ENTOMO TAXONOMY LAB [ETL]

CHRIST COLLEGE (AUTONOMOUS)
IRINJALAKUDA

IRINS Profile

DR. ABHILASH PETER
ASSISTANT PROFESSOR &
RESEARCH SUPERVISOR
ZOOLOGY DEPARTMENT

Entomo Taxonomy Lab was established on November 2020 with an aim to inculcate entomo research in young aspirants. ETL mainly focus on taxonomic and life cycle studies of moths (Lepidoptera: Heterocera) which are sister group of butterflies. It also give prime importance to research on the association of natural enemies particularly parasitic hymenopterans (Hymenoptera) with moth's developmental stages (egg, larva and pupa) and thereby its application as biological control agents in agroecosystems.

Research Area

- Taxonomy studies on Parasitic Hymenoptera.
- Taxonomic and diversity studies on moths.
- Life cycle studies on moths.
- Published many new species of parasitic hymenoptera (click IRINS)
- Published new host plant records for moths.

Research Students

Mr. Adarsh P. K.
Research Area: Moths of Superfamily Noctuoidea.
Fellowship: UGC-JRF

Mrs. Aiswarya N.
Research Area: Moths and associated parasitic hymenopterans on developmental stages of moths.
Fellowship: UGC-JRF

Lab Facility

Entomo Taxonomy Lab

Labomed Microscope for identification of specimens

Ample working space

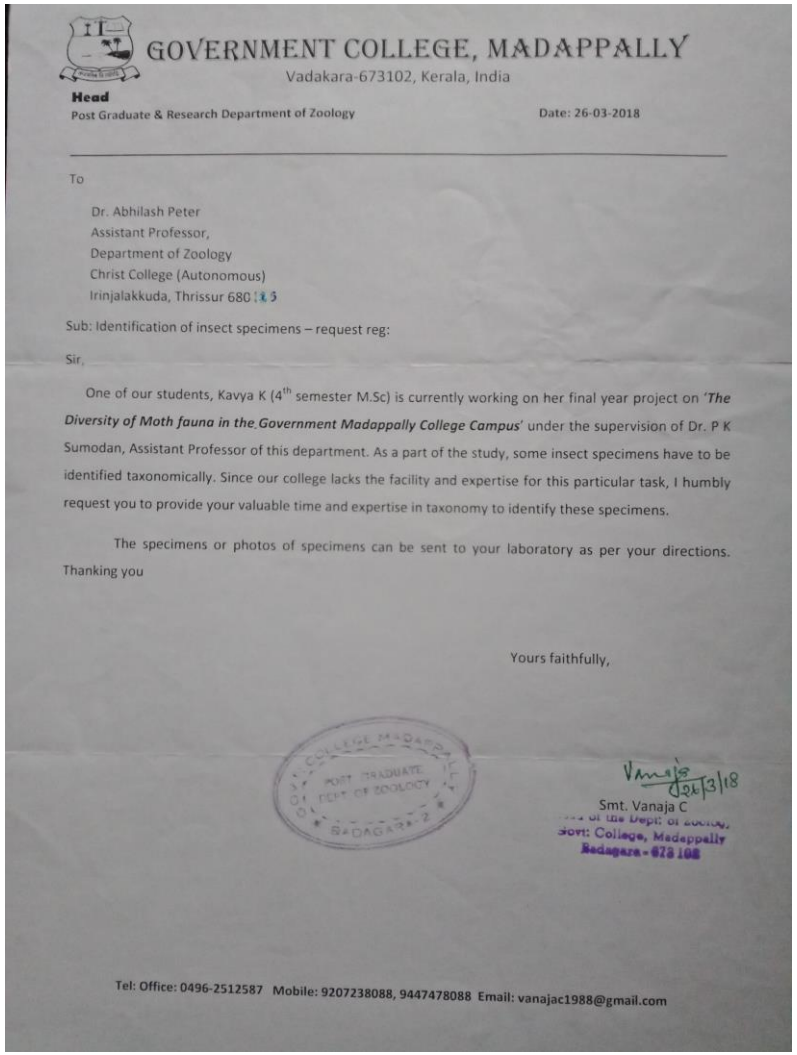
Spreading board for proper wing spreading of moths.

Insect Box- Used to preserve dried moth specimens in air tight box to avoid damage.

Rearing- Plastic jars and rearing cages are used to study developmental stages of moths and associated parasitic hymenopterans

Services

- Identification of insects particularly moths of BSc students UG project on request.
- Cataloguing of moths as part of MSc dissertation of PG students from various colleges on request.



GOVERNMENT COLLEGE, MADAPPALLY
Vadakara-673102, Kerala, India

Head
Post Graduate & Research Department of Zoology

Date: 26-03-2018

To

Dr. Abhilash Peter
Assistant Professor,
Department of Zoology
Christ College (Autonomous)
Irinjalakkuda, Thrissur 680 [illegible]

Sub: Identification of insect specimens – request reg:

Sir,

One of our students, Kavya K (4th semester M.Sc) is currently working on her final year project on '***The Diversity of Moth fauna in the Government Madappally College Campus***' under the supervision of Dr. P K Sumodan, Assistant Professor of this department. As a part of the study, some insect specimens have to be identified taxonomically. Since our college lacks the facility and expertise for this particular task, I humbly request you to provide your valuable time and expertise in taxonomy to identify these specimens.

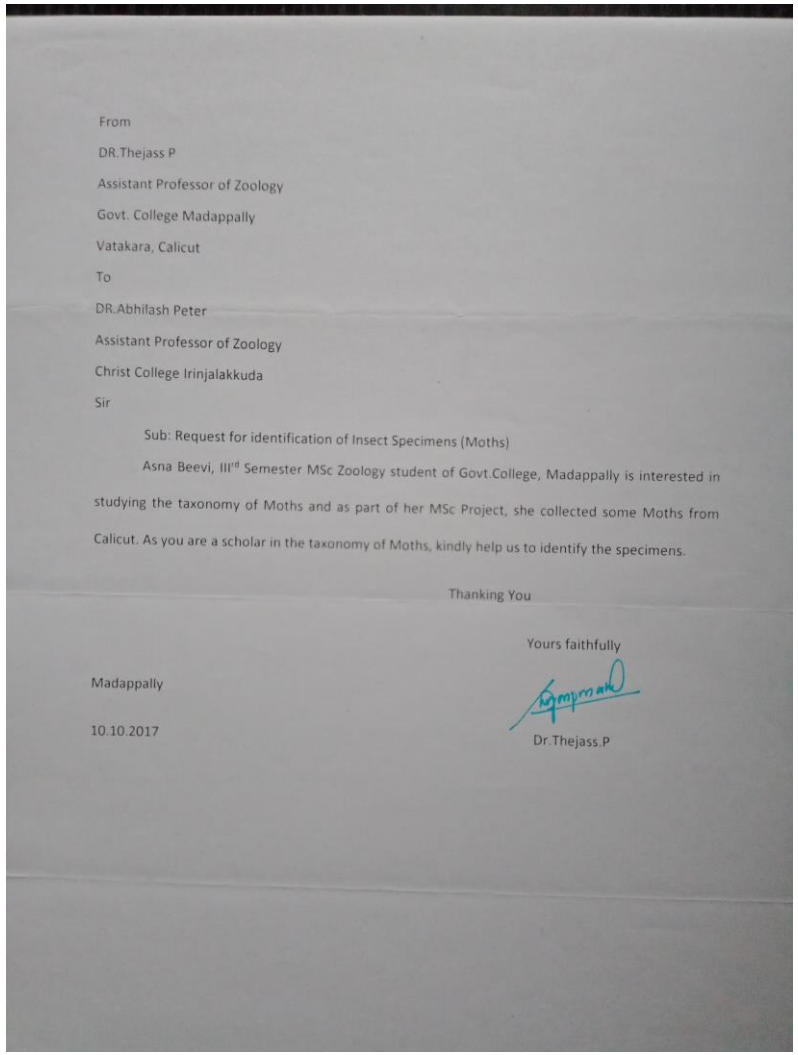
The specimens or photos of specimens can be sent to your laboratory as per your directions.

Thanking you

Yours faithfully,

Smt. Vanaja C
[illegible] of the Dept. of Zoology,
Govt. College, Madappally
Kozhikode - 673 102

Tel: Office: 0496-2512587 Mobile: 9207238088, 9447478088 Email: vanajac1988@gmail.com



From

DR.Thejass P

Assistant Professor of Zoology

Govt. College Madappally

Vatakara, Calicut

To

DR.Abhilash Peter

Assistant Professor of Zoology

Christ College Irinjalakkuda

Sir

Sub: Request for identification of Insect Specimens (Moths)

Asna Beevi, III'rd Semester MSc Zoology student of Govt.College, Madappally is interested in studying the taxonomy of Moths and as part of her MSc Project, she collected some Moths from Calicut. As you are a scholar in the taxonomy of Moths, kindly help us to identify the specimens.

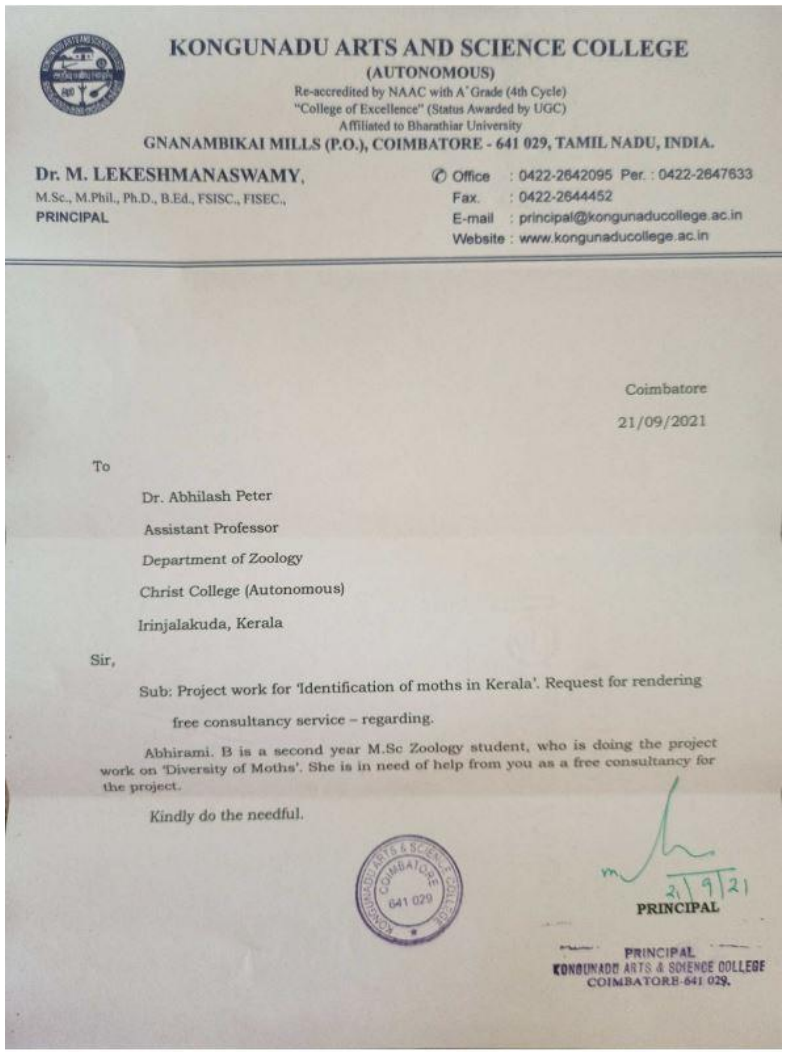
Thanking You

Yours faithfully

Madappally

10.10.2017

Dr.Thejass.P



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Dr. M. LEKESHMANASWAMY,
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Website : www.kongunaducollege.ac.in

Coimbatore
21/09/2021

To

Dr. Abhilash Peter
Assistant Professor
Department of Zoology
Christ College (Autonomous)
Irinjalakuda, Kerala

Sir,

Sub: Project work for 'Identification of moths in Kerala'. Request for rendering free consultancy service – regarding.

Abhirami. B is a second year M.Sc Zoology student, who is doing the project work on 'Diversity of Moths'. She is in need of help from you as a free consultancy for the project.

Kindly do the needful.

21/9/21
PRINCIPAL

PRINCIPAL
KONGUNADU ARTS & SCIENCE COLLEGE
COIMBATORE-641 029.

Services

Post Graduate and Research Department of Zoology
GOVERNMENT COLLEGE, MADAPPALLY
(Accredited at A level (third cycle) by NAAC)
VATAKARA, KOZHIKODE-673102
KERALA, INDIA

Dr.Thejass P
Assistant Professor
thejassp@gmail.com
09947361321

Date: 15 March 2022

To

Dr. Abhilash Peter

Assistant Professor of Zoology

Christ College Irinjalakkuda

Thrissur

Sir,

Sub: Identification of Moths for BSc Project.

Final year BSc students of this college has been doing a project related to diversity of moths as part of their curriculum under my supervision. As you are an expert in studies related to Moths, I humbly request your help for the identification of Moth specimens collected by my students.

Thanking You

Yours sincerely

Publications

A Partial List of Moths (Leidoptera: Heterocera) from Kozhikode District, Kerala, India

Abhilash Peter[1] and Adarsh P. K.[2]

Abstract:

The present paper deals with the moths collected from different localities of Kozhikode district, Kerala. The information presented in this paper is based on the insect surveys conducted from 01-07 2004 to 28-02-2005. Of the total 300 specimens collected, 139 species belonging to 108 genera under 18 families were identified to the species level. Family Erebidae was found to be dominant in terms of number of species when compared to the other families. An updated systematic account is provided for all the identified specimens.

Key words: list, moths, Kozhikode, Kerala.

Introduction

Kozhikode district lies between 11° 08'N and 11° 50'N latitudes and 75°30'E and 76°8'E longitudes. District is bordered by Kannur district to the North, Malappuram to the South, Wayanad to the East and Arabian Sea to the West. The region receives an appreciable amount of rainfall every year (South-West and North-East Monsoon). The district is blessed with lush green vegetation in the Western Ghat part comprising trees, shrubs herbs, climbers etc. and forms a hiding place for many animal species.

Lepidoptera includes butterflies and their sister group, moths. Though harmless, moths are serious pests of many agricultural crops and commercial plants. This study is an attempt to know the species of moths from Kozhikode district.

1 Assistant Professor, Department of Zoology, Christ College (Autonomous), Irinjalakuda-680125

2 Department of Zoology, Christ College (Autonomous), Irinjalakuda-680125

Methodology

Moths were collected from different localities of Kozhikode district which includes plains, hilly areas and forests during the period 01-07 2004 to 01-02-2005. Live specimens from Kakkayam forest, Chalappuram, Janakikkadu, Thushsragiri, Nadakkavu, East Hill, and Chalappuram were collected mainly by hand picking method. Those specimens attracted to light were collected by using an insect net. A light trap was operated overnight during the mothing season and occasional collection was also done from other areas of Kozhikode district. Live specimens were killed in a killing jar filled with ethyl acetate vapours. The specimens were then dried and preserved in air tight insect boxes with appropriate data labels.

Identification of moths was done with the help of relevant literatures like, Hampson (1892-96), Bell and Scott (1937, Holloway (1983-2005), Barlow and D'Abrera (1982), Robinson et al. (1994), Kendrick (2002, 2004) and Pittaway and Kitching (2004). The classification followed here is based on the literature published by Nieukerken et al. (2011) and Zahiri et al. (2012). The specimens were identified using Leica APO Stereozoom microscope. A digital camera Canon A620 was used for taking the photos of moths.

Family: Erebidae
- **Subfamily: Calpinae**
  - *Eudocima phalonia* Clerck (Fig.47,53)
  - *Eudocima hypermnestra* (Cramer) (Fig.33)
  - *Eudocima materna* Linnaeus
  - *Eudocima homaena* (Hubner)
  - *Phyllodes consobrina* Westwood
  - *Oraesia emarginata* (Fabricius)
  - *Achaea janatha* (Linnaeus)
- **Subfamily: Boletobinae**
  - *Lopharthrum comprimens* Walker (Fig.25)
- **Subfamily: Scoliopteryginae**
  - *Calesia haemorrhoa* Guenee
  - *Anomis flava* Fabricius
  - *Anomis sabulifera* Guenee
- **Subfamily: Pangraptinae**
  - *Egnasia accingalis* Walker
  - *Egnasia ephyrodalis* Walker (Fig.2)
- **Subfamily: Erebinae**
  - *Ischyja manlia* (Cramer) (Fig.28)
  - *Dysgonia stuposa* Fabricius
  - *Bastilla crameri* Moore (Fig.14)
  - *Grammodes geometrica* (Fabricius)
  - *Hulodes caranea* Cramer
  - *Ercheia cyllaria* Cramer (Fig.17)
  - *Ercheia diversipennis* Walker
  - *Oxyodes scrobiculata* Fabricius
  - *Erebus hieroglyphica* Drury (Fig.49)
  - *Thyas coronata* Fabricius
  - *Thyas honesta* Hubner (Fig.18)
  - *Lygniodes vampyrus* (Fabricius)
  - *Artena submira* Walker
  - *Trygonodes hyppasia* Cramer
  - *Erebus macrops* Linnaeus (Fig.9)
  - *Ericeia inangulata* (Guenee)
  - *Dierna patibulum* Fabricius
  - *Avatha bubo* (Geyer) (Fig.11)
  - *Serrodes campana* Guenee
  - *Sphingomorpha chlorea* (Cramer)
  - *Spirama retorta* Clerck (Fig.5)
  - *Mocis undata* Fabricius (Fig.45)
- **Subfamily: Aganainae**
  - *Asota producta* Butler (Fig.6)
  - *Asota caricae* Fabricius
  - *Asota heliconia* (Linnaeus)
  - *Asota plana* (Walker)
  - *Asota ficus* Fabricius
  - *Asota ficus* Fabricius
  - *Neochera inops* (Walker) (Fig.1)
- **Subfamily: Arctiinae**

Family: Lasiocampidae
- **Subfamily: Lasiocampinae**
  - *Metanastria aconyta* Cramer

Family: Sphingidae
- **Subfamily: Macroglossinae**
  - *Macroglossum particolor* Rothschild & Jordan
  - *Macroglossum insipida* Butler
  - *Macroglossum gyrans* Walker
  - *Acosmeryx anceus subdeniata* Rothschild & Jordan (Fig.3)
  - *Angonyx testacea* (Walker)
  - *Hippotion celerio* (Linnaeus)
  - *Hippotion boerhavia* (Fabricius) (Fig.24)
  - *Theretra lycetus* Cramer (Fig.41)
  - *Theretra oldenlandae* (Fabricius) (Fig.31)
  - *Theretra pallicosta* (Walker) (Fig.50)
  - *Theretra silhetensis* Walker (Fig.40)
  - *Theretra latreillii* (Macleay)
  - *Theretra nessus* (Drury)
  - *Theretra gnoma* (Fabricius)
  - *Theretra alecto* (Linnaeus)
  - *Pergesa acteus* (Cramer) (Fig.46)
  - *Nephele hespera* (Fabricius) (Fig.26)
  - *Marumba dyras* (Walker) (Fig.15)
- **Subfamily: Sphinginae**
  - *Acherontia styx* Westwood
  - *Acherontia lachesis* (Fabricius) (Fig.19)
  - *Psilogramma* sp. (*menephron* agg.) (Fig.34)
  - *Agrius convolvuli* Linnaeus (Fig.32)
- **Subfamily: Smerinthinae**
  - *Amplypterus panopus* Cramer (Fig.27)
  - *Daphnis nerii* (Linnaeus) (Fig.37)
  - *Ambulyx belli* (Jordan) (Fig.23)

Family: Eupterotidae
- **Subfamily: Eupterotinae**
  - *Eupterote undata* Blanchard
  - *Eupterote mollifera* Walker
  - *Eupterote primularis* Moore

Family: Lasiocampidae
- **Subfamily: Lasiocampinae**
  - *Trabala vishnou* Lefebvre (Fig.13)

Family: Uraniidae
- **Subfamily: Epipleminae**
  - *Orudiza prothoclaria* Walker
  - *Epiplema irrorata* (Moore)
- **Subfamily: Microniinae**
  - *Micronia aculeata* Guenee

Family: Geometridae
- **Subfamily: Geometrinae**

PLATE 1

PLATE 2

PLATE 3

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A PRELIMINARY CHECKLIST OF HYMENOPTERAN LARVAL AND PUPAL PARASITOIDS OF MOTHS (LEPIDOPTERA: HETEROCERA) FROM INDIA

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AUTHORS' CONTRIBUTIONS

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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Review Article

ABSTRACT

The present paper, based on the study of published literatures, provides an updated checklist of 54 species of pupal and 197 species of larval hymenopteran parasitoids associated with the larva and pupa of moths from India. Though the literatures pertaining to the above research work are available in various published journals and books, a compiled list is not so far published from India. The present paper also included the systematic status of both host (moth) and its natural enemies (hymenopteran parasitoids), which would be helpful for biological control workers in future.

Keywords: Larval; pupal parasitoids; moths; heterocera; India.

1. INTRODUCTION

Lepidoptera, one of the largest insect orders after beetles, comprises more than 160,000 described species globally. According to van Nieukerken et al. [1], there are 15,578 described genera and 157,424 species worldwide.They are treated as sister group of butterflies and have an unwelcome impact on crops and other economically important flora. Many moth species are polyphagous and are major pests of agroecosystems. The conventional way of controlling these pests is by the use of insecticides or other chemicals which could bring about a non reversible damage to the genetic machinery of other fauna [2-20].

To reduce crop production losses and to diminish insecticide use, entomologists provided an eco-friendly method namely, biocontrol agents in which the natural enemies of the pests are used to control its

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