



E-ISSN: 2320-7078

P-ISSN: 2349-6800

JEZS 2017; 5(6): 2307-2312

© 2017 JEZS

Received: 17-09-2017

Accepted: 23-10-2017

A Rahman

Department of Entomology,
Assam Agricultural University
Jorhat India

M Bathari

Department of Entomology,
Assam Agricultural University
Jorhat India

P Borah

Department of Entomology,
Assam Agricultural University
Jorhat India

RR Teye

Department of Entomology,
Assam Agricultural University
Jorhat India

P Patgiri

Department of Entomology,
Assam Agricultural University
Jorhat India

Correspondence

A Rahman

Department of Entomology,
Assam Agricultural University
Jorhat India

Diversity of insect species along with their host in Assam Agricultural University, Jorhat

A Rahman, M Bathari, P Borah, RR Teye and P Patgiri

Abstract

A survey was conducted to study the diversity of insect species between 2013-14 to 2015-16 in Assam Agricultural University, Jorhat. Geographically, Jorhat is located at 116 Meters (381 ft) above MSL and 26.75°N latitude and 94.22°E longitude. Insect specimens were collected from different ecosystems of Assam Agricultural University, Jorhat. The result of the diversity study revealed that Coleoptera (64 species) dominated the other insect fauna followed by Lepidoptera (38 species), Diptera (25 species) Hymenoptera (22 species), Odonata (19 species) and Hemiptera (11 species). All total 179 insect species were collected and the species were identified with the help of existing literature. On the whole, the experimental site showed a high diversity of insect species. The presence of different insect species is the indication that the studied site has a good potential resource for better cultivation. The knowledge compiled here will provide useful information for future studies aiming to understand more deeply the processes of speciation and faunal formation of insects in Jorhat.

Keywords: Diversity, Abundance of insect species, AAU, Jorhat, Assam, India

1. Introduction

Insects are the most diverse and plentiful invertebrate on the planet. Insects are essential in the ecosystem by helping in nutrient recycling through leaf litter and wood degradation, carrion and dung disposal, and soil turnover. They play a major role in plant pollination and maintenance of plant community composition and structure via phytophagy^[1]. These are important for balancing and functioning the ecosystem. Roughly 1.5 million valid species of all organisms have been named and described. Less than 0.5 percentage of the total number of the known insects are considered pests, and only a few of them can be serious menace to people^[2]. Insect pest are undoubtedly the most adapted form of life as their total numbers far exceed that of any other animal category. The majority of insect are directly important to human and the environment as several insect species are predators or parasitoids on other harmful pest; other are pollinators, decomposers of organic matter or producers of valuable products such as honey or silk. Many insects pollinate plants, contribute to the decay of organic matter and the cycling of soil nutrients, and attack other insects and mites that are considered to be pests.

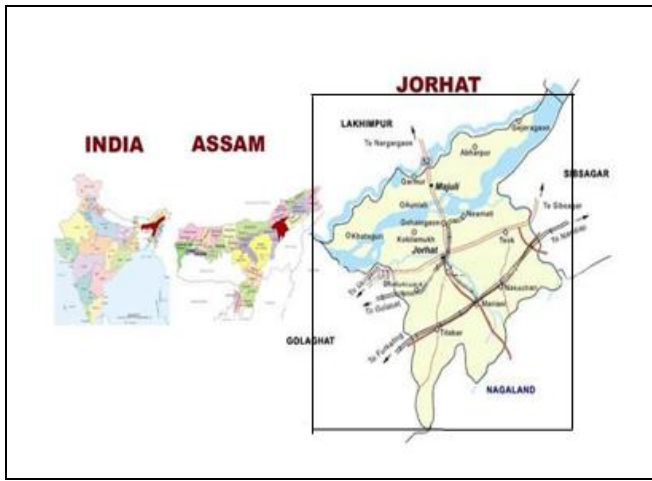
Keeping in view the importance of presence of insect diversity, a faunal survey was carried out at Assam Agricultural University, Jorhat campus in order to record the faunal biodiversity in selected habitats.

2. Material and Methods

2.1. Location, Constitution and Area

A survey was carried out to find the different insect fauna of Jorhat district in field and horticultural crop ecosystem Assam Agricultural University (AAU), Jorhat which belongs to Upper Brahmaputra Valley Zone of Assam. Diversity of insect showed various patterns due to difference in climatic condition and interaction between different ecosystems.

Survey sites were chosen based on accessibility and location within an eco-region. Study was conducted during the period from August 2013 to February 2016. Jorhat district is located at 26.75°N and 94.22°E and has an average elevation of 116 Meters (381 ft) and in Semi-Arid region with summer temperature: 25°–35°C and winter temperature: 22°–10°C.



Coordinates: 26.75°N and 94.22°E

Fig 1: Map showing the location of Jorhat (Source: www.google.com)

2.2. Methods adopted for the study

2.2.1 Collection

Collections of various insects were made from different locations of A.A.U campus of different habitats. The localities chosen for the collection of different insect comprises agricultural land, soil and forest. The insect collections were made in the early hours and evening hours because insects are usually active at early hours of the day and some at found at night.

2.2.2 Methods of collection

a) Insect collecting net: Insect collecting net was used to collect active flying insects. Insects trapped in the insect collecting net were first killed by the vapour of killing agent to facilitate collection.

b) Light trap: Positively phototaxis insects were collected from near various light sources, Locations of four intensive study sites selected in different areas are shown in the map.

c) Hand picking: Barks from tree were collected by hand picking for insects like leaf miner. Soil arthropods were also collected by hand picking and using berlese funnel.

2.2.3 Preservation for Taxonomic Study

Different aspects like pinning of insects, location of pinning, spreading and mounting of insect specimens were done before going for taxonomic study. The purpose of a taxonomic key is to facilitate identification of a specimen. The goal was achieved by presenting subsequent appropriate diagnostic characters in a series of alternative choices with dichotomous characters [3].

3. Results and Discussion

In the present study, different major insect species belongs to 6 orders, 61 family and 182 species (Table.1) were listed and documented. The species were collected from different ecosystem and host plants and their habitat has been mentioned in Table 1. Most of insect fauna were collected

from the plant ecosystem and some from soil ecosystem and few belong to aquatic ecosystem.

The order Coleoptera was dominant with 64 species followed by the order Lepidoptera with 38 species, Diptera with 25 species, Hymenoptera with 22, Odonata with 19 species and Hemiptera with 11 numbers of species, respectively. Similar studies were made by Mayr, and Sharmah *et al.* [3, 4]. A study on the diversity and distribution pattern of Hymenopteran insects in Jorhat district, Assam, reported hymenopteran insects belonging to 21 families, 42 genera, and 50 species [5]. Bora and Meitei studied on diversity of butterflies (Order: Lepidoptera) in Assam University campus, Cachar district, Assam and reported a total of 96 species of butterflies belonging to 68 genera and 5 families and they observed that the family Nymphalidae represented by 23 genera and 34 species was the most dominant family [6]. A total of 31 species belonging to 18 families of 5 order of aquatic insect community have been reported from deepor beel, Assam [7]. They found 17 species and 8 families of the order Hemiptera showing the largest order in terms of aquatic insect diversity followed by order Coleoptera having 7 species and 5 families. Borah *et al.* studied diversity of dipteran insects in Jorhat District of Assam and they reported occurrence of Dipterans belonging to 15 families, 20 genera and 12 described species [8]. A total of 44 species of scarabs under 6 sub families and 21 genera were identified in Assam, northeast India from 2007-2013, out of which 41 species are new records [9]. 17 species of dragonflies belonging to family Libellulidae have been reported from two different ecosystems in and around Assam University, Silchar where Orthetrum genus was most abundant of all [10]. Such study not only contributed to the faunal diversity but also helps in utilization and conservation of insect fauna for welfare of mankind. The potential number of insect species present in the study area indicates that Jorhat is an ideal home for insects. The species represented the insect fauna of North-East India.

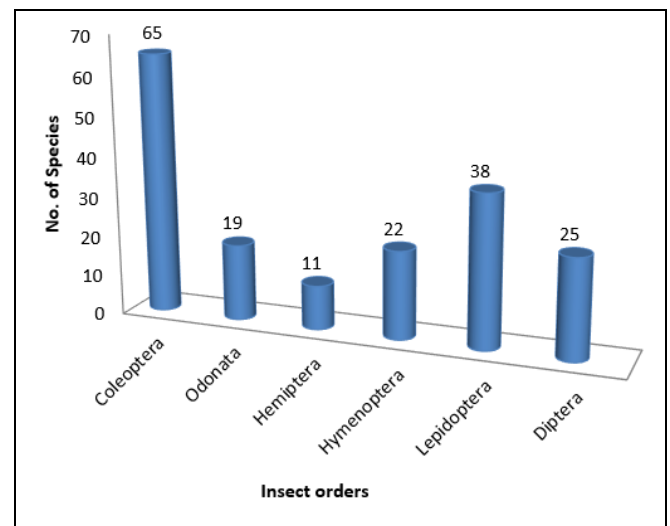


Fig 2: Number of Species distribution under different orders

Table 1: Diversity of Insect fauna along with host in Jorhat district of Assam

Sl. No	Common name	Scientific name	Order	Family	Host	Habitat
1	Chapers beetle	<i>Anomala chromosma</i>	Coleoptera	Rutelidae	<i>Terminalia</i> sp.	Plant ecosystem
2		<i>Apogonia blanchardi</i>	Coleoptera	Melolonthidae	Hibiscus	Plant ecosystem
3		<i>Anomala perplexa</i>	Coleoptera	Rutelidae	-	Soil ecosystem
4		<i>Anomala chloropus</i>	Coleoptera	Rutelidae	-	
5		<i>Anomala dorsalis</i> (Fab)	Coleoptera	Rutelidae	Rose	Plant ecosystem

6	Rhinoceros beetle	<i>Oryetes species</i>	Coleoptera	Scarabaeidae	Pest of Coconut	Plant ecosystem
7	Scarab beetle	<i>Anomala dimidiata</i>	Coleoptera	Rutelidae	-	Soil ecosystem
8		<i>Schizonycha ruficollis</i>	Coleoptera	Melolonthidae	Agar tree	Plant ecosystem
9		<i>Sophrops species</i>	Coleoptera	Melolonthidae	-	Soil ecosystem
10	Dung beetle	<i>Onitis philemon</i>	Coleoptera	Scarabaeidae	-	Soil ecosystem
11		<i>Onthophagus species</i>	Coleoptera	Scarabaeidae	-	Soil ecosystem
12		<i>Catharsius molossus L.</i>	Coleoptera	Scarabaeidae	-	Soil ecosystem
13	Lawn beetle	<i>Heteronychus</i>	Coleoptera	Scarabaeidae	Sugarcane	Plant ecosystem
14	White grub	<i>Apogonia species</i>	Coleoptera	Melolonthidae	Hibiscus	Plant ecosystem
15		<i>Holotrichia serrata</i>	Coleoptera	Scarabaeidae	Sugarcane	Plant ecosystem
16	Red pumpkin beetle	<i>Aulocophora favicollis</i>	Coleoptera	Chrysomelidae	Pumpkin	Plant ecosystem
17	Crucifer flea beetle	<i>Phyllotreta cruciferae</i>	Coleoptera	Chrysomelidae	Mustard	Plant ecosystem
18	Flea beetle	<i>Chaetocnema species</i>	Coleoptera	Chrysomelidae	Rice	Plant ecosystem
19	Rice hispa	<i>Dicladispa armigera</i>	Coleoptera	Chrysomelidae	Rice	Plant ecosystem
20	Fruit Scaring beetle	<i>Colaspis hypochlora</i>	Coleoptera	Chrysomelidae	Banana	Plant ecosystem
21	Trunk borer	<i>Batocera species rubus</i>	Coleoptera	Cerambycidae	Mango,	Plant ecosystem
22		<i>Stromatium barbatum</i>	Coleoptera	Cerambycidae	Teak	Plant ecosystem
23		<i>Batocera rufomaculata</i>	Coleoptera	Cerambycidae	Mango	Plant ecosystem
24	Rice weevil	<i>Sitophilus oryzae</i>	Coleoptera	Curculionidae	Rice grain	Plant ecosystem
25	Brucid	<i>Callosobruchus chinensis</i>	Coleoptera	Chrysomelidae	Stored grain seed	-
26	Lady bird beetle	<i>Coccinella species</i>	Coleoptera	Coccinellidae	Sesamum	Plant ecosystem
27		<i>C. septempunctata</i>	Coleoptera	Coccinellidae	Okra	Plant ecosystem
28		<i>Monochilus sp.</i>	Coleoptera	Coccinellidae	Mustard, cucumber	Plant ecosystem
29		<i>Coccinella californica</i>	Coleoptera	Coccinellidae	Chilli	Plant ecosystem
30		<i>Micraspis discolor</i>	Coleoptera	Coccinellidae	Sugarcane	Plant ecosystem
31		<i>Harmonia dimidiata</i>	Coleoptera	Coccinellidae	Black gram	Plant ecosystem
32	Transverse ladybird beetle	<i>Coccinella transversalis</i>	Coleoptera	Coccinellidae	Pegion pea	Plant ecosystem
33	Asian lady bird	<i>Harmonia species</i>	Coleoptera	Coccinellidae	Rose	Plant ecosystem
34	Epilachna beetle	<i>Epilachna dudecostigma</i>	Coleoptera	Coccinellidae	Cowpea	Plant ecosystem
35	Lighting bug(Firefly)	<i>Photurens sp.</i>	Coleoptera	Lamyridae	-	Soil ecosystem
36	Citrus trunk borer	<i>Batocera rufomaculata</i>	Coleoptera	Cerambycidae	Citrus	Plant ecosystem
37	Metallic beetle	<i>Agrilus sp.</i>	Coleoptera	Buprestidae	-	Plant ecosystem
38	Large diving beetle	<i>Dytiscus verticalis</i>	Coleoptera	Dytiscidae	Rice field	Plant ecosystem
39	Jujubee beetle	<i>Adoretus pallens</i>	Coleoptera	Scarabaeidae	Jujubee plant	Plant ecosystem
40		<i>Lepidiota manseuta</i>	Coleoptera	Melolonthidae	Jujubee plant	Plant ecosystem
41		<i>Xylotrupe gideon</i>	Coleoptera	Scarabaeidae	Jujubee plant	Plant ecosystem
42		<i>Shenophorus maidis</i>	Coleoptera	Curculionidae	Jujubee plant	Plant ecosystem
43	Shiny flea beetle	<i>Asphaera lustrans</i>	Coleoptera	Chrysomelidae	Green gram	Plant ecosystem
44	Shiny green beetle	<i>Cetonia aurata</i>	Coleoptera	Scarabaeidae	Okra	Plant ecosystem
45	Blister beetle	<i>Mylabris pustulata</i>	Coleoptera	Meloidae	Green gram	Plant ecosystem
46	Tortoise beetle	<i>Charidotella sexpunctata</i>	Coleoptera	Chrysomelidae	Pumpkin	Plant ecosystem
47	Water scavenger beetle	<i>Hydrophilus sp.</i>	Coleoptera	Hydrophilidae	Water	Aquatic ecosystem
48	Rhinoceros beetle	<i>Xylotrupes ulyssees</i>	Coleoptera	Scarabaeidae	Coconut	Plant ecosystem
49	Six spotted tiger beetle	<i>Cicindela sexguttata</i>	Coleoptera	Carabidae	Brinjal	Plant ecosystem
50	Trunk borer	<i>Stromatium barba</i>	Coleoptera	Cerambycidae	Mango	Plant ecosystem
51	Red palm beetle	<i>Rhynchophorus furrugineus</i>	Coleoptera	Curculionidae	Palm tree	Plant ecosystem
52	Vadalia beetle	<i>Neochitina bruchi</i>	Coleoptera	Curculionidae	Water hycinth	Aquatic ecosystem
53	Whirling beetle	<i>Dineutes discolor</i>	Coleoptera	Gyrinidae	-	Aquatic ecosystem
54	Green leaf weevil	<i>Polydrusus sericeus</i>	Coleoptera	Curculionidae	Guava	Plant ecosystem
55	June beetle	<i>Phyllophaga sp.</i>	Coleoptera	Scarabaeidae	-	Soil ecosystem
56	Stag beetle	<i>Odontolabis cuvera</i>	Coleoptera	Lucanidae	-	Soil ecosystem
57	Tan beetle	<i>Phaleria testacea</i>	Coleoptera	Scarabaeidae	-	Soil ecosystem
58		<i>Cyclocephala lurida</i>	Coleoptera	Scarabaeidae	-	Sugarcane
59	Brown cockchafer	<i>Rhopaea magnicornis</i>	Coleoptera	Scarabaeidae	-	Soil ecosystem
60	Ground beetle	<i>Chlaerius sericeus</i>	Coleoptera	Carabidae	-	Soil ecosystem
61		<i>Pheropsophus occipitalis</i>	Coleoptera	Carabidae	-	Soil ecosystem
62		<i>Pterostichus melanarius</i>	Coleoptera	Carabidae	-	Soil ecosystem
63		<i>Carabus nemoralis</i>	Coleoptera	Carabidae	-	Soil ecosystem
64		<i>Scarites subterraneus</i>	Coleoptera	Carabidae	-	Soil ecosystem
65	Common clubtail	<i>Ictinogomphus rapax</i>	Odonata	Gomphidae	-	Pond ecosystem
66	Blue dasher	<i>Brachydiplax chalybea</i>	Odonata	Libellulidae	-	Pond ecosystem
67	Brown danner	<i>Gynacantha dravida</i>	Odonata	Aeshnidae	-	Pond ecosystem

68	Green Marsh Hawk (Slender skimmer)	<i>Orthetrum sabina</i>	Odonata	Libellulidae	-	Pond ecosystem
69	Ruddy Marsh skimmer	<i>Crocothemis servilia</i>	Odonata	Libellulidae	-	Pond ecosystem
70	Pigmy skimmer	<i>Tetrathemis platyptera</i>	Odonata	Libellulidae	-	Pond ecosystem
71	Ditch Jewel	<i>Brachythemis contaminata</i>	Odonata	Libellulidae	-	Pond ecosystem
72	Black tipped percher	<i>Diplacodes nebulosa</i>	Odonata	Libellulidae	-	Pond ecosystem
73	Crimson tailed Marsh Hawk	<i>Orthetrum pruinosum</i>	Odonata	Libellulidae	-	Pond ecosystem
74	Fulvous forest skimmer	<i>Neuhothemis fulvia</i>	Odonata	Libellulidae	-	Pond ecosystem
75	Common picture wing	<i>Rhyothemis sp.</i>	Odonata	Libellulidae	-	Pond ecosystem
76	Pied paddy skimmer	<i>Neurothemis tullia</i>	Odonata	Libellulidae	-	Pond ecosystem
77	Coral tailed cloud wing	<i>Tholymis tillarga</i>	Odonata	Libellulidae	-	Pond ecosystem
78	Ground skimmer	<i>Diplacodes trivialis</i>	Odonata	Libellulidae	-	Pond ecosystem
79	Yellow Waxtail	<i>Ceriagrion coromandeliarum</i>	Odonata	Ceonagrionidae	-	Pond ecosystem
80	Pygmy dartlet	<i>Agrionemys pygmaea</i>	Odonata	Ceonagrionidae	-	Pond ecosystem
81	Red veined darter	<i>Sympetrum fonscolombii</i>	Odonata	Libellulidae	-	Pond ecosystem
82	Coastal glider	<i>Macrodiplax cora</i>	Odonata	Libellulidae	-	Pond ecosystem
83	Black stream glider	<i>Trithemis festiva</i>	Odonata	Libellulidae	-	Pond ecosystem
84	Red cotton bug	<i>Dysdercus cingulatus</i>	Hemiptera	Pyrrhocoridae	Cotton	Plant ecosystem
85		<i>Antilochus cocqueberti</i>	Hemiptera	Pyrrhocoridae	Okra	Plant ecosystem
86	Rice Gandhi bug	<i>Leptocorisa acuta</i>	Hemiptera	Alydidae	Rice	Plant ecosystem
87	Green stink bug	<i>Negara viridula</i>	Hemiptera	Pentatomidae	Citrus	Plant ecosystem
88	Seed bug	<i>Riptortus linearis</i>	Hemiptera	Alydidae	Green gram	Plant ecosystem
89		<i>R. pedestris</i>	Hemiptera	Alydidae	Brinjal	Plant ecosystem
90	Common flower bug	<i>Anthocoris nemorum</i>	Hemiptera	Anthocoridae	Rose	Plant ecosystem
91	Water striders	<i>Gerris remigis</i>	Hemiptera	Gerridae	Rice field	Aquatic ecosystem
92	Tea mosquito bug	<i>Helopettis theivora</i>	Hemiptera	Miridae	Tea	Plant ecosystem
93	Giant water bug	<i>Lethocerus americanus</i>	Hemiptera	Belostomatidae	Rice field	Aquatic ecosystem
94	Pink hibiscus mealy bug	<i>Maconellicoccus hirsutes</i>	Hemiptera	Pseudococcidae	Hibiscus	Plant ecosystem
95	Paper wasp	<i>Polistes humilis</i>	Hymenoptera	Vespidae	-	Pant ecosystem
96		<i>Polistes hebraeus</i>	Hymenoptera	Vespidae	Hibiscus	Plant ecosystem
97		<i>Polistes fuscatus</i>	Hymenoptera	Vespidae	Cassia	Plant ecosystem
98	Little Bee	<i>Apis florea</i>	Hymenoptera	Apidae	<i>Leucas linifolia</i>	Plant ecosystem
99	Rock Bee	<i>Apis dorsata</i>	Hymenoptera	Apidae	Banyan tree	Plant ecosystem
100	Western Bee	<i>Apis mellifera</i>	Hymenoptera	Apidae	Mustard	-
101	Yellow banded wasp(oriental hornet)	<i>Vespa cinta</i>	Hymenoptera	Vespidae	Banana	Plant ecosystem
102	Potter wasp	<i>Phimenes flavopictum</i>	Hymenoptera	Vespidae	Jamun	Plant ecosystem
103	Sweat Bee	<i>Halictus scabiosae</i>	Hymenoptera	Halictidae	Coriander	Plant ecosystem
104	Mud dauber	<i>Sceliphron spirifex</i>	Hymenoptera	Sphecidae	Jujube	Plant ecosystem
105	Stingless bee	<i>Tetragonna irridepennis</i>	Hymenoptera	Apidae	Toria	Plant ecosystem
106		<i>Lepidotrigona arcifera</i>	Hymenoptera	Apidae	Banana	Plant ecosystem
107	Carpenter bee	<i>Xylocopa aestuans</i>	Hymenoptera	Apidae	Cucumber	Plant ecosystem
108		<i>X. fenestrata</i>	Hymenoptera	Apidae	Tomato	Plant ecosystem
109	Emerald cockroach wasp	<i>Ampulex compressa</i>	Hymenoptera	Ampulicidae	-	
110	Asian giant hornet	<i>Vespa mandarini</i>	Hymenoptera	Vespidae	Pineapple	Mountain and Forest ecosystem
111	Blue banded bee	<i>Amegellia zonata</i>	Hymenoptera	Apidae	Marigold	Plant ecosystem
112	Yellow jacket	<i>Vespa orientalis</i>	Hymenoptera	Vespidae	Mango	Plant ecosystem
113		<i>Vespa magnifica</i>	Hymenoptera	Vespidae	Jujube	Plant ecosystem
114		<i>Thrinchostoma sp.</i>	Hymenoptera	Halictidae	Litchi	Plant ecosystem
115		<i>Honalictus sp.</i>	Hymenoptera	Halictidae	Papaya	Plant ecosystem
116		<i>Thyreus sp.</i>	Hymenoptera	Apidae	Baugainvillea	Plant ecosystem
117	Common grass yellow	<i>Eurema hecabe</i>	Lepidoptera	Pieridae	Mustard	Plant ecosystem
118	Psyche	<i>Leptosia nina</i>	Lepidoptera	Pieridae	Coriander	Plant ecosystem
119	Pale grass blue	<i>Pseudo zizeeria maha</i>	Lepidoptera	Lycaenidae	Mango	Plant ecosystem
120	Spot puffin	<i>Appias phoebe</i>	Lepidoptera	Pieridae	Lantana camera	Plant ecosystem
121	Common wander	<i>Pareronia valeria</i>	Lepidoptera	Pieridae	Buganvelia	Plant ecosystem
122	Cabbage white butterfly	<i>Pieris rapae</i>	Lepidoptera	Pieridae	Coriander	Plant ecosystem
123	Grass demon	<i>Udaspes folus</i>	Lepidoptera	Hesperiidae	Turmeric	Plant ecosystem
124	Leopard lacewing	<i>Cethosia cyane</i>	Lepidoptera	Nymphalidae	Marigold	Plant ecosystem
125	Common five ring	<i>Ypthima persimilis</i>	Lepidoptera	Nymphalidae	Brinjal	Plant ecosystem
126	Citrus butterfly	<i>Papilio demoleus</i>	Lepidoptera	Papilionidae	Citrus	Plant ecosystem
127	Common evening brown	<i>Cethosia cyane</i>	Lepidoptera	Nymphalidae	Brinjal	Plant ecosystem
128	Yellow jack sailor	<i>Melanitis leda ismene</i>	Lepidoptera	Nymphalidae	Gerbera	Plant ecosystem

129	Common baron	<i>Lassipa viraja</i>	Lepidoptera	Nymphalidae	Tube rose	Plant ecosystem
130	Peacock pansy	<i>Euthalia aconthea</i>	Lepidoptera	Nymphalidae	Guava	Plant ecosystem
131	Gray pansy	<i>Junonia almona</i>	Lepidoptera	Nymphalidae	Coriander	Plant ecosystem
132	Oriental common sergeant	<i>Junonia atlites</i>	Lepidoptera	Nymphalidae	Pegion pea	Plant ecosystem
133	Dark band bush brown	<i>Athyma perius perius</i>	Lepidoptera	Nymphalidae	Mango	Plant ecosystem
134	Red base zezebel	<i>Mycalasis mineus</i>	Lepidoptera	Nymphalidae	Citrus	Plant ecosystem
135	Common moromon	<i>Delias aglaia</i>	Lepidoptera	Pieridae	Mango	Plant ecosystem
136	Common grassy yellow	<i>Papilo polytes</i>	Lepidoptera	Papilionidae	Toria	Plant ecosystem
137	Red lacewing	<i>Cethosia biblis</i>	Lepidoptera	Nymphalidae	Lantena camera	Plant ecosystem
138	Crimson rose butterfly	<i>Pachliopta hector</i>	Lepidoptera	Papilionidae	Lantena camera	Plant ecosystem
139	Striped blue crow	<i>Euploea mulciber</i>	Lepidoptera	Nymphalidae	Rose	Plant ecosystem
140	Common mime	<i>Papilio clytia</i>	Lepidoptera	Papilionidae	Sesamum	Plant ecosystem
141	Commander	<i>Moduza procris</i>	Lepidoptera	Nymphalidae	Cucumber	Plant ecosystem
142	Common tiger	<i>Danaus genutia</i>	Lepidoptera	Nymphalidae	Litchi	Plant ecosystem
143	Tiger palmfly	<i>Elymnias nesaea</i>	Lepidoptera	Nymphalidae	Pegion pea	Plant ecosystem
144	Tailed jay	<i>Graphium Agamemnon</i>	Lepidoptera	Papilionidae	Ridge gourd	Plant ecosystem
145	Red Helen	<i>Papilio helenus</i>	Lepidoptera	Papilionidae	Pegion pea	Plant ecosystem
146	Lesser albatross	<i>Appias wardii</i>	Lepidoptera	Pieridae	Mango	Plant ecosystem
147	Yam hawk moth	<i>Theretra nessus</i>	Lepidoptera	Sphingidae	Ridge gourd	Plant ecosystem
148	Sturge hawk moth	<i>Hyles euphorbiae</i>	Lepidoptera	Sphingidae	Citrus	Plant ecosystem
149	Impatiens hawk moth	<i>Theretra oldenlandiae</i>	Lepidoptera	Sphingidae	Pumpkin	Plant ecosystem
150	Fruit piercing moth	<i>Eudocima salami</i>	Lepidoptera	Noctuidae	Mango	Plant ecosystem
151		<i>E. memblaria</i>	Lepidoptera	Erebidae	Pumpkin	Plant ecosystem
152	Hand maiden moth	<i>Syntomoides amata</i>	Lepidoptera	Arctiidae	Chilli	Plant ecosystem
153	Clover hay moth	<i>Hypsopygia costalis</i>	Lepidoptera	Pyralidae	Assam lemon	Plant ecosystem
154	The great wax moth	<i>Galleria mellonella</i>	Lepidoptera	Pyralidae	Mango	Plant ecosystem
155	Mosquitoes	<i>Anopheles quadrimaculatus</i>	Diptera	Culicidae	-	Aquatic ecosystem
156		<i>Aedes aegypti</i>	Diptera	Culicidae	-	Aquatic ecosystem
157		<i>Culex sp.</i>	Diptera	Culicidae	-	Aquatic ecosystem
158		<i>Chrysops sp.</i>	Diptera	Culicidae	-	Aquatic ecosystem
159	Crane flies	<i>Trichotipula nephrotoma</i>	Diptera	Tipulidae		Aquatic and Semi-aquatic ecosystem
160	Black flies	<i>Simulium sp.</i>	Diptera	Simuliidae	Mango	Plant ecosystem
161	Gall midge	<i>Celticecis sp.</i>	Diptera	Cecidomyiidae	Rice	Rice ecosystem
162	March flies	<i>Plecia sp.</i>	Diptera	Bibionidae	-	Aquatic ecosystem
163	Flesh fly	<i>Sarcophaga sp.</i>	Diptera	Sarcophagidae	-	Terrestrial ecosystem
164	Common fruit flies	<i>Bactrocera sp.</i>	Diptera	Tephritidae	Guava	Plant ecosystem
165	Hoverflies	<i>Epistrophe sp.</i>	Diptera	Syrphidae	Mango	Plant ecosystem
166		<i>Eristalis palpada</i>	Diptera	Syrphidae	Assam lemon	Plant ecosystem
167		<i>Eupeodes sp.</i>	Diptera	Syrphidae	Cucumber	Plant ecosystem
168	Blow flies	<i>Calliphora sp.</i>	Diptera	Calliphoridae	Litchi	Plant ecosystem
169		<i>Lucilia chrysonmya</i>	Diptera	Calliphoridae	Mustard	Plant ecosystem
170	House flies	<i>Musca sp.</i>	Diptera	Muscidae	Jujube	Plant ecosystem
171		<i>Coenosia sp.</i>	Diptera	Muscidae	Mango	Plant ecosystem
172	Small fruit flies	<i>Drosophila sp.</i>	Diptera	Drosophilidae	Mango	Plant plant
173	Horse flies	<i>Tabanus sp.</i>	Diptera	Tabanidae	Litchi	Plant ecosystem
174	Long-legged flies	<i>Condylostylus sp.</i>	Diptera	Dolichopodidae	Beetles	-
175	Thick-headed fly	<i>Zodion sp.</i>	Diptera	Conopidae	Bumble bee	-
176	Tachinid flies	<i>Winthemia sp.</i>	Diptera	Tavhinidae	Aphid	-
177	Rice leaf miner	<i>Agromyza sp.</i>	Diptera	Agromyzidae	Rice	Plant ecosystem
178	Marsh Crane fly	<i>Pedicia sp.</i>	Diptera	Pediciidae	Ornamental plants	Plant ecosystem
179	Tsetse flies	<i>Glossina sp.</i>	Diptera	Glossinidae	Grassland	Plant ecosystem

4. Conclusion

All total 179 species were collected from different plant ecosystem. The diversity study revealed that Coleopteran (64 species) were most dominant followed by Lepidoptera (38 species), Diptera (25 species), Hymenoptera (22 species), Odonata (19 species) and Hemiptera (11 species). The knowledge gathered here will provide useful information for future studies aiming to understand more deeply the processes of speciation and faunal diversity of insects in Jorhat, Assam, India.

5. Acknowledgement

The author takes the privilege to express his deep sense of gratitude to the authority of AAU Jorhat and ICAR for providing necessary facilities and scientific help during the experiment.

6. References

- Gullan PJ, Cranston PS. Insects: An Outline of Entomology, Chapman and Hall, 2010.
- Offor US, Nwi Ue S Waka, Jumbo DD. Local methods of insect pest control in Ogoni Lands Rivers State. 2014;

- 6(1):73-76.
3. Mayr E. Principles of Systematic Zoology. Tata McGraw-Hill Publishing Company Ltd. New Delhi. 1976, 428.
 4. Sarmah D, Patgiri P, Rahman A. Biodiversity of economically important dipteran insect species in Jorhat District of Assam, India. Ecology Environment and Conservation. 2014; 20:415-419.
 5. Rajkumari P, Sharmah D, Rahman A, Patgiri P. Diversity and Distribution pattern of hymenoptera insect in Jorhat District, Assam, India. International Journal of Science and Research. 2014; 3:1938-1941.
 6. Bora A, Meitei LR. Diversity of butterflies (Order: Lepidoptera) in Assam University campus and its vicinity, Cachar District, Assam, India Journal of Biodiversity and Environmental Sciences. 2014; 5(3):328-339.
 7. Choudhury D, Gupta S. Aquatic insect community of Deepor beel (Ramsar site), Assam, India. Journal of Entomology and Zoology Studies. 2015; 3(1):182-192.
 8. Borah N, Hazarika M, Rahman A, Patgiri P. Diversity of Dipteran insects in Jorhat district of Assam, North East India. Insect Environment. 2015; 20(4):109-110.
 9. Bhattacharyya B, Handique G, Pujari D, Bhagawati S, Mishra H, Gogoi D *et al.* Species diversity and relative abundance of scarab beetle fauna in Assam, northeast India. Journal of Entomology and Zoology Studies. 2017; 5(1):711-716.
 10. Neog N, Rajkhowa SM. Dragon Fly Diversity in Two Different Ecosystems in and Around Assam University, Silchar (Ecoforest and Irongmara). Journal of Entomology and Zoology Studies. 2016; 4(4):184-190.