



Contents lists available at ScienceDirect

Journal of Asia-Pacific Biodiversity

journal homepage: <http://www.elsevier.com/journals/journal-of-asia-pacific-biodiversity/2287-884x>



Original article

Preliminary list of the lepidopterous insects in the Arizona State University Hasbrouck Insect Collection



Sangmi Lee*

The Hasbrouck Insect Collection, School of Life Sciences, Box 874501, Arizona State University, Tempe, AZ 85287, USA

ARTICLE INFO

Article history:

Received 14 January 2014

Received in revised form

31 January 2014

Accepted 31 January 2014

Available online 15 March 2014

Keywords:

Arizona

Catalog

Lepidoptera

Species

USA

ABSTRACT

The Arizona State University Hasbrouck Insect Collection (ASUHC) is one of the vital Southwest Arthropod collections in America North of Mexico, providing important biological information. The principal objective of the Catalog is to give a complete list of the lepidopterous insects held in the ASUHC. Furthermore, it will be an online catalog of the Lepidoptera of Arizona. The preliminary Lepidoptera checklist is presented, consisting of 1983 species and 175 subspecies of 55 families in approximately 60,000 holdings at the ASUHC. This article follows the recent classification and nomenclature (Hodges RW. 1983. *Check list of the Lepidoptera of America north of Mexico*. London, UK: E.W. Classey Ltd. and the Wedge Entomological Research Foundation; Moth Photographers Group (MPG). 2014. <http://mothphotographersgroup.msstate.edu/MainMenu.shtml>).

Copyright © 2014, National Science Museum of Korea (NSMK) and Korea National Arboretum (KNA). Production and hosting by ELSEVIER. All rights reserved.

Introduction

The Arizona State University Hasbrouck Insect Collection (ASUHC), located in Tempe, Arizona, USA, is estimated to hold approximately 750,000 insect specimens, mostly collected from the southwestern United States. These specimens represent at least 25 orders, 390 families, 4000 genera, 12,000 species, and 1240 subspecies in Class Insecta. Among them, the Lepidoptera collection consists of approximately 60,000 pinned specimens.

Historically, the collection has been known as ASUT (T stands for “Tempe”). The collection had about 50,000 specimens before Dr Frank Hasbrouck was hired at ASU as professor and curator of insects in 1962. The collection was significantly developed in the early 1960s after Dr Hasbrouck was appointed, growing to hold approximately 700,000 specimens. However, the collection was in dormancy for a 25-year period after he retired in the 1980s.

In 2011, the official collection acronym was changed to ASUHC after Dr Nico Franz was hired as curator of insects. The ASUHC has been entirely reactivated with various programs of research and education. Since July 2012, the collection has been involved in one of the NSF ADBC grants, called the Southwest Collections of Arthropods Network (SCAN), which is to maintain a database of specimen records and to serve online resources. Access to ASUHC online via SCAN will be performed as the platform to create, manage, and curate the virtual collections. While taking part in this task, it was revealed that nomenclature of all materials in the collection needs to be updated and the materials also need to be rearranged following the recent higher-level phylogenetic classification change that has been officially published (Nieukerken et al., 2011).

In the early 1990s, Drs Mont Cazier and Michael Douglas made a species-level collection inventory, consisting of 2057 species of 60 families in Lepidoptera. This ledger is now outdated in the taxonomic classification and names. This study contributes to one of the aims, which to develop a comprehensive and up-to-date inventory of the ASUHC species- and specimen-level holdings. Although this list of Lepidopterous species of the ASUHC is a preliminary catalog, the catalog of all insect holdings at the ASUHC will be continually updated.

Materials and methods

This investigation was started with specimens held at the ASUHC, especially narrowed to the Lepidoptera specimens. Among

* Tel.: +1 480 727 5977.

E-mail address: microlepi@hotmail.com.

Peer review under responsibility of National Science Museum of Korea (NSMK) and Korea National Arboretum (KNA).

750,000 holdings, the Lepidoptera collection currently consists of approximately 60,000 pinned specimens. However, the collection is expected to be continually increased because there are active students, researchers, and affiliates who are continuing collecting, and some donations continue to pour in. Materials of Lepidoptera at ASUHC have been carefully databased with the specimen records and IDs on the SCAN (<http://symbiota1.acis.ufl.edu/scan/portal/index.php>). In this study, the list of species was based on the current holdings in the collection, and arranged alphabetically within each family. All species names were checked with two references (Hodges, 1983, MPG 2014), which are known as the standards.

Results and discussion

A total of 1983 species and 175 subspecies of 870 genera of 55 families are reported among approximately 60,000 holdings. Based on the increased numbers of holding specimens (up to 50,000 within the period 2011–2013), the collection will be continuously increased and the newly reported species will be included (Table 1).

Table 1

List of lepidopterous species deposited at ASUHC.

Family Eriocraniidae

Eriocraniella longifurcula Davis, 1978

Eriocraniella sp.

Family Hepialidae

Abantiades marcidus Tindale, 1932

Phymatopus californicus (Boisduval, 1868)

Sthenopsis purpurascens (Packard, 1864)

Trictena atripalpis (Walker, 1856)

Family Nepticulidae

Stigmella sp.

Family Opostegidae

Opostega bistrigulella Braun, 1918

Family Tischeriidae

Coptotriche arizonica (Braun, 1972)

Tischeria bifurcata Braun, 1915

Family Prodoxidae

Agavenema barberella (Busck, 1915)

Mesepiola specca Davis, 1967

Parategeticula pollenifera Davis, 1967

Prodoxus quinquepunctella (Chambers, 1875)

Prodoxus sordidus Riley, 1892

Tegeticula yuccasella (Riley, 1872)

Family Adelidae

Adela septentrionella Walsingham, 1880

Adela flammeusella Chambers, 1876

Family Tineidae

Acrolophus acornus Hasbrouck, 1964

Acrolophus arcanella (Clemens, 1859)

Acrolophus arizonellus Walsingham, 1887

Acrolophus baldufi Hasbrouck, 1964

Acrolophus bicornutus Hasbrouck, 1964

Acrolophus cockerelli (Dyar, 1900)

Acrolophus crescentella (Kearfott, 1907)

Acrolophus cressoni (Walsingham, 1887)

Acrolophus filicicornus (Walsingham, 1887)

Acrolophus forbesi Hasbrouck, 1964

Acrolophus furcatus (Walsingham, 1887)

Acrolophus griseus (Walsingham, 1887)

Acrolophus kearfotti (Dyar, 1903)

Acrolophus klotsi Hasbrouck, 1964

Acrolophus laticapitanus (Walsingham, 1884)

Table 1 (continued)

Acrolophus laticapitanus clarkei Hasbrouck, 1964

Acrolophus laticapitanus heinrichi Hasbrouck, 1964

Acrolophus luriei Hasbrouck, 1964

Acrolophus macrogaster lamincornus Hasbrouck, 1964

Acrolophus macrogaster unipectinicornis Hasbrouck, 1964

Acrolophus macrophallus Hasbrouck, 1964

Acrolophus mortipennella (Grote, 1872)

Acrolophus morus (Grote, 1881)

Acrolophus parvipalpus Hasbrouck, 1964

Acrolophus persimplex (Dyar, 1900)

Acrolophus plumifrontella (Clemens, 1859)

Acrolophus popeanella (Clemens, 1859)

Acrolophus propinquus (Walsingham, 1887)

Acrolophus pseudohirsutus Hasbrouck, 1964

Acrolophus pyramellus (Barnes & McDunnough, 1913)

Acrolophus quadrellus (Barnes & McDunnough, 1913)

Acrolophus seculatus Hasbrouck, 1964

Acrolophus simulatus Walsingham, 1882

Acrolophus texanella (Chambers, 1878)

Acrolophus variabilis (Walsingham, 1887)

Acrolophus vauriei Hasbrouck, 1964

Amydria apachella Dietz, 1905

Amydria arizonella Dietz, 1905

Amydria curvistrigella Dietz, 1905

Amydria effrentella Clemens, 1859

Amydria onagella Dietz, 1905

Amydria sp.

Cephitinea obscuroides (Chambers, 1874)

Daviscardia coloradella (Dietz, 1905)

Diataga leptosceles Walsingham, 1914

Dorata atomophora Meyrick, 1928

Dorata inornatella Busck, 1904

Dorata lineata (Walsingham, 1889)

Dyotopasta yumaella (Kearfott, 1907)

Elatobia carbonella (Dietz, 1905)

Haplotinea insectella (Fabricius, 1794)

Homosetia miscecrystalata (Chambers, 1873)

Homostinea curviliniella Dietz, 1905

Nemapogon auropulvella (Chambers, 1873)

Nemapogon cloacella (Haworth, 1828)

Nemapogon defectella (Zeller, 1873)

Nemapogon granella (Linnaeus, 1758)

Opogona arizonensis Davis, 1978

Setomorpha rutella Zeller, 1852

Setomorpha simplata (Dietz)

Tinea apicimaculella Chambers, 1875

Tinea niveocapitella Chambers, 1875

Tinea occidentella Chambers, 1880

Tinea pallescentella Stainton, 1851

Tinea pellionella (Linnaeus, 1758)

Tinea sp.

Tineola bisselliella (Hummel, 1823)

Xylesthia albicans Braun, 1923

Xylesthia pruniramiella Clemens, 1859

Family Psychidae

Astala polingi (Barnes & Benjamin, 1924)

Coloneura fragilis (Barnes & McDunnough, 1916)

Oiketicus toumey Jones, 1922

Oiketicus sp.

Family Bedelliidae

Bedellia somnulentella (Zeller, 1847)

Family Lyonetiidae

Bucculatrix koebelella Busck, 1910

(continued on next page)

Download English Version:

<https://daneshyari.com/en/article/4395042>

Download Persian Version:

<https://daneshyari.com/article/4395042>

[Daneshyari.com](https://daneshyari.com)