Fauna of Protected Areas - 23:

INSECT FAUNA OF PEECHI-VAZHANI WILDLIFE SANCTUARY, KERALA, INDIA

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Abstract

*In a study on the insect fauna of Peechi-Vazhani Wildlife Sanctuary, 374 species of insects mostly belonging to Lepidoptera, Coleoptera and Hemiptera were recorded. The fauna was rich and diverse and contained several rare and protected species. Among butterflies, of the 74 species recorded, six species (*Chilasa clytia, Appias lyncida, Appias libythea, Mycalesis anaxias, Hypolimnas misippus *and* Castalius rosimon*) are protected under the Indian Wildlife (Protection) Act. Similarly, four species of butterflies,* Papilio buddha, Papilio polymnestor, Troides minos, and Cirrochroa thais, *recorded in this study are rare and restricted in distribution. The moth fauna is rich in arboreal feeding forms indicating an undisturbed forest patch in the area. Certain species associated with herbaceous ground vegetation are of economic importance, being already reported as pests of various agricultural crops. Beetles are also abundant, being dominated by phytophagous and scavenger forms, the former feeding mostly on herbaceous ground flora and the latter associated with animal excreta. The bugs recorded in this study included mostly phytophagous forms. The hymenopterans contained several species of solitary bees and wasps. An inventory of 382 species of insects recorded from the Sanctuary is given.*

Keywords

Endemic, insect fauna, inventory, Kerala, Peechi-Vazhani Wildlife Sanctuary, protected, rare

Peechi-Vazhani Wildlife Sanctuary (P-VWS) situated in Thrissur district, Kerala state ($76^0$15'-$76^0$27'E & $10^0$30'-$10^0$42'N), is about 125km^2 in extent (Fig. 1). It is bordered by the Chimmoni Wildlife Sanctuary on the east and the forests of Palakkad division in the north. The terrain is undulating and the altitude varies from 100 to 914m above mean sea level. The reservoir of Peechi dam is located in this area. The climate of the area is generally of a warm humid type. The average annual rainfall ranges between 2000-4000mm with southwest monsoon rains during June-September contributing a major portion of the precipitation. The relative humidity is usually higher than 55% and reaches up to 100% during the monsoon season in July-August and October-November. Temperature varies from 20-35^{0}C. Due to the typical climatic conditions and topographic characteristics of this area, P-VWS presents a remarkable diversity in vegetation and forest types. As per the classification by Chandrasekaran (1962), and, Champion and Seth (1968) west coast semi evergreen, southern moist mixed deciduous and southern subtropical savannahs are the major forest types of this area. Evergreen forest represents a climax vegetation type in P-VWS and small patches of this type of vegetation occur on the higher slopes of Vellanimala hill intermingled with semi-evergreen and deciduous patches especially near the vicinity of watercourses where suitable microclimate prevails. Semi-evergreen forests are usually found at relatively lower elevations and occur as a transition zone between moist deciduous and evergreen forests. The vegetation of moist deciduous forests is characteristic in that the trees of the upper canopy shed their leaves during the dry season from February to April. *Xylia xylocarpa*, *Terminalia bellerica*, *Terminalia tomentosa*, *Garuga pinnata*, *Cinnamomum* spp., *Bridelia retusa*, *Grewia tiliaefolia* and *Haldina cordifolia* are the common tree species. In the lower canopy, *Ixora* spp., *Lantana camara* and *Clerodendrum* spp. occur as undergrowth. A considerable portion of the forest area in this region has been converted to teak and eucalyptus plantations by the Forest Department. A variety of wild animals including tiger, elephant, gaur, sambar and bear, have been reported from this Sanctuary. Not many studies have been made on the insect fauna of this region except for a study on the insects associated with various tree species (Nair *et al*., 1986). The area was declared as a wildlife sanctuary in 1958.

Materials and Methods

Sampling of insects was done using a battery-operated Mathew's model light trap (Mathew & Rahmathulla, 1995) at different locations in P-VWS. In addition to trap catches, collections were also made during daytime (0800 to 1300hr) using hand nets. Insects thus collected were sorted and identified by comparison with material available in the Kerala Forest Research Institute collections, and referring to experts.

Results and Discussions

Altogether 340 species of insects belonging to eight orders were collected during the survey, of which 321 species could be identified as given in Table 1. Of the various groups recorded, Lepidoptera and Coleoptera contained maximum number of taxa. Lepidoptera included 71 species of butterflies and 113 species of moths and Coleoptera 78 species. The other groups recorded were Hymenoptera (30 species), Hemiptera (15 species), Diptera (26 species), Orthoptera (1 species), Dictyoptera (4 species), and Isoptera (2 species).

The butterflies recorded in this study belong to seven families with Papilionidae and Nymphalidae containing maximum number of species followed by Pieridae and Satyridae. Six species of butterflies (*Chilasa clytia*, *Appias lyncida*, *Appias libythea*, *Mycalesis anaxias*, *Hypolimnas misippus* and *Castalius rosimon*) are undeer the protective schedules of the Indian Wildlife (Protection) Act; four species (*Papilio buddha*, *Papilio polymnestor*, *Troides minos* and *Cirrochroa thais*) are rather rare and restricted in distribution. Eight species of butterflies recorded in this study (*Papilio dravidarum*, *Papilio hector*, *Hypolimnas misippus*, *Parantica nilgiriensis*, *Appias indra*,

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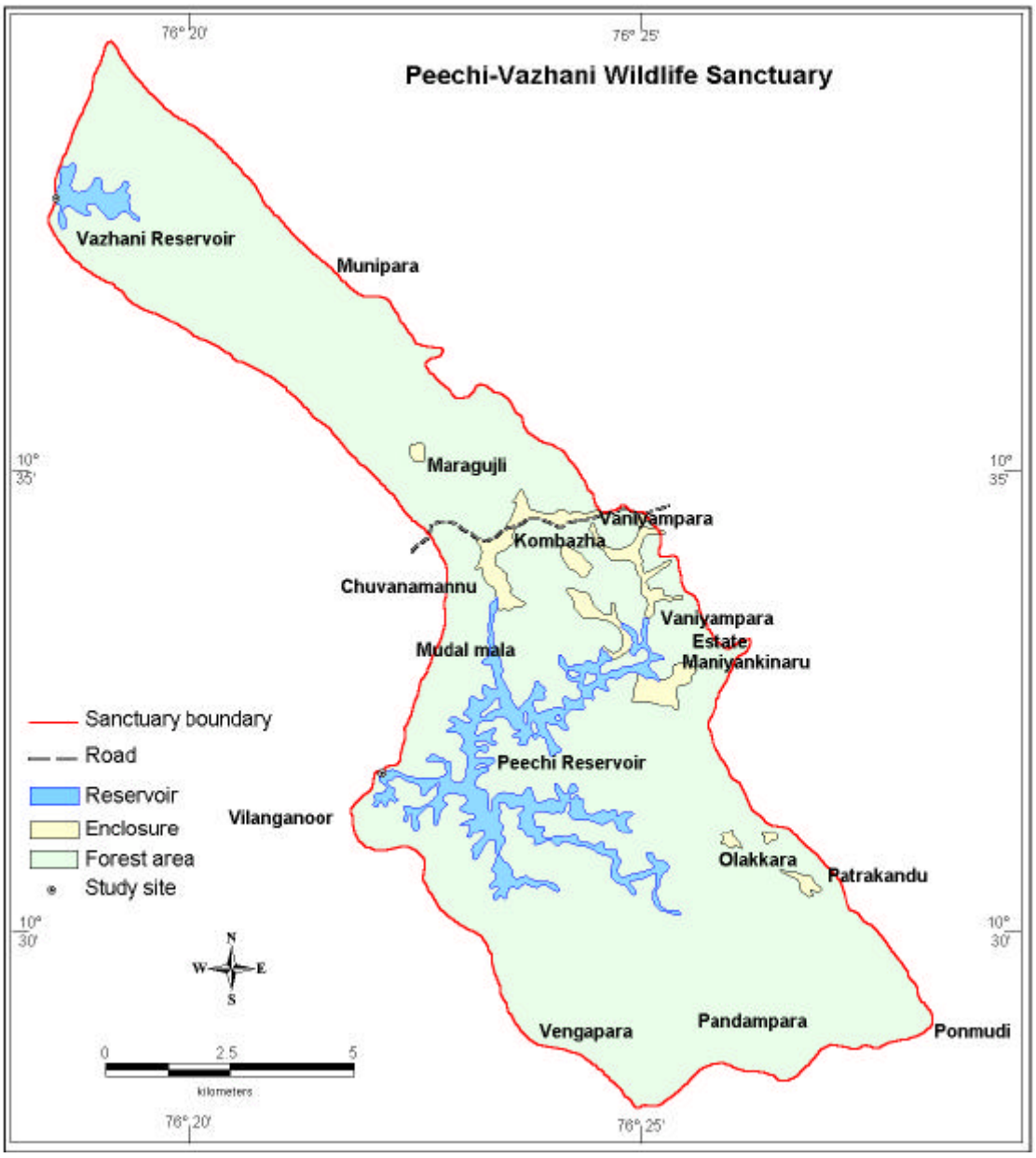

Figure 1. Map of the Peechi-Vazhani Wildlife Sanctuary, Thrissur district, Kerala.

Cepora nadina, *Mycalesis igilia* and *Euchrysops cnejus*) are found to be of high conservation status being either endemic or protected.

The moth fauna was very rich with the families Pyralidae and Noctuidae containing maximum number of species followed by Geometridae and Arctiidae. Information pertaining to the economic importance of a few species of moths are already available while that of the majority is still unknown. The moths of economic importance included *Achaea janata* (Noctuidae) attacking vegetable crops, the pyralids *Cnaphalocrocis medinalis* (attacking rice), *Psara licarsicalis* (attacking pulses), *Glyphodes celsalis* and *Glyphodes bicolor* (Pyraustidae) attacking various forest trees and *Atteva fabricella* (Yponomeutidae) attacking *Ailanthes triphysa.*

The beetles included phytophagous, xylephagous, predatory and scavenger forms. The phytophagous beetles mostly belong to the family Chrysomelidae. This included *Aulacophora cincta* and *Hoplasoma unicolor* feeding on herbaceous flora. The families Cerambycidae, Bupersidae, Bostrychidae, Platypodidae and Curculionidae contain the xylephagous forms. The scavenger beetles included the scarabaeids *Copris* sp., *Maladera* sp. (attacking foliage of Mangium), *Oryctes rhinoceros* (attacking Palm) and *Popillia* sp. (attacking petals of rose).

With regard to Hymenoptera, several species of social wasps

Table 1. List of insects recorded from Peechi-Vazhani Wildlife Sanctuary

Order / Family	Remarks
Lepidoptera	
Rhopalocera	
Papilionidae	
Chilasa clytia Lin.	Rare
Graphium sarpedon Felder	Common
Graphium agamemnon agamemnon Lin.	Common
Graphium doson doson Felder	Common
Papilio polytes Cramer	Common
Papilio helenus Lin.	Common
Papilio polymnestor parinda Moore	Common
Papilio buddha Westwood	Rare, endemic to Western Ghats, Schedule II (IWP Act, 1972)
Papilio dravidarum Wood-Mason	Rare, endemic to Western Ghats
Papilio demoleus demoleus Lin.	Common
Pachliopta aristolochiae Lin.	Common
Pachliopta hector Lin.	Common
Troides minos Cram.	Endemic to Western Ghats
Nymphalidae	
Argynnis hyperbius (Johannsen)	Common
Ariadne merione Cramer	Uncommon
Cyrestis thyodamas Kollar	Rare
Cirrochroa thais thais Fb.	Rare
Cupha erymanthis Drury	Common
Hypolimnas bolina Lin.	Common
Hypolimnas misippus Lin.	Common, Schedules I & II
Neptis hylas varmona Moore	Very common
Neptis perius Fruhstorfer	Rare
Phalanta phalantha Drury	Common
Junonia atlites Lin.	Common
Junonia hierta Fb.	Very common
Junonia iphita Fruhstorfer	Rare
Junonia lemonias Fruhstorfer	Common
Kaniska canace Moore	Rare
Moduza procris Cram.	Common
Danaidae	
Danaus genutia genutia Cramer	Common
Danaus chrysippus (Lin.)	Common
Euploea core core Cramer	Very common
Parantica aglea Stoll	Fairly common
Tirumala limniace leopardus Butler	Common
Tirumala septentrionis dravidarum Fruhstorfer	Rare
Parantica nilgiriensis Moore	Rare
Pieridae	
Appias indra Moore	Common
Appias lyncida (Cramer)	Uncommon
Appias libythea Fb.	Uncommon
Catopsilia florella (Fb.)	Fairly common
Catopsilia pomona Fb.	Very common
Catopsilia pyranthe (Lin.)	Very common
Cepora nadina Moore	Rare
Eurema blanda Boisd.	Common
Eurema brigitta Stoll	Common
Eurema hecabe Lin.	Common
Delias eucharis Drury	Common
Eurema laeta Boisd.	Rare
Eurema lacteola Dist.	Rare
Satyridae	
Elymnias caudata Butler	Common
Melanitis leda Lin.	Very common
Mycalesis anaxias Hewitson	Uncommon, Schedule II
Ypthima sp.	Fairly common
Melanitis phedima varaha Moore	Rare
Ypthima ceylonica Hewit.	Fairly common
Mycalesis patnia Moore	Rare
Mycalesis igilia Fb.	Rare
Lethe europa Fb.	Rare
Hesperidae	
Celaenorrhinus ambareesa (Moore)	Common
Celaenorrhinus leucocera (Kollar)	Common
Potanthus pava pava Fruhstorfer	Common
Pelopidas mathias Fb.	Fairly common
Tagiades litigiosa Moschler	Fairly common
Taractrocera ceramas (Hewit.)	Rare
Telicota acigias Lin.	Fairly common
Lycaenidae	
Arhopala centaurus Moore	Common
Castalius rosimon (Fb.)	Rare Schedule II
Curetis ?thetis Drury	Rare
Euchrysops cnejus (Fb.)	Common
Jamides alecto (Felder)	Rare
Thalicada nyseus (Guerin.)	Fairly common
Heterocera	
Oecophoridae	
Aeolonthes dicraea Meyrick	
Tonica sp.	Borer in *Bombax*
Yponomeutidae	
Atteva fabriciella Swed.	Pest of *Ailanthus*
Gelechiidae	
Dichomeris sp.	
Cossidae	
Alceterogystia (=*Cossus*) *cadambae* (Moore)	Teak carpenter worm
Psychidae	
Metisa plana Wlk.	
Eumeta crameri West.	Tea, *Ailanthus triphysa, Acacia arabica*
Brachycyttarus Sp.	
Pteroma plagiophleps Hamp.	Pest of *Albizia* spp., Tamarind
Thyridopteryx sp.	
Noctuidae	
Achaea janata Fb.	Pest of vegetables
Achaea flava (Fb.)	-
Carea endophaea Hamp.	Pest of syzygium
Carea subtilis Wlk.	Pest of syzygium
Chasmina rejecta Fb.	-
Heliothis sp.	Crop pest
Mocis frugalis Fb.	Pest of fruits
Mythimna curvilinea Hamp.	-
Othreis materna Lin.	Fruit moth
Othreis fullonica Lin.	Fruit moth
Othreis ancilla Cram.	Fruit moth
Polytela gloriosae Fb.	Pest of Lilly
Prodenia litura Fb.	Crop pest
Spiredonia retorta Cram.	-
Spodoptera litura (Fb.)	Crop pest
Spodoptera mauritia Boisduval	Crop pest
Earias flavida sulphuraria Moore	*Garuga pinnata*
Plecoptera reflexa	Pest of *Dalbergia sissoo*
Tiracola plagiata Wlk.	-
Oglasa sp.	-
Hyblaeidae	
Hyblaea puera Cram.	Teak defoliator
Lymantriidae	
Dasychira mendosa Hb.	Crop pest
Euproctis fraterna Moore	*Bombax* sp.
Eupterotidae	
Eupterote flavida Moore	-
Arctiidae	
Amata extensa Wlk.	-
Amata argus Koll.	-
Amata astrea Drury	Pest of legumes
Amata cribraria Clerck	Pest of legumes
Asura conferta Wlk.	Pest of mosses
Creatonotus gangis Lin.	Pest of lilly
Diacrisia obliqua Wlk.	Polyphagous pest
Eligma narcissus Cram.	Pest of *Ailanthus triphysa*
Estigmene perotetti	Pest of bamboo
Pericallia ricini Fb.	Pest of castor

Order / Family	Remarks
Geometridae	
Abraxas sp. nr. *latizonata* Hamp.	Feeds of foliage of forest trees
Boarmia infixaria Wlk.	Pest of *Xylia xylocarpa*
Buzura? suppressaria Wlk.	Feeds of foliage of forest trees
Cleora sp. prob. *alienaria* Wlk.	Feeds of foliage of forest trees
Epiplema quadricaudata Wlk.	Pest of *Haldina cordifolia*
Epiplema fulvilinea Hamp.	Pest of *Gmelina arborea*
Eumelea rosalia Cram.	-
Eumelea sp.	-
Hypochrosis sp.? *abstractaria* Wlk.	Pest of *Xylia xylocarpa*
Hypomecis sp.	Pest of *Xylia xylocarpa*
Hyposidra talaca Wlk.	Feeds of foliage of forest trees
Rhesala moestalis Wlk.	-
Sabaria euchroes Prout	-
Semiothisa quadraria Moore	Feeds of foliage of forest trees
Thalassodes ?opalina Warr.	*Bombax* sp.
Pterophoridae	
Diacrotricha leucomochla Fletcher	Pest of *Gmelina arborea*
Xyroptlia tectonica Meyrick	
Pyraustidae	
Agathodes ostentalis Hubn.	Crop pest
Agrotera basinotata Hamp.	Crop pest
Botyodes asialis Guen.	-
Bocchoris inspersalis Zell.	-
Bradina admixtalis Wlk.	Pest of Graminae
Cirrhochrista fumipalpis Feld.	-
Diaphania (*Glyphodes*) *glauculalis* Guen.	Pest of *Tabernaemontana*
Dichocrocis punctiferalis Guen.	Borer in castor
Eurrhyparodes tricoloralis Zell.	-
Filodes fulvidorsalis Hubn.	Feeds on lachrymal secretion of animals
Glyphodes celsalis Wlk.	Pest of forest trees
Glyphodes bicolor Swains.	Pest of forest trees
Glyphodes laticostalis Guen.	Pest of forest trees
Glyphodes indica Saund.	Pest of cucumber
Glyphodes itysalis Wlk.	-
Glyphodes marginata Hamp.	Pest of forest trees
Isocentris filalis Guen.	-
Lamprosema sp.	Pest of pulses
Marasmia trapezalis Guen.	Pest of grasses
Nacoleia diemenalis Guen.	Pest of pulses
Nymphula fluctuosalis Zell.	Pest of Graminae
Nymphula foedalis Guen.	Pest of Graminae
Protrigonia zizanialis Swinh.	Pest of drumstick
Parotis (Glyphodes) vertumnalis Guen.	Pest of *Haldina cordifolia*, *Alstonia scholaris*
Psara bipunctalis Fb.	Pest of pulses
Pycnarmon caberalis Guen.	Pest of coleus
Pygospila tyres Cram.	-
Sylepta derogata Fb.	Pest of malvaceaus plants
Syngamia abruptalis Wlk.	Pest of Ocimum
Syngamia latimarginalis Wlk.	-
Syngamia sp.	-
Terastia egialealis Wlk.	Pest of Erythrina
Lygropia orbinusalis Wlk.	*Grewia tiliaefolia*
Eutectona machaeralis Wlk.	*Tectona grandis*
Pyralidae	
Antigastra catalunalis Swinh.	Pest of gingelli
Cnephalocrocis medinalis Guen.	Pest of rice / graminaceous plants
Deba survectalis Wlk.	*Cassia fistula*
Lamida moncusalis Wlk.	Pest of mango tree, *Terminalia bellirica*
Macalla ?eumictalis Hamp.	
Macalla nubilalis Hamp.	Pest of mango, *Garuga pinnata*
Crambidae	
Ancylolomia chrysographella Kollar	Pest of rice, jowar
Charltona consociella Wlk.	Pest of Graminae
Chilo polychrysa Meyrick	Pest of rice
Chilo partellus Swinh.	Pest of Graminae
Phycitidae	
Etiella zinckenella Treit.	Pod borer of pulses crops
Nephoteryx atrisquamella Hamp.	-
Assara albicostalis Wlk.	Pest of *Garuga pinnata*
Ectomyelois ceratoniae (Zell.)	
Phycita spp.+	
Galleriidae	
Galleria mellonella Lin.	Pest of bees
Sphingidae	
Acherontia lachesis Fb.	Crop pest
Acherontia sp.	Crop pest
Herse convolvuli Lin.	Crop pest
Oxyambulyx sp.	-
Theretra sp.	Crop Pest
Oxyambulyx subocellata Feld.	-
Saturnidae	
Attacus atlas Lin.	Atlas moth
Loepa sikkima Moore	-
Cosmopterygidae	
Limnoecia sp.? peronodes Meyrick	
Pterophoridea	
Xyroptila tectonica+	
Melarbelidae	
Arbela tetraonis+	
Totricidae	
Adoxophyes moderatana Wlk.	*Garuga pinnata*
Thyrididae	
Striglina scitaria Wlk.+	
Coleoptera:	
Lucanidae	
Odontolabis cuvera Hope?	Host of decaying wood
Odontolabis sp.	-
Coccinellidae	
Epilachna septima Dieke	-
Epilachna vigintioctopunctata Fb.	-
Epilachna sp.	
Coelophora sp.	
Coccinella septempunctata Lin.	Pest of vegetable crops
Catana parcestosa (Sicard)	Pest of *Gmelina arborea*
Scarabaeidae	
Adoretus bicaudatus Arrow	*Lagerstroemia* sp.
Adoretus coronatus Burm.	*Garuga pinnata*
Anomala ruficapilla Burmeister	Adult feeds on foliage of forest plants
Anomala sp.	Adult feeds on foliage of forest plants
Copris sp.	Dung rolling beetle
Heliocopris dominus Bates	Dung rolling beetle
Heterorrhina sp.	Feed on dung
Holotrichia rufoflava Brenske	Grubs feed on roots causing seedling mortality
Maladera sp.	Adults feed on foliage of mangium
Mimela sp.	Adults feed on foliage of mangium
Mimela xanthorrhina Hope	Adults feed on foliage of mangium
Popillia complanata Newm.	Adults feed on petals of rose
Adoretus sp.	Grubs feed on roots causing seedling mortality
Elateridae	
Agriotes sp.	
Agrypnus holosericeus Candeze	
Campsosternus sp.	*Garuga pinnata*
Chrysomelidae	
Apophylea sericea (Fb.)	*Heptis* sp., *Garuga pinnata*
Apophylea cincta (Fb.)	Feeds on foliage of Pumkin
Aulacophora unicolor Illig.	Feeds on foliage of Pumkin
Basilepta fulvicornis Jac.	Feeds on foliage of herbs
Hoplasoma unicolor Illig.	Feeds on foliage of herbs
Monolepta longitarsis Jac.	Feeds on foliage of herbs
Lema yerburyi Jac.	Feeds on foliage of herbs
Lilioceris ? laosensis Jac.	Feeds on foliage of herbs
Demarchus pubipennis Jac.	Feeds on foliage of herbs

Order / Family	Remarks
Luperomorpha bombayensis Jac.	Feeds on foliage of herbs
Hyphasis ? inconspicua (Jacoby)	Feeds on foliage of herbs
Basiprionota westermanei (Mannerheim)	Feeds on foliage of herbs
Epistictia reicheana Guer.	Feeds on foliage of herbs
Hoplasoma unicolor Illiger	
Corynodes peregrinus (Herbst.)	
Colasposoma rufipes Jac.	
Crytocephalus malabaricus Clav.	Pest of *Gmelina arborea*
Coptocephala sp.	
Clytrasoma palliata Fb.	
Corynodes peregrinus Fuessly	
Apophylea sericea Fb.	Host of *Heptis* sp., *Garuga pinnata*
Eugnathus curvus Faust.	
Indomias hispidus (Marshall)	
Teluropus ballardi Marshall	
Dercetina sp.	
Baris sp.	
Peltotrachelus cognatus Marshall	
Ophrida marmoria Wied.	*Garuga pinnata*
Philopona inornata (Jac.)	*Odina wodier*
Ergania ? baudii Faust	
Apophylia sp.nr. *sericea* (Fb.)	
Clytrasoma paliata (Fb.)	
Curculionidae	
Apion sp.	*Grewia tiliiaefolia*
Baris sp.	*Grewia tiliiaefolia*
Henicolabus octomaculatus Tek.	*Grewia tiliiaefolia*
Indomias hispidus (Marshall)	*Pterocarpus marsupium, Bombax* sp.
Myllocerus gracilis Marshall	*Lagerstroemia* sp.
Dystropius sp.	*Terminalia bellerica*
Ergania baudii Faust.	*Terminalia crenulata*
Eugnathus curvus Faust.	*Xylia xylocarpa*
Indomias hispidus (Marshall)	*Pterocarpus marsupium, Bombax* sp.
Apoderus scitulus Wlk.	*Bridelia retusa, Xylia xylocarpa*
Apoderus gracilis Voss	*Xylia xylocarpa*
Teluropus ballardi Marshall	*Careya arborea*
Peltotrachelus cognatus Mshl.	*Dalbergia latifolia*
Nisathra medurensis Jac.	*Grewia tiliiaefolia*
Myllocerus sp.+	
Cerambycidae	
Glenea homonospila J. Thoms.	*Bombax ceiba, Sterculia alata*
Notomulciber decemmaculatus Breuning	*Lagerstroemia lanceolaria*
Chelidonium argentatum (Dalm.)	Borer of citrus
Batocera rufomaculata DeGeer	Borer of mango tree
Glenea sp.	Pest of Hibiscus
Olenecamptus bilobus Fb.	
Acalolepta rusticatrix Fb.	Pest of *Gmelina arborea*
Diboma sp.	
Xystrocera festiva Thoms	Borer of *Albizia*
Xystrocera globosa Oliv.	Pest of *Albizia falcataria,* cashew
Lampyridae	
Epicauta sp.	Fire Fly
Histeridae	
Teretriosoma sp.	Predatory of timber borers
Trypanaeus (Trypeticus) bombacis Lewis	Predatory of timber borers
Trypanaeus (Trypeticus) indicus Lewis	Predatory of timber borers
Hololepta sp.	
Anthribidae	
Araecerus fasciculatus De Geer	Borer in seeds
Sintor sp.	
Phaeochrotes sp.	
Scolytidae	
Xyleborus sp.	Borer in saplings
Xyleborus similis Ferr.	Borer in several species of timber
Xyleborus interjectus Blandford	Borer in several species of timber
Xyleborus fornicatus Eichh.	Borer in shoots
Bostrychidae	
Heterobostrychus aequalis (Waterhouse)	Borer in stored timber
Cleridae	
Tarsostenus univittatus (Rossi)	
Thanasimus sp.	

Order / Family	Remarks
Throscidae	
Drapetes sp.	
Tenebrionidae	
Leiochrinus nilgirianus Kaszab.	*Lagerstroemia* sp.
Lyprops curticolis Fairm.	Mooply beetle
Platypodidae	
Platypus solidus Wlk.	Borer of several timber species
Platypus latifinis Wlk.	Borer of several timber species
Throscidae	
Lissonus mastrucatus Gerstaecker	
Lissonus sp.	
Hymenoptera:	
Apidae	
Apis dorsata Fb.	Honey bee
Apis indica Fb.	Honey bee
Xylocopidae	
Xylocopa verticalis Lepel.	Carpenter bee
Eumenidae	
Eumenes conica Fb.	Mud wasp
Scolidae	
Megascolia sp.	-
Pompilidae	
Salius aureosericeus Guer.	-
Sphecidae	
Ammophila laevigata Smith.	-
Chalybion bengalense Dahl.	-
Sceliphron javanum Lepel.	-
Chrysididae	
Stilbum cyanurum Forster	Cuckoo wasp
Vespidae	
Vespa sp.nr.*cincta* Fb.	-
Ichnemonidae	
Enicospila sp.	
Xanthopimpla sp.	
Acropimpla sp.	
Goryphus sp.	
Paraphylax sp.	
Trieces sp.	
Eriborus gardneri (Cushman)	
Gotra sp.	
Eulophidae	
Euplectrus sp.	
Chalcididae	
Brachymeria plutella Joseph, Narendran & Joy	
Brachymeria margaroniae Joseph *et al.*	Host of *Diaphania indica*
Eurytomidae	
Eurytoma sp.	
Encrytidae	
Pentalitomastix nacoleiae Eady	Hyperparasitic on *Parotis vertumnalis*
Pteromalidae	
Cephaleta sp.	
Braconidae	
Bracon sp.	
Aulosaphes sp.	
Cicadellidae	
Bothrogonia ferruginea Fb.	"
Drabescus sp.	*Garuga pinnata*
Krishna strigicollis Spinola	*Garuga pinnata*
Tettigoniella indistincta Wlk.	*Garuga pinnata*
Hemiptera	
Pentatomidae	
Nezara viridis Lin.	Ear-head bug of paddy
Placosternum taurus (Fb.)	-

Order / Family	Remarks
Dysdercus cingulatus Fb.	Cotton bug
Serinatha augur Fb.	-
Miridae	
Helopeltis antonii Signoret	Tea mosquito, Pest of tea and cashew
Tingitidae	
Tingis beesoni Drake	Pest of *Gmelia arborea*
Coreidae	
Acanthocoreis strucornis (Scott.)	Pest of Albizia
Ricaniidae	
Ricania speculum Walker	
Ricania marginalis ?Auther	
Ricania sp.	
Flattidae	
Flatta ferrugata Fb.	
Cercopidae	
Phymatostetha deschampsi Leth.	Sap sucking on *Dalbergia latifolia,*
Poophilus sp.+	
Psyllidae	
Phacopteron lentiginosum Buckton	*Garuga pinnata*
Membracidae	
Tricentrus sp.	
Garagara sp.	
Centrotypus sp.	
Coccidae	
Ceroplastes sp.	
Plataspidae	
Coptosoma variegata+	
Diptera	
Cecidomyidae	
Asphondylia sp.	Teak gall insects
Asphondylia tectonae Mani	*Tectona grandis*
Tachinidae	
Palexorista sp.	
Blepharipa sp.	
Carcelina sp.	
Thecocarcelia sp.	
Thelairodrino sp.	
Tephritidae	
Dacus (Bactrocera) sp.nr. *tuberculatus*+	
Muscidae - 10 spp.	
Tabanidae - 2 spp.	
Syrphidae - 2 spp.	
Culicidae - 5 spp.	
Orthoptera	
Acrididae	
Catantops sp.	-
Dictyoptera	
Mantidae	
Deroplatys desicata West	Preying mantis
Statialia maculata (Thunberg)	Preying mantis
Humbertiella indica Sauss.	Preying mantis
Phasmidae	
Phasmida sp.	Stick insect
Isoptera	
Termitidae	
Pericapritermes vythirii Verma	
Odontotermes obesus Ramb.	

belonging to the families Eumenidae, Eulophidae, Sphecidae; parasitic wasps belonging to the families Ichneumonidae and Braconidae and bees belonging to the families Apidae and Xylocopidae were recorded. The bugs contained several species of economic significance such as the earhead bug of paddy *Nezara viridis*, the cotton bug *Dysdercus cingulatus* (Pentatomidae), the tea mosquito *Helopeltis antonii* (attacking tea and cashew), the lace bug *Tingis beesoni* (attacking *Gmelina arborea*) and the albizia bug *Acanthocoreis strucornis*. Of the 26 species of dipteran flies collected, only six could be identified. With regard to Isoptera, two species, *viz*., *Pericapritermes vythirii* and *Odontotermes obesus* were identified. In addition to these, preying mantis (Mantidae), stick insects (Phasmidae) and grasshoppers (Orthoptera) were also recorded. Nair *et al*. (1986) had earlier reported 85 species of insects associated with 20 tree species in the Peechi-Vazhani Wildlife Sanctuary of which except for eight species, all have been recorded in this study (Table 1).

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