, 380 species of insects and 50 species of spiders have been reported from coastal areas, covering an area of 50-60 km in length, consisting of 4 sub-divisions, 5 municipalities, and 25 blocks. Purba Medinipur is the southernmost district of West Bengal.

Keywords: Purba Medinipur, Coastal ecosystem, Insects, Spiders, Conservation

1. Introduction

India's coastline is a remarkable feature, rich in geographical diversity and covering a substantial expanse along its western and eastern borders. The eastern coastal plains of India run from West Bengal to Tamil Nadu, passing through Andhra Pradesh and Odisha. West Bengal has an extensive coastline stretching nearly 325 kilometers, which includes its islands. This coastal region is known for its rich variety of plant and animal species, a wide range of geographical features, and the presence of human activities that have an impact on the environment (Bhattacharya, 2001 and Bhattacharya et al., 2003). The Midnapore coast is known for its distinct features, including the presence of mangrove vegetation, sand dunes, the action of longshore currents, relatively small river discharges, sea water with high salinity but low turbidity, a cuspate delta formed by the Subarnarekha River, and depressions in the west resulting from geological movements.

Among the two coastal districts (Purba Medinipur & South 24 Parganas) of West Bengal, South 24 Parganas gained much more attention from researchers and naturalists owing to the presence of the world's largest coastal wetland: Sundarban Mangrove (Das et al., 2022).

2. Historical resume:

Unfortunately, the study of faunal diversity in the coastal areas of Purba Medinipur district remains both inadequate and scattered. Mitra et al. (2002a) documented 15 species of

true flies for the first time from the newly emerged island, Nayachar, on the River Hooghly in Purba Medinipur district. In the same year, Mitra & Parui (2002b) documented 11 species of flower-visiting insects and their 8 species of host plants from Nayachar Island. Additionally, Hazra et al. (2004) recorded 15 species of grasshoppers belonging to 2 families and 14 genera from Nayachar Island for the first time. Moreover, Ghosh & Mandal (2013) studied and documented 7 species from 6 genera across 3 families (Gyrinidae, Dytiscidae, and Hydrophilidae) of aquatic beetles from Nayachar Island.

The consolidated information on insect and butterfly biodiversity is crucial for understanding the ecological impacts of industrialization and urbanization in Purba Medinipur. Jana et al. (2006) conducted a study on the impact of industrialization on insect biodiversity in Purba Medinipur district, focusing on the diversity of five insect orders: Hemiptera, Orthoptera, aculeate Hymenoptera, Lepidoptera, and Coleoptera, in both industrial and non-industrial areas of Haldia. Pahari et al. (2018) investigated the butterfly fauna of the Haldia industrial belt to determine the effects of industrialization and urbanization on butterfly density and diversity, recording 67 species of butterflies from 5 families and 51 genera in the Haldia industrial belt and adjacent rural areas.

Afterwards, Jana et al. (2013) conducted a study on the butterfly faunal diversity across eight coastal areas (Petuaghat, Junput, Soula, Mandarmoni, Sankarpur, Digha, Bajkul, and Contai) in Purba Medinipur district. Additionally, Hazra et al. (2015) reported 46 species under 5 butterfly families from three selected study sites in the Contai coastal block: Monoharchak, Baksispur, and the campus of P.K. College. Payra et al. (2017) published a checklist documenting 112 butterfly species from 74 genera, 14 subfamilies, and 5 families from the coastal areas of Purba Medinipur District. In 2023, Paria et al. did another study on the butterfly fauna of the coastal belt, compiling a checklist of 41 butterfly species belonging to 35 genera and 5 families from the Tajpur coastal area close to Digha coast. Sengupta et al (2022) in their communication reported *Odontotermes hainanensis* (Light, 1924) from Digha coast. *O. hainanensis* is an addition to the list of 42 species of the genus recorded earlier from India.

Jana et al. (2012) conducted a study on the species richness, similarities, species diversity, and evenness of 19 species from 10 families across four insect orders (Hemiptera, Orthoptera, aculeate Hymenoptera, and Coleoptera) inhabiting the medicinal plant *Calotropis procera* in eight sites within the coastal blocks of Purba Medinipur district. Later, Jana et al. (2014a) reported 15 species under 14 genera belonging to 10 families of hemipteran bugs from the coastal belt of this district.

Subsequently, Jana et al. (2014b) documented 13 species of Odonata under 12 genera belonging to 3 families from the coastal areas of Purba Medinipur district. Pahari et al. (2019) studied odonate faunal diversity in two different types of land use patterns in Purba Medinipur district, highlighting that only 21 species of Odonata were found in the Haldia industrial belt. A significant contribution to the odonate diversity of these coastal areas was made by Payra & Tiple (2019), who documented a total of 49 species belonging to 35 genera and 7 families of dragonflies and damselflies.

Jana et al. (2015) recorded 8 Orthopteran insect species belonging to 7 genera and 5 families from eight different study sites in the coastal areas of Midnapore (East) District, West Bengal, India. In another study, they investigated the Orthopteran insect host plant relationship and differences in relative abundance in response to environmental stimuli (Jana et al., 2018). Das et al. (2018) conducted a survey in the coastal zone of Purba Medinipur, recording 17 species belonging to 17 genera across the families Acrididae (07 species), Trigonidiidae (03 species), Gryllidae, Pyrgomorphidae, and Tettigonidae (02 species each), and Tetrigidae (01

species). These findings contribute valuable information to understanding the biodiversity and ecological dynamics of Orthopteran insects in these coastal regions.

Jana et al. (2021b) documented 13 species of Hymenoptera belonging to 11 genera and 5 families from different ecozones of the Purba Medinipur coastal belt. Among these hymenopteran species, *Camponotus compressus, Xylocopa latipes, Apis sp., Apis indica, and Apis dorsata* were found to be the most common across all study sites. In another study, Hazra (2018) documented 15 species of ants from the Contai municipal area. The first study on mangrove ants was conducted by Roy et al. (2018), who reported 12 species belonging to 4 subfamilies of ants associated with 5 species of mangrove plants. These findings provide valuable insights into the diversity and distribution of Hymenoptera and ants in various habitats within the Purba Medinipur coastal belt.

Das et al. (2022) conducted a comprehensive study on the faunal diversity of coastal areas, documenting 114 species of spiders across 20 families, 102 species of butterflies from 5 families, 43 species of odonates from 5 families, 35 species of moths from 9 families, and 9 species of mantis from 3 families in Kanai Chatta and adjoining coastal areas of Purba Medinipur. In the same area, Pal et al. (2023) observed and documented the foraging activity of two hymenopteran species on the reproductive structures of *Acanthus ilicifolius*. Notably, Nomia sp. was recorded for the first time as a consumer of nectar and pollen from *Acanthus ilicifolius* in Indian mangroves. Subsequently, Chatterjee et al. (2025) conducted a survey in the mangrove belt of Kanaichatta, Purba Medinipur, West Bengal, India. They observed the quantitative floral availability and flowering phenology of four dominant mangrove species: *Avicennia marina, Avicennia officinalis*, *Aegiceras corniculatum*, and *Acanthus ilicifolius*. In this study, they reported a total of 35 insect species from eight orders, among which 19 species were classified as potential pollinators.

These findings highlight the rich biodiversity of the coastal and mangrove areas in Purba Medinipur and underscore the importance of understanding species interactions for effective conservation and management efforts.

3. Study area:

The coastal area of West Bengal extends over 0.82 million hectares and covers 220 kilometers of coastline. The entire stretch, from Subarnarekha in the west to the mouth of the river Harinbhanga in the east, represents the state's entire coastal zone and is divided into three main coastal sectors: the eastern sector, the central sector, and the western sector. The Digha–Rosulpur coastal plain along the Bay of Bengal is situated in the western sector. Among the two coastal districts of West Bengal, Purba Midnapore district is characterized by sand dunes and has less vegetational coverage.

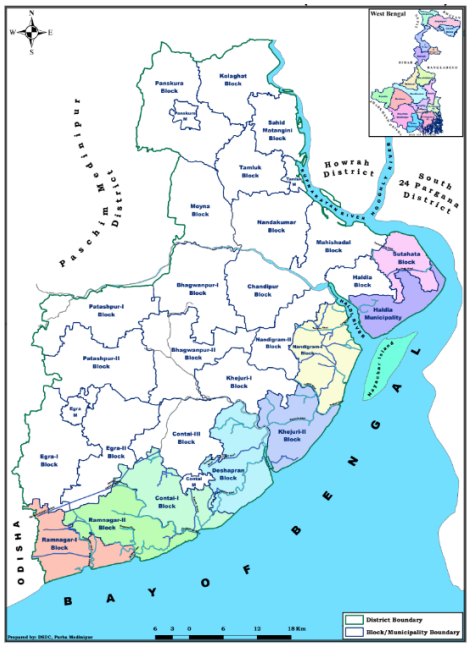

Fig.1.Map of coastal blocks of Purba Medinipur district

Purba Medinipur district, located in the southernmost part of West Bengal, falls under the lower Indo-Gangetic Plain and Eastern Coastal Plains. The coastal area within Midnapore District accounts for approximately 27% of West Bengal's entire coastal region, covering a span of about 60 kilometers (Jana, 2016). This coastal stretch runs along the western bank of the Hooghly estuary, starting from New Digha, curving around locations such as Junput, Dadanpatrabar, Khejuri, and Haldia, and extending further to the northeast, reaching as far as Tamluk or possibly along the banks of the Rupnarayan River (Mandal et al., 2013). Purba Medinipur boasts a long coastline with diverse vegetation. The coastal forest vegetation of the district is chiefly dominated by *Casuarina equisetifolia*, but mixed vegetation of *Eucalyptus globulus* and *Acacia auriculiformis* is also seen. The undergrowth mainly consists of species such as *Clerodendrum, Chromolaena, Lantana*, and Carissa. Mangrove forests are primarily composed of *Avicennia officinalis* and *Rhizophora mucronata* (Das et al., 2022).
There are 4 Sub-Division, 5 Municipality and 25 nos of Blocks under Purba Medinipur District, of which, Ramanagar-I, Ramanagar-II, Contai-I, Deshapran, Khejuri-II, Nandigram-I and Sutahata blocks with Haldia Municipality and Nayachar Island are coming under coastal zone ecosystem (Fig.1).

4. Insect & Spider faunal diversity:

A total of 380 species of insects and 50 species of spiders are reported from the coastal belt of Purba Medinipur district. Among insects, Order Lepidoptera (172) shows maximum species diversity, followed by Odonata (56), Hymenoptera (46), Coleoptera (35), Orthoptera (31), Diptera (20), Hemiptera (18) and Blattodea (2).

5. Order Lepidoptera:

Butterflies and moths, which belong to the order Lepidoptera, play a vital role in the environment and act as significant indicators of the overall health of ecosystems. Lepidoptera is one of the most important phytophagous groups in coastal areas, with its members depending entirely on plants or plant parts throughout their life cycle, from eggs to adults. Their dependency on plants underscores their role in pollination and plant health, making them essential for maintaining ecological balance.

This present communication compiles available literature and documents a total of 172 species of Lepidoptera from the entire coastal belt of Purba Medinipur. This includes 133 species of butterflies and 39 species of moths (Table 1).

Table 1. List of butterflies & moths (Insecta: Lepidoptera) known from the coastal belt of Purba Medinipur

Sl.no	Species	Family	Source
1	*Ampitta dioscorides* (Fabricius, 1793)	Hesperiidae	Pahari et al, 2018
2	*Astictopterus jama* (Felder & Felder, 1860)	Hesperiidae	Payra et al,2017
3	*Badamia exclamationis* (Fabricius, 1775)	Hesperiidae	Payra et al,2017
4	*Borbo bevani* (Moore, 1878)	Hesperiidae	Payra et al,2017
5	*Borbo cinnara* (Wallace, 1866)	Hesperiidae	Payra et al,2017
6	*Celaenorrhinus putra* (Moore, 1866)	Hesperiidae	Pahari et al, 2018
7	*Cephrenes acalle* (Höpffer, 1874)	Hesperiidae	Payra et al,2017
8	*Erionota thrax* (Linnaeus, 1767)	Hesperiidae	Payra et al,2017
9	*Erionota torus* (Evaus, 1941)	Hesperiidae	Pahari et al, 2018
10	*Gangara thyrsis* (Fabricius, 1775)	Hesperiidae	Payra et al,2017
11	*Halpe porus* (Mabille, 1876)	Hesperiidae	Payra et al,2017
12	*Hasora badra* (Moore, 1857)	Hesperiidae	Das et al, 2022
13	*Hasora chromus* (Cramer, 1780)	Hesperiidae	Payra et al,2017
14	*Hyarotis adrastus* (Stoll, 1782)	Hesperiidae	Payra et al,2017
15	*Iambrix salsala* (Moore, 1865)	Hesperiidae	Payra et al,2017
16	*Iambrix salsala* (Moore, 1865)	Hesperiidae	Das et al, 2022
17	*Matapa aria* (Moore, 1865)	Hesperiidae	Payra et al,2017
18	*Matapa aria* (Moore, 1865)	Hesperiidae	Das et al, 2022
19	*Parnara ganga* (Evans, 1937)	Hesperiidae	Payra et al,2017
20	*Parnara guttata* (Bremer & Grey, 1852)	Hesperiidae	Payra et al,2017
21	*Pelopidas agna* (Moore, 1865)	Hesperiidae	Payra et al,2017
22	*Pelopidas conjuncta* (Herrich-Schäffer, 1869)	Hesperiidae	Payra et al,2017
23	*Pelopidas mathias* (Fabricius, 1798)	Hesperiidae	Payra et al,2017
24	*Pelopidas sinensis* (Mabile, 1877)	Hesperiidae	Hazra et al, 2017
25	*Pelopidas subochracea* (Moore, 1878)	Hesperiidae	Payra et al,2017
26	*Pelopidas thrax* (Huebner, 1821)	Hesperiidae	Pahari et al, 2018
27	*Spialia galba* (Fabricius, 1793)	Hesperiidae	Payra et al,2017
28	*Suastus gremius* (Fabricius, 1798)	Hesperiidae	Payra et al,2017
29	*Suastus minuta* (Moore, 1877)	Hesperiidae	Payra et al,2017
30	*Tagiades japetus* (Stoll, 1781)	Hesperiidae	Payra et al,2017
31	*Taractrocera maevius* (Fabricius, 1793)	Hesperiidae	Payra et al,2017
32	*Telicota bambusae* (Moore, 1778)	Hesperiidae	Jana et al, 2006
33	*Telicota bambusae* (Moore, 1878)	Hesperiidae	Payra et al,2017
34	*Telicota colon* (Fabricius, 1775)	Hesperiidae	Payra et al,2017
35	*Udaspes folus* (Cramer, 1775)	Hesperiidae	Payra et al,2017
36	*Amblypodia anita* (Hewitson, 1862)	Lycaenidae	Das et al, 2022
37	*Anthene emolus* (Godart, 1823)	Lycaenidae	Payra et al,2017
38	*Anthene lycaenina* (C. Felder, 1868)	Lycaenidae	Payra et al,2017
39	*Castalius rosimon* (Fabricius, 1775)	Lycaenidae	Payra et al,2017
40	*Catochrysops strabo* (Fabricius, 1793)	Lycaenidae	Payra et al,2017
41	*Chilades lajus* (Stoll, 1780)	Lycaenidae	Payra et al,2017
42	*Chilades pandava* (Horsfield, 1829)	Lycaenidae	Payra et al,2017
43	*Chilades pandava* (Horsfield, 1829)	Lycaenidae	Pahari et al, 2018
44	*Chilades parrhasius* (Fabricius, 1793)	Lycaenidae	Pahari et al, 2018
45	*Cigaritis ictis* (Hewitson, 1865)	Lycaenidae	Payra et al,2017
46	*Cigaritis lohita* (Horsfield, 1829)	Lycaenidae	Payra et al,2017
47	*Cigaritis vulcanus* (Fabricius, 1775)	Lycaenidae	Payra et al,2017

48	*Creon cleobis* (Godart, 1824)	Lycaenidae	Payra et al,2017
49	*Curetis thetis* (Drury, 1773)	Lycaenidae	Payra et al,2017
50	*Euchrysops cnejus* (Fabricius, 1798)	Lycaenidae	Payra et al,2017
51	*Iraota timoleon* (Stoll, 1790)	Lycaenidae	Payra et al,2017
52	*Jamides bochus* (Stoll, 1782)	Lycaenidae	Payra et al,2017
53	*Jamides celeno* (Cramer, 1775)	Lycaenidae	Payra et al,2017
54	*Lampides boeticus* (Linnaeus, 1767)	Lycaenidae	Payra et al,2017
55	*Leptotes plinius* (Fabricius, 1793)	Lycaenidae	Payra et al,2017
56	*Loxura atymnus* (Cramer, 1782)	Lycaenidae	Payra et al,2017
57	*Mahathala ameria* (Hewitson, 1862)	Lycaenidae	Payra et al,2017
58	*Neopithecops zalmora* (Butler, 1870)	Lycaenidae	Payra et al,2017
59	*Prosotas dubiosa* (Semper, 1879)	Lycaenidae	Payra et al,2017
60	*Prosotas nora* (Felder, 1860)	Lycaenidae	Payra et al,2017
61	*Pseudozizeeria maha* (Kollar, 1844)	Lycaenidae	Pahari et al, 2018
62	*Rapala iarbus* (Fabricius, 1787)	Lycaenidae	Payra et al,2017
63	*Rapala manea* (Hewitson, 1863)	Lycaenidae	Payra et al,2017
64	*Rathinda amor* (Fabricius, 1775)	Lycaenidae	Payra et al,2017
65	*Spalgis epeus* (Westwood, 1851)	Lycaenidae	Payra et al,2017
66	*Tarucus nara* (Kollar, 1848)	Lycaenidae	Payra et al,2017
67	*Virachola isocrates* (Fabricius, 1793)	Lycaenidae	Payra et al,2017
68	*Zizeeria karsandra* (Moore, 1865)	Lycaenidae	Payra et al,2017
69	*Zizeeria maha* (Kollar, 1844)	Lycaenidae	Payra et al,2017
70	*Zizina hylax* (Fabricius, 1775)	Lycaenidae	Pahari et al, 2018
71	*Zizina otis* (Fabricius, 1787)	Lycaenidae	Payra et al,2017
72	*Acraea violae* (Fabr)	Nymphalidae	Payra et al,2017
73	*Ariadne ariadne* (Linnaeus, 1763)	Nymphalidae	Payra et al,2017
74	*Ariadne merione* (Cramer, 1777)	Nymphalidae	Payra et al,2017
75	*Danaus chrysippus* (Linnaeus, 1758)	Nymphalidae	Payra et al,2017
76	*Danaus genutia* (Cramer, 1779)	Nymphalidae	Payra et al,2017
77	*Danaus melanippus* (Cramer, 1777)	Nymphalidae	Payra et al,2017
78	*Discophora sondaica* (Boisduval, 1836)	Nymphalidae	Payra et al,2017
79	*Elymnias hypermnestra* (Linnaeus, 1763)	Nymphalidae	Payra et al,2017
80	*Euploea core* (Cramer)	Nymphalidae	Jana et al, 2013
81	*Euploea klugii* (Moore, 1857)	Nymphalidae	Payra et al,2017
82	*Euploea sylvester* (Fabricius, 1793)	Nymphalidae	Pahari et al, 2018
83	*Euthalia aconthea* (Cramer, 1777)	Nymphalidae	Payra et al,2017
84	*Hypolimnas bolina* (Linnaeus, 1758)	Nymphalidae	Payra et al,2017
85	*Hypolimnas misippus* (Linnaeus, 1764)	Nymphalidae	Payra et al,2017
86	*Junonia almana* (Linnaeus, 1758)	Nymphalidae	Payra et al,2017
87	*Junonia atlites* (Linnaeus, 1763)	Nymphalidae	Payra et al,2017
88	*Junonia hierta* (Fabricius, 1798)	Nymphalidae	Payra et al,2017
89	*Junonia iphtia* (Cramer, 1779)	Nymphalidae	Payra et al,2017
90	*Junonia lemonias* (Linnaeus, 1758)	Nymphalidae	Payra et al,2017
91	*Junonia orithya* (Linnaeus, 1758)	Nymphalidae	Payra et al,2017
92	*Lethe europa* (Fabricius, 1775)	Nymphalidae	Payra et al,2017
93	*Melanitis leda* (Linnaeus, 1758)	Nymphalidae	Payra et al,2017
94	*Moduza procris* (Cramer, 1777)	Nymphalidae	Payra et al,2017
95	*Mycalesis mineus* (Linnaeus, 1758)	Nymphalidae	Payra et al,2017
96	*Mycalesis perseus* (Fabricius, 1775)	Nymphalidae	Pahari et al, 2018
97	*Neptis hylas* (Linnaeus, 1758)	Nymphalidae	Payra et al,2017
98	*Neptis jumbah* (Moore, 1857)	Nymphalidae	Payra et al,2017

99	*Neptis soma* Linnaeus , 1758	Nymphalidae	Chatterjee et al, 2025
100	*Parantica aglea* (Stoll, 1782)	Nymphalidae	Payra et al,2017
101	*Phalanta phalantha* (Drury, 1773)	Nymphalidae	Payra et al,2017
102	*Tirumala limniace* (Cramer, 1775)	Nymphalidae	Das et al, 2022
103	*Vanessa cardui* (Linnaeus, 1758)	Nymphalidae	Payra et al,2017
104	*Ypthima baldus* (Fabricius, 1775)	Nymphalidae	Payra et al,2017
105	*Ypthima huebneri* (Kirby, 1871)	Nymphalidae	Payra et al,2017
106	*Graphium agamemnon* (Linnaeus, 1758)	Papilionidae	Payra et al,2017
107	*Graphium doson* (Felder & Felder, 1864)	Papilionidae	Payra et al,2017
108	*Pachliopta aristolochiae* (Fabricius, 1775)	Papilionidae	Pahari et al, 2018
109	*Pachliopta hector* (Linnaeus, 1758)	Papilionidae	Payra et al,2017
110	*Papilio clytia* (Linnaeus, 1758)	Papilionidae	Payra et al,2017
111	*Papilio crino* (Fabricius, 1793)	Papilionidae	Payra et al,2017
112	*Papilio demoleus* (Linnaeus, 1758)	Papilionidae	Payra et al,2017
113	*Papilio polymnestor* (Cramer, 1775)	Papilionidae	Payra et al,2017
114	*Papilio polytes* (Linnaeus, 1758)	Papilionidae	Payra et al,2017
115	*Appias libythea* (Fabricius, 1775)	Pieridae	Payra et al,2017
116	*Appias olferna* Swinhoe, 1890	Pieridae	Hazra et al, 2015
117	*Belenois aurota* (Fabricius, 1793)	Pieridae	Payra et al,2017
118	*Catopsilia florella* (Fabricius, 1775)	Pieridae	Hazra et al, 2017
119	*Catopsilia pomona* (Fabricius, 1775)	Pieridae	Payra et al,2017
120	*Catopsilia pyranthe* (Linnaeus, 1758)	Pieridae	Payra et al,2017
121	*Cepora nerissa* (Fabricius, 1775)	Pieridae	Payra et al,2017
122	*Colotis amata* (Fabricius, 1775)	Pieridae	Payra et al,2017
123	*Delias eucharis* (Drury, 1773)	Pieridae	Payra et al,2017
124	*Eurema blanda* (Boisduval, 1836)	Pieridae	Payra et al,2017
125	*Eurema brigitta* (Stoll, 1780)	Pieridae	Payra et al,2017
126	*Eurema hecabe* (Linnaeus, 1758)	Pieridae	Payra et al,2017
127	*Ixias marianne* (Cramer, 1779)	Pieridae	Payra et al,2017
128	*Ixias pyrene* (Linnaeus, 1764)	Pieridae	Payra et al,2017
129	*Leptosia nina* (Fabricius, 1793)	Pieridae	Payra et al,2017
130	*Pareronia ceylanica* (C & R Felder, 1865)	Pieridae	Jana et al, 2006
131	*Pareronia hippia =Pareronia valeria* (Fabricius, 1787) = (Cramer, 1776)	Pieridae	Payra et al,2017
132	*Pieris canidia* (Linnaeus, 1768)	Pieridae	Pahari et al, 2018
133	*Prioneris clemanthe* Doubleday, 1846	Pieridae	Jana et al, 2006
134	*Trilocha varians* (Walker, 1855)	Bombycidae	Das et al, 2022
135	*Diaphania indica* (Saunders, 1851)	Crambidae	Das et al, 2022
136	*Cnaphalocrocis medinalis* (Guenee, 1854)	Crambidae	Das et al, 2022
137	*Leucinodes orbonalis*(Guenee, 1854)	Crambidae	Das et al, 2022
138	*Maruca vitrta* (Fabricius, 1787)	Crambidae	Das et al, 2022
139	*Scripophaga incertulas* (Walker, 1863)	Crambidae	Das et al, 2022
140	*Achaea janata* (Linnaeus, 1758)	Erebidae	Das et al, 2022
141	*Amata cyssea*(Stoll, 1782)	Erebidae	Das et al, 2022
142	*Amata passalis* (Fabricius, 1781)	Erebidae	Das et al, 2022
143	*Creatonotos transiens* (Walker, 1855)	Erebidae	Das et al, 2022
144	*Erebus macrops* (Linnaeus,1768)	Erebidae	Hazra et al, 2017
145	*Eressa confinis* (Walker, 1854)	Erebidae	Das et al, 2022
146	*Euchromia polymena* (Linnaeus, 1758)	Erebidae	Hazra et al, 2017
147	*Eudocima maternal*(Linnaeus, 1767)	Erebidae	Das et al, 2022
148	*Grammodes fuccboicus* (Fabricius, 1787)	Erebidae	Das et al, 2022

149	*Hulodes caranea* (Cramer,1780)	Erebidae	Hazra et al, 2017
150	*Hypopyra vespertilio* (Fabricius, 1787)	Erebidae	Das et al, 2022
151	*Mocis frugalis* (Fabricius, 1775)	Erebidae	Das et al, 2022
152	*Olepa ricini* (Fabricius, 1775)	Erebidae	Das et al, 2022
153	*Paramsacta moorei* (Butler,1875)	Erebidae	Hazra et al, 2017
154	*Rhesala moestalis* (Walker, 1866)	Erebidae	Das et al, 2022
155	*Syntomoides imaon* (Cramer, 1780)	Erebidae	Das et al, 2022
156	*Parasa lepida* (Cramer, 1799)	Limacodidae	Das et al, 2022
157	*Eumelea rosalia* (Stoll, 1781)	Geometridae	Das et al, 2022
158	*Hyperythra lutea* (Stoll, 1781)	Geometridae	Das et al, 2022
159	*Bastille arctotaenia* (Guenee,1852)	Noctuidae	Hazra et al, 2017
160	*Chalciope mygdon* (Cramer, 1777)	Noctuidae	Das et al, 2022
161	*Eutetheisa pulchelloides* (Hampson, 1907)	Noctuidae	Das et al, 2022
162	*Mocis frugalis* (Fabricius,1775)	Noctuidae	Hazra et al, 2017
163	*Spodoptera litura* (Fabricius, 1775)	Noctuidae	Das et al, 2022
164	*Spodoptera littoralis* (Boisduval,1833)	Noctuidae	Hazra et al, 2017
165	*Agrius convolvuli* (Linnaeuss, 1758)	Sphingidae	Das et al, 2022
166	*Daphnis nerii* (Linnaeus, 1758)	Sphingidae	Das et al, 2022
167	*Theretra boisduvalli* (Bugnion,1839)	Sphingidae	Hazra et al, 2017
168	*Theretra clotho* (Drury, 1773)	Sphingidae	Das et al, 2022
169	*Macroglossum gyrans* Walker,1856	Sphingidae	Hazra et al, 2017
170	*Creatonotos gangis* (Linnaeus, 1763)	Sphingidae	Hazra et al, 2017
171	*Endotricha mesenterialis* (Walker, 1859)	Pyralidae	Das et al, 2022
172	*Striglina scitaria* (Walker, 1862)	Thyrididae	Das et al, 2022

6. Order Odonata:

Dragonflies and damselflies, classified under the order Odonata, are hemimetabolous insects with predominantly aquatic nymphal stages and terrestrial adults. Odonates have been widely recognized as indicators of environmental quality in aquatic ecosystems due to their ecological requirements and sensitivity to habitat changes. These insects lay their eggs in or near freshwater, and their high abundance in an area is a reliable indicator of freshwater quality.Using odonates as bioindicators offers several advantages over chemical tests. Odonate diversity reflects environmental conditions over a particular period, providing a more comprehensive picture of ecosystem health. Additionally, monitoring odonate populations is cost-effective and has negligible or no negative impact on the environment.

Odonata from coastal areas of Purba Medinipur district is summarized based on published literature. So far, a total of 56 species of Odonata known from the entire coastal belt of Purba Medinipur (Table 2).

Table 2. List of dragon & damsel flies (Insecta: Odonata) known from the coastal belt of Purba Medinipur

Sl.no	Species	Family	Source
1	*Anaciaeschna jaspidea* (Burmeister, 1839)	Aeshnidae	Payra & Tiple,2019
2	*Anax guttatus* (Burmeister, 1839)	Aeshnidae	Pahari et al, 2019
3	*Gynacantha dravida* (Lieftinck, 1960)	Aeshnidae	Payra & Tiple,2019
4	*Gynacantha khasiaca* MacLachlan,1896	Aeshnidae	Payra & Tiple,2019
5	*Aciagrion pallidum* (Selys, 1891)	Coenagrionidae	Pahari et al, 2019

6	*Agriocnemis kalinga* (Nair & Subramanian, 2014)	Coenagrionidae	Pahari et al, 2019
7	*Agriocnemis lacteola* (Selys, 1877)	Coenagrionidae	Das et al, 2022
8	*Agriocnemis pygmaea* (Rambur, 1842)	Coenagrionidae	Pahari et al, 2019
9	*Ceriagrion cerinorubellum* (Brauer, 1865)	Coenagrionidae	Pahari et al, 2019
10	*Ceriagrion coromandelianum* (Fabricius, 1798)	Coenagrionidae	Pahari et al, 2019
11	*Ischnura aurora* (Brauer, 1865)	Coenagrionidae	Payra & Tiple,2019
12	*Ischnura mildredae* (Fraser, 1927)	Coenagrionidae	Pahari et al, 2019
13	*Ischnura senegalensis* (Rambur, 1842)	Coenagrionidae	Pahari et al, 2019
14	*Mortonagrion aborense* (Laidlaw, 1914)	Coenagrionidae	Payra & Tiple,2019
15	*Onychargia atrocyana* (Selys, 1865)	Coenagrionidae	Pahari et al, 2019
16	*Paracercion malayanum* (Selys, 1876)	Coenagrionidae	Payra & Tiple,2019
17	*Pseudagrion decorum* (Rambur, 1842)	Coenagrionidae	Payra & Tiple,2019
18	*Pseudagrion microcephalum* (Rambur, 1842)	Coenagrionidae	Payra & Tiple,2019
19	*Pseudagrion rubriceps* (Selys, 1876)	Coenagrionidae	Payra & Tiple,2019
20	*Ictinogomphus rapax* (Rambur, 1842)	Gomphidae	Payra & Tiple,2019
21	*Paragomphus lineatus* (Selys, 1863)	Gomphidae	Das et al, 2022
22	*Acisoma panorpoides* (Rambur, 1842)	Libellulidae	Payra & Tiple,2019
23	*Aethriamanta brevipennis* (Rambur, 1842)	Libellulidae	Payra & Tiple,2019
24	*Brachydiplax chalybea* (Brauer, 1868)	Libellulidae	Pahari et al, 2019
25	*Brachydiplax farinosa* (Krüger, 1902)	Libellulidae	Payra & Tiple,2019
26	*Brachydiplax sobrina* (Rambur, 1842)	Libellulidae	Pahari et al, 2019
27	*Brachythemis contaminata* (Fabricius, 1793)	Libellulidae	Jana et al, 2014a
28	*Bradinopyga geminata* (Rambur, 1842)	Libellulidae	Payra & Tiple,2019
29	*Crocothemis servilia* (Drury, 1770)	Libellulidae	Pahari et al, 2019
30	*Diplacodes nebulosa* (Fabricius, 1793)	Libellulidae	Payra & Tiple,2019
31	*Diplacodes trivialis* (Rambur, 1842)	Libellulidae	Pahari et al, 2019
32	*Lathrecista asiatica* (Fabricius, 1798)	Libellulidae	Payra & Tiple,2019
33	*Macrodiplax cora* (Brauer,1867)	Libellulidae	Payra & Tiple,2019
34	*Neurothemis fulvia* (Drury, 1773)	Libellulidae	Payra & Tiple,2019
35	*Neurothemis intermedia* (Rambur, 1842)	Libellulidae	Payra & Tiple,2019
36	*Neurothemis tullia* (Drury, 1773)	Libellulidae	Pahari et al, 2019
37	*Orthetrum pruinosum* (Burmeister,1839)	Libellulidae	Payra & Tiple,2019
38	*Orthetrum sabina* (Drury, 1770)	Libellulidae	Pahari et al, 2019
39	*Pantala flavescens* (Fabricius, 1798)	Libellulidae	Pahari et al, 2019
40	*Potamarcha congener* (Rambur, 1842)	Libellulidae	Pahari et al, 2019
41	*Potamarcha obscura* (Rambur,1890)	Libellulidae	Hazra et al, 2017
42	*Rhodothemis rufa* (Rambur,1842)	Libellulidae	Payra & Tiple,2019
43	*Rhyothemis variegata* (Linnaeus,1763)	Libellulidae	Jana et al, 2014a
44	*Tholymis tillarga* (Fabricius, 1798)	Libellulidae	Jana et al, 2014a
45	*Tramea basilaris* (Palisot de Beauvois, 1805)	Libellulidae	Payra & Tiple,2019
46	*Tramea limbata* (Desjardins, 1832)	Libellulidae	Payra & Tiple,2019

47	*Trithemis pallidinervis* (Kirby, 1889)	Libellulidae	Payra & Tiple,2019
48	*Trithemis aurora* (Burmeister,1839)	Libellulidae	Hazra et al, 2017
49	*Urothemis signata* (Rambur, 1842)	Libellulidae	Pahari et al, 2019
50	*Zyxomma petiolatum* Rambur, 1842	Libellulidae	Payra & Tiple,2019
51	*Lestes umbrinus* Selys,1891	Lestidae	Payra & Tiple,2019
52	*Lestes viridulus* Rambur, 1842	Lestidae	Payra & Tiple,2019
53	*Epophthalmia vittata* (Burmeister, 1839)	Macromiidae	Payra & Tiple,2019
54	*Copera ciliata* (Selys, 1863)	Platycnemididae	Pahari et al, 2019
55	*Copera marginipes* (Rambur, 1842)	Platycnemididae	Payra & Tiple,2019
56	*Pseudocopera ciliata* (Selys, 1863)	Platycnemididae	Payra & Tiple,2019

7. Order Hymenoptera:

Hymenoptera is one of the most numerous groups of insects, with many members familiar to everyone. The most widely recognized hymenopterans –bees, ants, and wasps or hornets – have long been part of art, ritual, and folklore world-wide. Hymenoptera occur in all terrestrial, and some aquatic habitats. Pollination by bees, fig wasps, and pollen wasps is the most beneficial role, without which many plants, including most crops, would disappear. Parasitism and predation of insects are important activities of many Hymenoptera that prevent numerous insects from becoming crops and forest pests. Many hymenopterans have been used successfully in biological control.

The current status of Hymenoptera in coastal areas of Purba Medenipur accounts only 46 species under 7 families of which 28 species are under family Formicidae. (Table 3).

Table 3. List of bees, wasps & ants (Insecta: Hymenoptera) known from the coastal belt of Purba Medinipur

Sl.no	Species	Family	Source
1	*Camponotus compressus* (Fabricius, 1787)	Formicidae	Jana et al, 2006
2	*Camponotus parius* Emery,1889	Formicidae	Hazra, 2018
3	*Camponotus irritans* (Smith, 1857)	Formicidae	Hazra, 2018
4	*Camponotus sericeus (Fabricius, 1798)*	Formicidae	Roy et al, 2018
5	*Crematogaster brunnea contemta* Mayer,1879	Formicidae	Hazra, 2018
6	*Crematogaster ebenina* Forel, 1902	Formicidae	Hazra, 2018
7	*Crematogaster diffusa* (Jerdon, 1851)	Formicidae	Hazra, 2018
8	*Crematogaster hodgsoni* Forel, 1902	Formicidae	Jana et al, 2006
9	*Crematogaster rogenhoferi* (Mayr, 1879)	Formicidae	Roy et al, 2018
10	*Crematogaster subnuda* Mayr, 1879	Formicidae	Roy et al, 2018
11	*Diacamma rugosum* (Le Guillou 1842)	Formicidae	Jana et al, 2021b
12	*Dolichoderus taprobanae (Smith,F., 1858)*	Formicidae	Roy et al, 2018
13	*Lepisiota opaca* (Forel, 1892)	Formicidae	Roy et al, 2018
14	*Leptogenys (labopelta) diminuta* (Fred. Smith,1858)	Formicidae	Hazra, 2018
15	*Leptogenys (labopelta) dentilobis* (Forel,1895)	Formicidae	Hazra, 2018
16	*Meranoplus bicolor* (Guérin-Méneville, 1844)	Formicidae	Jana et al. 2021b
17	*Monomorium floricola* (Jerdon, 1851)	Formicidae	Jana et al, 2006
18	*Monomorium pharohnis* (Forel, 1902)	Formicidae	Hazra, 2018
19	*Nylanderia indica (Forel, 1894)*	Formicidae	Roy et al, 2018
20	*Oecophylla smaragdina* Fabricius, 1775	Formicidae	Chatterjee et al, 2025
21	*Paratrechina longicornis* (Latreille,1802)	Formicidae	Hazra, 2018

22	*Polyrhachis rastellata* (Latreille,1802)	Formicidae	Roy et al, 2018
23	*Solenopsis geminata* (Fabricius, 1804)	Formicidae	Jana et al, 2006
24	*Solenopsis invicta* Buren, 1972	Formicidae	Hazra , 2018
25	*Tapinoma indicum* (Forel,1895)	Formicidae	Hazra, 2018
26	*Tetraponera (Tetraponera) allaborans* (Walker,1859)	Formicidae	Jana et al, 2006
27	*Tetraponera nigra* (Jerdon, 1851)	Formicidae	Hazra, 2018
28	*Tetraponera rufonigra* (Jerdon, 1851)	Formicidae	Hazra, 2018
29	*Dasymutilla occidentalis* (Linnaeus, 1758)	Mutillidae	Jana et al. 2021b
30	*Amegilla cingulata* (Fabricius, 1775)	Apidae	Chatterjee et al, 2025
31	*Apis cerana indica* (Fabricius, 1798)	Apidae	Jana et al, 2006
32	*Apis dorsata* Fabricius, 1793	Apidae	Jana et al, 2006
33	*Ceratina (Pithitis)binghami* Cockerell, 1908	Apidae	Chatterjee et al, 2025
34	*Xylocopa latipes* (Drury, 1773)	Apidae	Chatterjee et al, 2025
35	*Xylocopa pubescens* Spinola, 1838	Apidae	Chatterjee et al, 2025
36	*Allorhynchium metallicum* (Saussure, 1853)	Vespidae	Chatterjee et al, 2025
37	*Polistes olivaceus* DeGeer, 1773	Vespidae	Chatterjee et al, 2025
38	*Polistes stigma* (Fabricius, 1793)	Vespidae	Jana et al, 2012
39	*Rhynchium brunneum* Spinola, 1808	Vespidae	Chatterjee et al, 2025
40	*Ropalidia brevita* Das & Gupta,1989	Vespidae	Hazra et al, 2017
41	*Vespa affinis affinis* Linnaeus, 1764	Vespidae	Chatterjee et al, 2025
42	*Delta pyriforme* (Fabricius,1775)	Eumenidae	Hazra et al, 2017
43	*Campsomeriella collaris* (Fabricius,1775)	Scolidae	Hazra et al, 2017
44	*Micromeriella marginella marginella* (KIug, 1810)	Scolidae	Chatterjee et al, 2025
45	*Scolia (Discolia) affinis* Guérin-Méneville, 1845	Scolidae	Hazra et al, 2017
46	*Sceliphron madraspatnam madraspatnam* (Fabricius,1781)	Sphecidae	Chatterjee et al, 2025

8. Order Coleoptera:

The order Coleoptera includes the most diverse, ecologically well adapted and evolutionary successful animal group on earth. Their role in the functioning of the ecosystem is immense. While many of the beetles have harmful effects some are beneficial to mankind. The beetle diversity of coastal areas of Purba Medenipur is represented by 35 species under 12 families (Table 4).

Table 4. List of beetles (Insecta: Coleoptera) known from the coastal belt of Purba Medinipur

Sl.no	Species	Family	Source
1	*Aspidomorpha indica* (Boheman, 1775)	Chrysomelidae	Jana et al, 2006
2	*Cassida cruenta* Fabricius,1792	Chrysomelidae	Jana et al, 2021
3	*Platycorynus peregrinus* (Herbst, 1783)	Chrysomelidae	Jana et al, 2021

4	*Cryptocephalus vittipennis* (Suffrien, 1847)	Chrysomelidae	Jana et al, 2021
5	*Dicladispa armigera* (Olivier, 1808)	Chrysomelidae	Jana et al, 2006
6	*Tribolium castaneum* (Herbst, 1797)	Chrysomelidae	Jana et al, 2006
7	*Aulacophora foveicollis* (Lucas, 1849)	Chrysomelidae	Jana et al, 2006
8	*Bruchus analis* (Fabricius, 1781)	Chrysomelidae	Jana et al, 2021
9	*Coelophora unicolor* (Fabricius, 1792)	Coccinellidae	Jana et al, 2006
10	*Micraspis discolor* (Fabricius, 1798)	Coccinellidae	Jana et al, 2006
11	*Menochilus sexmaculata* (Fabricius, 1781)	Coccinellidae	Jana et al, 2006
12	*Coccinella transversalis* (Fabricius, 1781)	Coccinellidae	Jana et al, 2006
13	*Coccinella septempunctata* (Linnaeus, 1758)	Coccinellidae	Jana et al, 2006
14	*Pseudaspidimerus trinotatus* (Thunberg, 1781)	Coccinellidae	Jana et al, 2006
15	*Pullus nymphaeus* (Kapur & Munshi, 1970)	Coccinellidae	Jana et al, 2021
16	*Henosepilachna viginitioctopunctata* (Fabricius, 1775)	Coccinellidae	Jana et al, 2012
17	*Scymnus ceylonicus* Motschulsky, 1858	Coccinellidae	Giri et al, 2021
18	*Abscondita chinensis* (Linnaeus, 1767)	Lampyridae	Jana et al, 2021
19	*Hypocaccus sinae* (Marseul, 1862)	Histeridae	Giri et al, 2021
20	*Mylabris phalerata* (Pallas, 1781)	Mylabridae	Jana et al, 2021
21	*Epuraea* (*Haptoncus*) *concolor* Murray, 1864	Nitidulidae	Jana et al, 2021
22	*Epuraea (Haptoncus) ocularis* Fairmaire, 1849	Nitidulidae	Jana et al, 2021
23	*Cicindela (Hypaetha) biramosa* Fabricius, 1781	Carabidae	Giri et al, 2021
24	*Cicindela (Hypaetha) quadrilineata* Fabricius, 1781	Carabidae	Giri et al, 2021
25	*Diplocheila polita* (Fabricius, 1792)	Carabidae	Giri et al, 2021
26	*Dineutus (Protodineutus) indicus* Aube, 1938	Gyrinidae	Ghosh & Mandal, 2013
27	*Rhantaticus congestus* (Klug, 1833)	Dytiscidae	Ghosh & Mandal, 2013
28	*Sandracottus mixtus* (Blanchard, 1843)	Dytiscidae	Ghosh & Mandal, 2013
29	*Hydaticus (Prodaticus) mexaformis* Wewalka, 1979	Dytiscidae	Ghosh & Mandal, 2013
30	*Hydaticus (Prodaticus) satoi satoi* Wewalka, 1975	Dytiscidae	Ghosh & Mandal, 2013
31	*Sternolophus rufipes* (Fabricius, 1792)	Dytiscidae	Ghosh & Mandal, 2013
32	*Hydrophilus olivaceous* Fabricius, 1781	Hydrophilidae	Ghosh & Mandal, 2013
33	*Sternolophus rufipes* (Fabricius, 1792)	Hydrophilidae	Giri et al, 2021
34	*Paederus fuscipes* Curtis, 1826	Staphylinidae	Giri et al, 2021
35	*Canthydrus laetabilis* (Walker, 1858)	Noteridae	Giri et al, 2021

9. Order Orthoptera:

Among the Insects, Orthoptera constitute one of the most diverse groups and includes grasshoppers, locusts, katydids and crickets. They are mostly herbivorous feeding on different parts of plants, but some are omnivorous and sometimes carnivorous.

Based on literature, a total of 31 species under 6 families of Orthoptera are listed from the coastal blocks of Purba Medinipur district. (Table 5).

Table 5. List of Grasshoppers & crickets (Insecta: Orthoptera) known from the coastal belt of Purb Medinipur

Sl. no	Species	Family	Source
1	*Acrida exaltata* (Walker, 1859)	Acrididae	Das et al, 2018
2	*Diabolocatantops innotabilis* (Walker, 1870)	Acrididae	Das et al, 2018
3	*Leva indica* (Bolivar, 1902)	Acrididae	Jana et al, 2015
4	*Leva cruciata* Boliver, 1914	Acrididae	Hazra et al, 2004
5	*Morphacris fasciata* (Thunberg, 1815)	Acrididae	Das et al, 2018
6	*Oxya fuscovittata* (Marschall,1836)	Acrididae	Jana et al, 2006
7	*Oxya hyla* (Serville, 1831)	Acrididae	Jana et al, 2006
8	*Oxya nitidula (Walk, 1870)*	Acrididae	Hazra et al, 2017
9	*Anarcridium flavescens* (Fabricius, 1793)	Acrididae	Hazra et al, 2017
10	*Phlaeoba infumata* (Brunner von Wattenwyl, 1893)	Acrididae	Jana et al, 2006
11	*Spathosternum prasiniferum prasiniferum* (Walker, 1871)	Acrididae	Das et al, 2018
12	*Xenocatantops humilis* (Serville, 1839)	Acrididae	Das et al, 2018
13	*Ailopus thalassimus tamulus* (Fabricius, 1798)	Acrididae	Jana et al, 2012
14	*Oedaleus abruptus* (Thunberg, 1815)	Acrididae	Hazra et al, 2004
15	*Trilophidia annulata* (Thunberg, 1815)	Acrididae	Hazra et al, 2004
16	*Tristria pulvinata* (Uvarov, 1921)	Acrididae	Hazra et al, 2004
17	*Eyprepocnemis alacris alacris* (Serville, 1839)	Acrididae	Hazra et al, 2004
18	*Catantops pinguis innotabilis* (Walker, 1870)	Acrididae	Hazra et al, 2004
19	*Cyrtacanthaeris tatariea* (Linnaeus,1758)	Acrididae	Hazra et al, 2004
20	*Euscyrtus* (Osus) *hemelytrus* (Hann, 1842)	Gryllidae	Das et al, 2018
21	*Tarbinskiellus orientalis* (Fabricius, 1775)	Gryllidae	Das et al, 2018
22	*Atractomorpha crenulata* (Fabricius, 1793)	Pyrgomorphidae	Jana et al, 2006

23	*Chrotogonus* (*Chrotogonus*) *trachypterus trachypterus* (Blanchard, 1836)	Pyrgomorphidae	Das et al, 2018
24	*Hedotettix gracilis* (de Hann, 1842)	Tetrigidae	Jana et al, 2006
25	*Conocephalus* (Anisoptera) *maculatus* (Le Guillou, 1841)	Tettigoniidae	Das et al, 2018
26	*Euconocephalus pallidus (Redtenbacher, 1891)*	Tettigonidae	Hazra et al, 2017
27	*Holochlora indica* (Kirby, 1906)	Tettigoniidae	Jana et al, 2006
28	*Letana bulbosa* Ingrisch, 1990	Tettigoniidae	Das et al, 2018
29	*Polionemobius taprobanensis* (Walker,1869)	Trigonidiidae	Das et al, 2018
30	*Pteronemobius* (Pteronemobius) *heydenii concolor* (Walker, 1871)	Trigonidiidae	Das et al, 2018
31	*Trigonidium humbertianum* (Saussure, 1878)	Trigonidiidae	Das et al, 2018

10. Order Diptera:

The Diptera are commonly known as "True flies" and include many familiar insects such as mosquitoes, flies (black flies, fruit flies, blow flies, house flies etc.), midges (biting, non-biting), gnats (fungus, root), keds, bots etc. This diversity of names denotes the importance of the group and reflects the range of organisms in order.

The present overview represents 20 species under 11 families of Diptera recorded from the coastal blocks of Purba Medinipur district (Table 6).

Table 6. List of flies, midges & mosquitoes (Insecta: Diptera) known from the coastal belt of Purb Medinipur

Sl.no	Species	Family	Source
1	*Microchrysa flaviventris* (Wiedemann, 1824)	Stratiomyidae	Mitra et al, 2002
2	*Tabanus (Tabanus) striatus* Fabricius, 1787	Tabanidae	Mitra et al, 2002
3	*Philodicus femoralis* Ricardo, 1921	Tabanidae	Mitra et al, 2002
4	*Lonchoptera guptai* Joseph & Parui,1981	Lonchopteridae	Mitra et al, 2002
5	*Allobaccha amphithoe* (Walker, 1849)	Syrphidae	Chatterjee et al, 2025
6	*Ischiodon scutellaris* (Fabricius, 1805)	Syrphidae	Mitra et al, 2002
7	*Eristalinus arvorum* (Fabricius,1787)	Syrphidae	Mitra et al, 2002
8	*Episyrphus balteatus* (De Geer, 1776)	Syrphidae	Mitra & Parui, 2002
9	*Australosepsis frontalis* (Walker,1860)	Sepsidae	Mitra et al, 2002
10	*Dicranosepsis bicolor* (Wiedemann,1830)	Sepsidae	Mitra et al, 2002
11	*Sepsis indica* Wiedemann, 1824	Sepsidae	Mitra et al, 2002
12	*Ochthera brevitibialis* de meijre,1908	Ephydridae	Mitra et al, 2002
13	*Musca domestica* Linnaeus, 1758	Muscidae	Mitra et al, 2002
14	*Neomya indica* (Robineau-Desvoidy, 1830)	Muscidae	Mitra et al, 2002
15	*Chrysomya megacephala* (Fabricius, 1794)	Calliphoridae	Mitra et al, 2002
16	*Stomorhina discolor* (Fabricius, 1794)	Calliphoridae	Mitra et al, 2002

17	*Hemipyrellia pulchra* (Wiedemann,1830)	Calliphoridae	Mitra & Parui, 2002
18	*Thelaira Macropus* (Wiedemann, 1830)	Tachinidae	Mitra et al, 2002
19	*Sarcophaga parasacophaga hirtipes* Wiedemann, 1830	Sarcophagidae	Chatterjee et al, 2025
20	*Nephrotoma consimilis (Brunetti,* 1911*)*	Tipulidae	Hazra et al, 2017

11.Order Hemiptera:

Hemiptera is commonly called true bugs, but also known as the cicadas, aphids, planthoppers, leafhoppers, assassin bugs, bed bugs and shield bugs. Hemiptera is one of the largest insect orders, which plays an important role in both natural and anthropogenic ecosystems. Numerous phytophagous hemipterans cause serious damage to agriculture and forestry, whereas some predatory species are widely used as biocontrol agents. Therefore, investigations conducted on Hemiptera are of interest for both fundamental and applied entomology.

Perusal of the literature revealed about 18 species under 9 families of Hemiptera recorded from the coastal blocks of Purba Medinipur district (Table 7).

Table 7. List of bugs (Insecta: Hemiptera) known from the coastal belt of Purb Medinipur

Sl.no	Species	Family	Source
1	*Krishna strigicollis* Spinola, 1839	Cicadellidae	Jana et al, 2014b
2	*Neodartus acocephaloides* Melichar, 1903	Cicadellidae	Jana et al, 2014b
3	*Nephotettix virescens* (Distant, 1908)	Cicadellidae	Jana et al, 2014b
4	*Nezara viridula* (Linnaeus, 1758)	Pentatomidae	Jana et al, 2014b
5	*Agonoscelis nubilis* Fabricius, 1775	Pentatomidae	Jana et al, 2014b
6	*Piezodorus rubrofasciatus* (Fabricius,1775)	Pentatomidae	Hazra et al, 2017
7	*Eysarcoris guttiger* (Thunberg, 1783)	Pentatomidae	Jana et al, 2014b
8	*Metochus uniguttatus* (Thunberg, 1822)	Rhyparochromidae	Jana et al, 2014b
9	*Leptocorisa acuta* (Thunberg, 1783)	Alydidae	Jana et al, 2014b
10	*Chrysochoris purpureus* (Westwood, 1837)	Scutellaridae	Jana et al, 2014b
11	*Chrysocoris stolli* (Wolff, 1801)	Scutellaridae	Mitra et al, 2017
12	*Ptyelus nebulosus* (Turton, 1802)	Aphrophoridae	Jana et al, 2006
13	*Clovia conifera* (Walker, 1851)	Aphrophoridae	Mitra et al, 2017
14	*Clovia* puncta (Walk,1851)	Aphrophoridae	Hazra et al, 2017
15	*Spilothes hospes* (Fabricius, 1794)	Lygaeidae	Jana et al, 2006
16	*Tropidothorax fimbriatus* (Dallas, 1852)	Lygaeidae	Mitra et al, 2017
17	*Cletus punctulatus* (Westwood, 1842)	Coreidae	Mitra et al, 2017
18	*Megacopta cribraria* (Fabricius, 1798)	Plataspidae	Hazra et al, 2017

12. Order Blattodea:

In the light of the recent morphological and molecular phylogenetic studies, termites are considered closely related to cockroaches and hence Isoptera has been treated as an infraorder under Blattodea.

The perusal of the literature revealed that only one species of cockroach and one species termite is recorded from the coastal blocks of Purba Medinipur district (Table 8).

Table 8. List of cockroaches & termites (Insecta: Blattodea) known from the coastal belt of Purb Medinipur

Sl.no	Species	Family	Source
1	*Balta chopardi* Princis, 1969	Ectobliidae	Mitra et al, 2017

2	*Odontotermes hainanensis* (Light, 1924)	Termitidae	Sengupta et al, 2022

13. Order Araneae:

Spiders of the order Araneae truly are fascinating creatures. Their unique characteristics, such as eight legs, silk-producing spinnerets, and venomous fangs, distinguish them from other arachnids and underscore their role as formidable predators in the agricultural ecosystem. Their ability to regulate insect pests naturally is invaluable for maintaining the balance in such environments.

It's intriguing to learn that 50 species under 11 families of spiders have been recorded from this coastal belt. This diversity highlights the rich and varied ecosystem in the region. It must be quite exciting to study such a wide range of spider species and their ecological roles.

Table 9. List of spiders (Insecta: Araneae) known from the coastal belt of Purb Medinipur

Sl.no	Species	Family	Source
1	*Araneus mitificus* (Simon,1886)	Araneidae	Das et al, 2022
2	*Argieope catenulata* (Doleschall,1859)	Araneidae	Das et al, 2022
3	*Argiope aemula* (Walckenaer, 1841)	Araneidae	Das et al, 2022
4	*Cyclosa hexatuberculata* (Tikader,1881)	Araneidae	Das et al, 2022
5	*Cyclosa bifida* (Doleschall,1859)	Araneidae	Das et al, 2022
6	*Cyrtarachne ixoides* (Simon,1870)	Araneidae	Das et al, 2022
7	*Cyrtophora cicatrosa* Stoliczka,1869	Araneidae	Das et al, 2022
8	*Eriovixia excelsa* (Simon,1889)	Araneidae	Das et al, 2022
9	*Eriovixia laglaizei* (Simon,1877)	Araneidae	Das et al, 2022
10	*Gasteracantha hasselti* (C.L.Koch ,1837)	Araneidae	Das et al, 2022
11	*Gasteracantha kuhli* (C.L. Kuch,1837)	Araneidae	Das et al, 2022
12	*Neoscona mukerji* (Tikader,1980)	Araneidae	Das et al, 2022
13	*Neoscona subfuska* (C.L.Kuch , 1837)	Araneidae	Das et al, 2022
14	*Neoscona theisi* (Walckenaer, 1841)	Araneidae	Das et al, 2022
15	*Neoscona vigilans* (Blackwall, 1865)	Araneidae	Das et al, 2022
16	*Nephila pilipes* (Fabricius ,1793)	Araneidae	Das et al, 2022
17	*Parawixia dehaani* (Doleschall,1859)	Araneidae	Das et al, 2022
18	*Hersilia savignyi* (Lucas, 1836)	Hersiliidae	Das et al, 2022
19	*Oxyopes sunandae* (Tikader,1970)	Oxyopidae	Das et al, 2022
20	*Oxyopes shweta* (Tikader, 1970)	Oxyopidae	Das et al, 2022
21	*Peucetia viridana* (Stoliczka, 1869)	Oxyopidae	Das et al, 2022
22	*Crossopriza lyoni* (Blackwall, 1867)	Pholcidae	Das et al, 2022
23	*Brettus cingulatus* (Thorell, 1859)	Salticidae	Das et al, 2022
24	*Carrhotus viduus* (C.L. Koch, 1846)	Salticidae	Das et al, 2022
25	*Chrysilla volupi* (Thorell,1887)	Salticidae	Das et al, 2022
26	*Hasarius adansoni* (Adounin,1826)	Salticidae	Das et al, 2022
27	*Hyllus semicupreus* (Simon,1885)	Salticidae	Das et al, 2022
28	*Menemerus bivitatus* (Dufour, 1831)	Salticidae	Das et al, 2022
29	*Menemerus fulvus* (L. Koch, 1878)	Salticidae	Das et al, 2022
30	*Myrmaplata plataleoides* (O. Pickard-Cambridge, 1869	Salticidae	Das et al, 2022
31	*Myrmarachne melanocephala* (MacLeay, 1839)	Salticidae	Das et al, 2022
32	*Phintella vittata* (C.L.Koch,1846)	Salticidae	Das et al, 2022
33	*Plexippus paykulli* (Audouin,1826)	Salticidae	Das et al, 2022

34	*Plexippus petersi* (Karsch, 1878)	Salticidae	Das et al, 2022
35	*Rhene danieli* (Tikader, 1973)	Salticidae	Das et al, 2022
36	*Rhene rubigera* (Thorell, 1887)	Salticidae	Das et al, 2022
37	*Siler semiglaucus* (Simon, 1901)	Salticidae	Das et al, 2022
38	*Telamonia dimidiata* (Simon,1899)	Salticidae	Das et al, 2022
39	*Thiania bhamoensis* (Thorell, 1887)	Salticidae	Das et al, 2022
40	*Thyene imperialis* (Rossi, 1846)	Salticidae	Das et al, 2022
41	*Scytodes pallida* (Doleschall, 1859)	Scytodidae	Das et al, 2022
42	*Heteropoda venatoria* (Linnaeus, 1767)	Sparassidae	Das et al, 2022
43	*Olios lamarcki* (Latreille, 1806)	Sparassidae	Das et al, 2022
44	*Olios milleti* (Pocock,1901)	Sparassidae	Das et al, 2022
45	*Leucage decorata* (Blackwall,1864)	Tetragnathidae	Das et al, 2022
46	*Tetragnatha ceylonica* (O. Pickard-Cambridge, 1869)	Tetragnathidae	Das et al, 2022
47	*Tetragnatha javana* (Thorell, 1890)	Tetragnathidae	Das et al, 2022
48	*Argyrodes flavescences* (O. P. -Cambridge, 1880)	Theridiidae	Das et al, 2022
49	*Thomisus lobosus* (Tikader, 1965)	Thomisidae	Das et al, 2022
50	*Zosis geniculata* (Olivier, 1789).	Uloboridae	Das et al, 2022

14. Discussion:

The coasts of India encompass a wide variety of diverse habitats and ecosystems, including estuaries, coral reefs, seagrass beds, mangrove swamps, creeks, backwaters, lagoons, bays, cliffs, and both sandy and rocky beaches. The eastern coastline of India, characterized by its varying physiographic, ecological, and sociocultural features, is frequently disturbed by numerous hazards (Kantamaneni et al. 2019; Karuppusamy et al. 2021). The coastal ecosystem is gradually depleting due to urbanization and the expansion of both agricultural and aquacultural practices.

Understanding the fauna, particularly insects and spiders, of any region is essential for studying biodiversity and the environment. A comprehensive and up-to-date list of insects and spiders with their valid scientific names is crucial for planning a long-term strategy for the welfare of the human population.

Altogether, 380 species across 8 orders of insects and 50 species of spiders belonging to 11 families are known from the coastal areas of the Purba Medinipur district. This communication reveals that these areas are severely data deficient in terms of both overall insect and spider diversity, as well as their functional roles in the ecosystem. A thorough survey of these areas will likely yield interesting results regarding insect-plant-human interactions."

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