Biolife
AN INTERNATIONAL QUARTERLY JOURNAL OF BIOLOGY & LIFE SCIENCES
4(3):530-535
ISSN (online): 2320-4257
www.biolifejournals.com
BIOLIFE RESEARCH ARTICLE

Record of some hymenopteran insects (excluding ants) from the Maval and Haveli Tehasil of Pune district (Northern Western Ghats), Maharashtra, India

Dhamke H. A[1] Mammalaya Amol[2], Bhawane G. P[3]

[1] *Department of Zoology, Pad. Dr. D.Y. Patil College of Art Commerce and Science Pimpri, Pune - 411018*
[2-3]*Department of Zoology, Shivaji University, Kolhapur*

Email: dhemant.dhamke@gmail.com

ABSTRACT

A yearlong survey was conducted to assess the hymenopteran species in various natural and anthropogenic habitats of Maval and Haveli tehsil of Pune District, Total 34 species belonging to 21 genera, 8 families were recorded. Family Apidae (12 species) was found to be dominant in this study.

Keywords: *Hymenoptera, Haveli, Maval Tehsil*

INTRODUCTION

The *Hymenoptera* (sawflies, wasps, bees and ants) are one of the four largest insect orders, (Huber J T 2009) Over 153000 species are recorded worldwide from 132 families and 8423 genera. (Auguiar et al 2013).Hymenoptera originated in Triassic with oldest fossil belonging to family Xyelidae. (Rasnitsyn 2006), social hymenoptera appeared during Cretaceous (Hoell1998).

Studies on hymenoptera can be traced back from the published work by Cameron (1877) on Tenthredinidae. Dall-Torre (1894-1896) published in ten volumes as "Catalogus Hymenopterorum". Still later, Ashmead (1899) published his work on Apterogyna (Mutillidae) and his allies. Fauna of British India including Ceylon and Burma series of Volumes I and II (C.T. Bingham 1897) has covered large number of Hymenoptera in India Ceylon and Burma,

Volume III of Fauna of British India including Ceylon and Burma was published by Clavde Morley in March 1913. It covers Ichneumonidae-I: Ichneumonomnes Deltoidei.Turner (1912) brought out monograph on Indian species of *Cerceris* (Specoidea) and *(Scoloidea).*Subsequently Morely published the monographic Fauna volume III,British Indian Species on Ichneumonoidea. Rohwer (1915) published work on Tenthredinidae Ayyar (1924) made a check list of Chalcid (Chalcidoidea).Emrey (1925) brought out the catalogue on world Formicidae.In later years, Wilkinson (1928) made some papers on braconidae Maa (1938) published work on Xylocopa (Apoidea) Mani in (1938) did monographic work for catalogue on chalcid and Soika (1947) made a revisionary work on *Eumenes* (Vespoidea) Chapaman and Capco (1951) published checklist of Indian ants. Van der Vecht (1952) did some work on oriental Ceratina (Apoidea). Alam (1952) brought out work on biology of Stenobracondeesae (Braconidae). Kurian (1954) worked on Bethyloidea, Nixon (1965) published work on reclassification of Microgasterinae (Braconidae) Linsenmair (1968) revised the family Chrysididae. Mani *etal*., (1973) brought out some publication on Chalsidoidea. Sharma (1982) recorded several Indian species of Braconae. Saraswat (1982) worked on Scelionids

How to Site This Article:
Dhamke H. A, Mammalaya Amol, Bhawane G. P (2016). *Record of some hymenopteran insects (excluding ants) from the Maval and Haveli Tehasil of Pune district (Northern Western Ghats), Maharashtra, India*. *Biolife*. 4(3), pp 530-535.

DOI: 10.5281/zenodo.7333034
Received: 6 July 2016;
Accepted; 23 August 2016;
Available online : 5 September 2016

(Proctotrupoidea).M.S.Mani (1989) In Fauna Of India And Adjacent Countries has covered Chalsidoidea in the complete volume comprising 22 Families 322 genera and 1039 species from Indian region . (Animal Resources ZSI, 1991).

It is now generally admitted Hymenoptera have right to be considered the most highly developed mentally of all insects (C.T. Bingham, 1897). They are economically medically and biologically important. Braconids are used for pest control in agricultural fields and horticultural gardens.Scolid wasp larvae are used to control population of some beetles. (Animal Resources ZSI, 1991).

Materials and Methods

The selected tehsil Haveli and Maval of Pune district are situated at 19.0^0 north latitude and 73.15^0 East longitude, the area has contour interval 100 meter, maximum height from mean seal level is 1200 meters and minimum height is 300 meters above mean sea level. The major, rivers flowing through the area are Indrayani, Mula, Mutha, Andra, Kundali, Pavana Major Lakes are Pavana, Andra, Khadakwasla, Pashan, Katraj, Shirvate, and Gibhs Lake.

The total forest in maval Tehsil is. 205.099 Sq. km. and total forest in Haveli Tehsils is 112.91 sq. km. The major forest in the maval tehsil is in the region of Lonavala, Pavana Lake, Gibhs Lake and Major forest in Haveli tehsil is in the region of Katraj, Sinhagad and Surrounding region, the total forest in two tehsil is 318.01 sq. km. The study region is characterized by tropical semi evergreen forest, dry deciduous area and scrub region.

Sampling of Hymenoptera was done during June 2012 to April 2013. The Individuals were identified with the help of Fauna of British India Including Ceylon and Burma A series by C.T.Binghm, 1879, Clavde Morley (1913) and experts in Zoological Survey of India up to species level, some up to generic level and others up to family level in this study I have recorded 34 species belonging to 21 genera, 8 families.

RESULTS & DISCUSSION

In the present study, 34 species of Hymenopteran insets belonging to 21 genera, and 8 families were reported. Among Hymenoptera order family Apidae is dominant with 12 species (35.29%) of all species, second dominant family is Vespidae with 7 species (20.58%), Third Sphecidae with 6 species (17.64%) while other families Pompilidae 3species (8.82%), Scolidae, Ichneumonidae 2 species each (5.88%each) and Brachonidae, Chrysididae 1species each (1% each).

Acknowledgement

Authors are grateful to the Shivaji University Kolhapur for providing facilities. The authors are grateful to Office-In-Charge, Z.S.I., WRC, Pune.and Dr. Manoj Jadhav, Junior Research Fellow, ZSI, WRC, Pune. for the help in identification. We are also grateful to Dr. Snehal Agnihotri. Principal, Pad.Dr.D.Y.Patil ACS College, Pimpri for providing Library and Laboratory facilities.

Figure-1. Sampling areas of Insects overlay with forest.

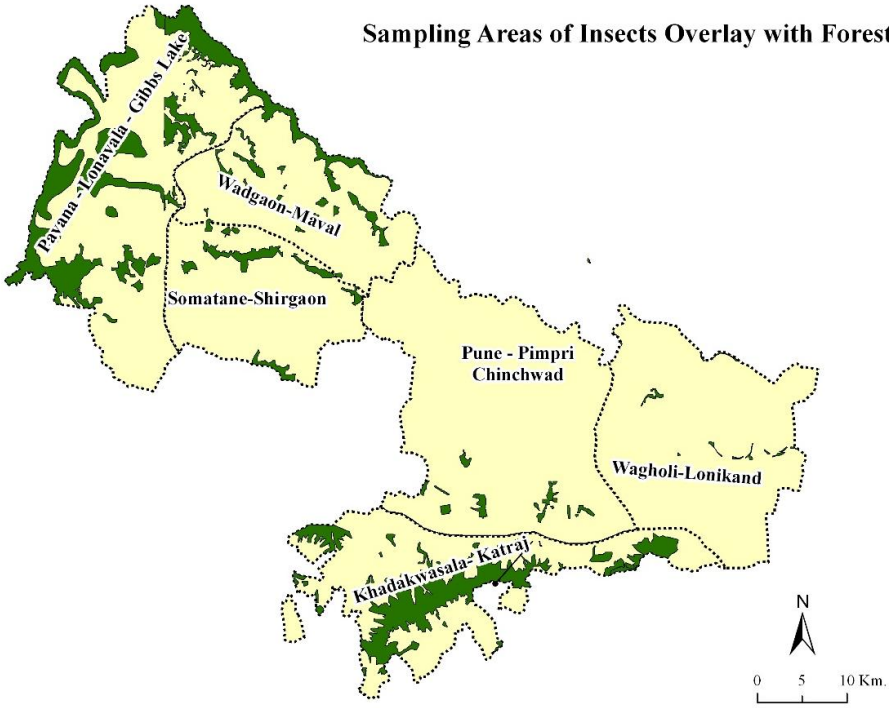


Figure-2. Family-wise percentage of species recorded in Study region

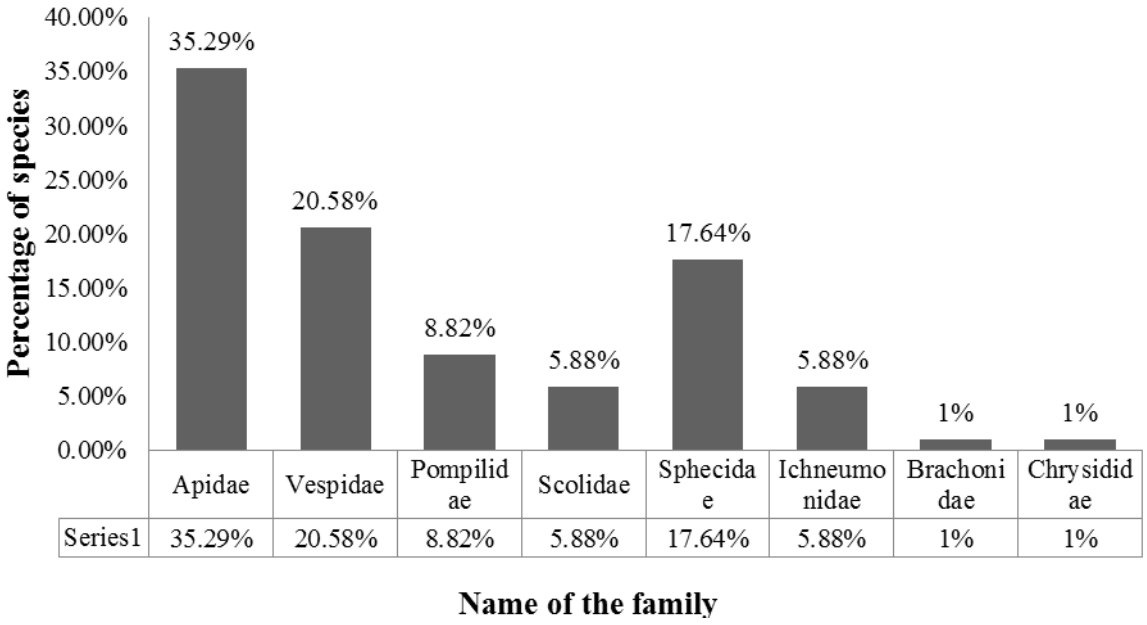


Table-1. Systematic account of Hymenopteran Insects Recorded from the Study Area.

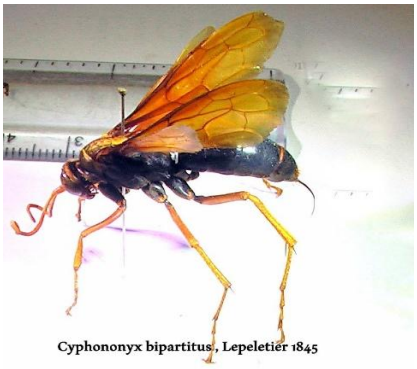
Sr. No.	Name Of The Species	Family
1	Apis dorsata, Fabricius, 1793.	Apidae
2	Apis florea, Fabricius1787.	
3	Apis cerana indica, Fabricius1793.	
4	Apis mellifera, Linnaeus.	
5	Trigona (tetragonula) irridipennis, Smith, 1854.	
6	Amegilla zonata Linnaeus, 1758.	
7	Xylocopa pubescence, Spinola1838.	
8	Xylocopa basalis, Smith 1854.	
9	Xylocopa latipes, Drury, 1773.	
10	Xylocopa fenestra Fabricius1793.	
11	Xylocopa Sp.2	
12	Xylocopa sp.3	
13	Vespa tropica, Linnaeus1758.	Vespidae
14	Vespa orientalise, Linnaeus, 1771.	
15	Polistes (Polistella) stigma, Fabricius1798.	
16	Ropalida marginata marginata, Lepeletier1935.	
17	Delta conoideum, Gmelin, 1790.	
18	Delta pyriforme pyriforme, Fabracius1775.	
19	Phimenes flavopictus continentale, Zimmerman1931.	
20	Salius bipartitus, Lepeletier/Cyphononyx bipartitus, Lepeletier1845.	Pompilidae
21	Pompilidae sp. 1	
22	Pompilidae sp. 2	
23	Scolia fasciatopunctata dunesis, Betren1928.	Scolidae
24	Colpacamsomeris indica, Saussure.	
25	Ammophilla laevigata, Smith1856.	Sphecidae
26	Ammophilla ellegans, Smith1889.	
27	Sphex 1	
28	Sphex 2	
29	Sphex 3	
30	Sceliphron madraspartinum, Fabricius 1781.	
31	Xanthopimpla predator,Fabricious	Ichneumonidae
32	Ichneumonidae sp.	
33	Brachonidae sp.	Brachonidae
34	Chrysididae sp.	Chrysididae

Figure-3. Different species of Hymenopteran insects


Delta conoideum (Gemelin 1790)
conoideum
elin, 1790)


delta pyriforme pyriforme (Fabrcius 1775)


Phimenes flavopictum continentale(Zimmerman 1931)

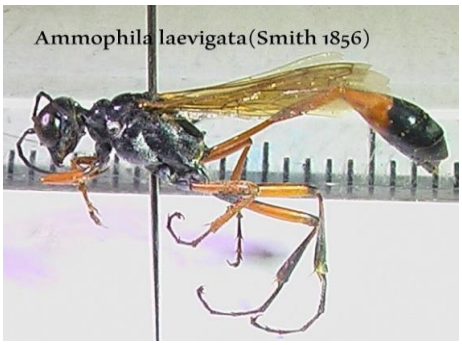

Cyphononyx bipartitus , Lepeletier 1845

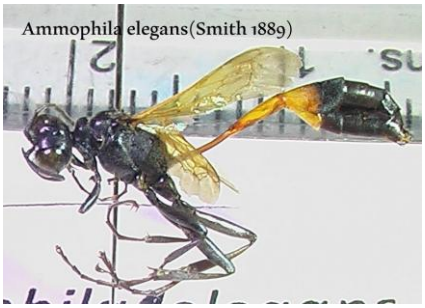

Pompilidae sp.1


Pompilidae sp. 2

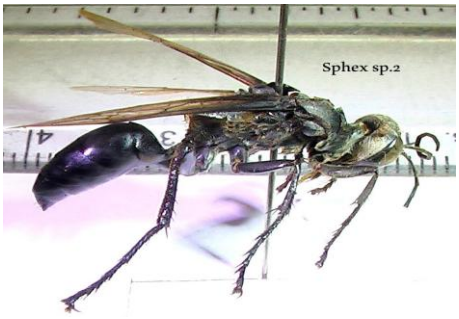

Fasciatopunctata dunensis , Betren 1928.
Scolidae


Scolidae
Colpacampsomeris indica ,Saussure 1855.


Ammophila laevigata(Smith 1856)

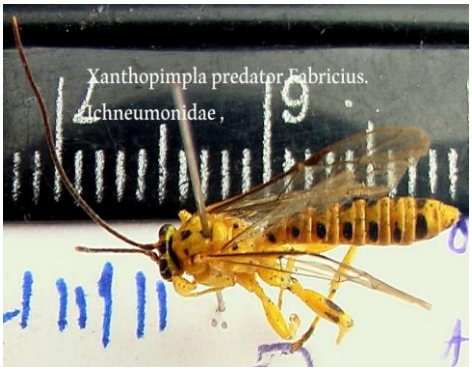

Ammophila elegans(Smith 1889)

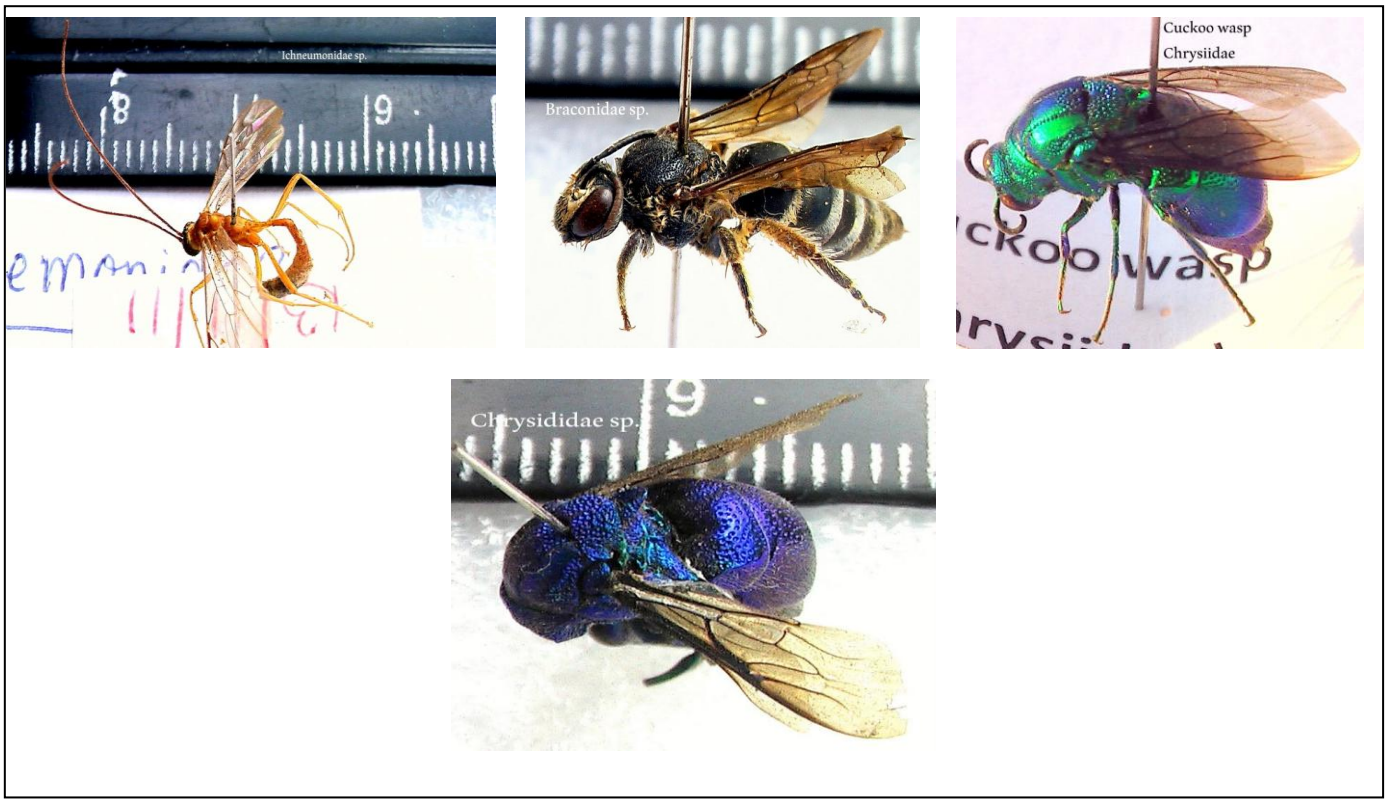

Sphex sp.1


Sphex sp.2


Specidae
Sphex sp 3


Scelophron madraspurspartanum, Fabricius.1781.
Specidae, Scelphrinae
Black yellow dabur wasp


Xanthopimpla predator Fabricius.
Ichneumonidae ,



Conflict of Interests

Authors declare that there is no conflict of interests regarding the publication of this paper.

References

[1]. Huber J T (2009) Biodiversity of Hymenoptera. In: Foottit RG, Adler P, editors. Insect Biodiversity: Science and Society. 1st edition ed. Oxford, UK: Wiley-Blackwell

[2]. Anguiar A P, Dean A R, Engel MS, Forshage M , HuberJT,Jenning JT,Jhonson H. F.,Lelej A.S., Longino J.T.,Lohrman n V Miko I,ohlm 2013. Zootaxa 3703:51-62. Janke, Axel, Klopstein, Seraina, Vilhemen, Lars. Order Hymenoptera. In: Zhang Z-Q (Ed) Animal Biodiversity: An Outline Higher Level Classification and Survey of taxonomic richness

[3]. Sateesh Pujari and Estari Mamidala (2015). Anti-diabetic activity of Physagulin-F isolated from *Physalis angulata* fruits. *The Ame J Sci & Med Res*, 2015,1(1):53-60. doi:10.17812/ajsmr20151

[4]. Rasnitsyn AP (2006) Ontology of evolution and methodology of taxonomy. Palaeontol J 40: S679-S737.10.1134/S003103010612001X

[5]. Hoell, H.V., Doyen, J.T. & Purcell, A.H. (1998). Introduction to Insect Biology and Diversity, 2nd ed. Oxford University Press. pp. 320. **ISBN 0-19-510033-6**.

[6]. Animal Resources of India Protozoa to Mammalia State of the art, Edited by Director Zoological Survey of India. 1991, pp.445-455.

[7]. Lieut.Colonel C. T. Bingham Hymenoptera. - Vol.I, Wasps and Bees, 1897, pp.iii.

[8]. Survey of India Toposheets: 47/f/5, 47/f/6, 47/f/7, 47/f/10, 47/f/11, 47/f/13, 47/f/14, 47/J/2, 47/J/3