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The wasp moths (Lepidoptera: Noctuidae: Arctiinae) deposited in the entomological collection of the Los Tuxtlas Tropical Biology Station, Veracruz, Mexico

Las polillas avispa (Lepidoptera: Noctuidae: Arctiinae) depositadas en la colección entomológica de la Estación Biológica de Los Tuxtlas, Veracruz, Mexico

The Los Tuxtlas Tropical Biology Station was founded in 1967 by the Institute of Biology of the National Autonomous University of Mexico (UNAM). Today, this 640 hectare reserve is the only considerable intact tropical rainforest in the lowlands in the state of Veracruz. As part of the master research plan to document the biodiversity of insects within this study site, in 1984 inventories of several groups were initiated in order to form an entomological collection in situ. The objectives were a) a reference collection of insects complete with taxonomical identifications which could be linked to diverse research projects carried out within the field station, and b) the generation of information relevant to the aspects of the biology, ecology, diversity, biogeography, evolution and systematics of the insects of the Los Tuxtlas region. Also part of this material was used to increment the National Insect Collection (CNI-IBUNAM) housed at the Institute of Biology in Mexico City.

In January 2010 we undertook the task of systematically ordering the Lepidopteran collection following two main principal criteria which were a) to order and identify the previously deposited specimens with the aim to produce a data base for this material and b) to increment the present collection with the addition of newly deposited specimens. Since the completion of this project will take several years we decided to begin with a group known as the wasp moths (Ctenuchina-Euchromiina) under the specialized technical support of a larger project "Inventory of the Ctenuchinae moths (Insecta: Lepidoptera: Arctiidae) of Mexico" of the University of Veracruz (Project No. 22314200531)

As a consequence of the recent advances in studies of the phylogenetics of the subfamily Arctiinae there have been some changes in its taxonomy (Schmidt and Opler, 2008). For the classification of the super genera we based the identifications on the works of Kitching and Rawlins (1998), Jacobson and Weller (2002), Lafontaine and Fibiger (2006) which determine the Arctiinae as a subfamily of Noctuidae with three tribes known as Syntomini, Lithosiini and Arctiini. In the latter are located the sub tribes of Ctenuchina y Euchromiina.

The subfamily Arctiinae: Ctenuchina and Euchromiina (Syntomidae, Euchromidae, Amatidae, Ctencuchidae), are characterized by possessing a pair of eardrums on the spiracles of the metathorax which are protected by an operculum, their antennae are simple, ciliate or bipectinate. The absence of the Sc + R1 veins on the posterior wings is noteworthy (Lima, 1950; Zayas, 1989, Kitching and Rawlins 1999, Jacobson and Weller 2002, Teston and Corseuil 2003, Hernández-Baz and Bailey 2006).

The noted differences between these two sub tribes are that the Euchromiina posees a ramification of the cubital vein (CuA) which appears to be very close or almost fused, whereas in the Ctenuchina the CuA veins are separated (Hernández-Baz and Bailey 2006).

Taxonomic identification criteria were based upon the consultation of published works of Hampson (1898, 1914), Draudt (1917), Dietz and Duchworth (1976), Watson *et al.* (1980) and Dietz (1994) Other references such as Pérez and Sánchez (1979, 1989), Hernández-Baz (1992), Hernández-Baz and Iglesias (2001), Hernández-Baz and Grados (2004) were consulted.

The taxonomical nomenclature follows that of Draudt (1917) and the identification of each species was corroborated with specimens that are deposited in the registered wasp moth collection (SEMARNAT/CITES/CP-0026-VER/05) of Mexico. The order at the species level within each sub tribe is alphabetical.

After an exhaustive revision of the biological material available in the Los Tuxtlas reference collection (EBTLT-IBUNAM) we were able to identify 210 individuals representing 54 species. These species are distributed in two sub tribes: Ctenuchina with 13 genera and 38 species and Euchromiina with 14 genera and 26 species. (Appendix I). The months in which the specimens were collected are included for all species. Color plates of all species identified are also included in order to facilitate the identification for researchers in the field. (Plates 1-3). The material presented here fortifies and enriches the scarce information on the presence and distribution for wasp moths which have been little studied, as well as moths in general, throughout Mexico.

In summary we wish to point out that this reference collection now has a representation of 76 % of the species reported for the Los Tuxtlas region by Pérez y Sánchez (1979, 1989), Hernández-Baz (1992) and Hernández-Baz and Grados (2004). As an expected result of the continuing collecting program we hope to have at least 90 % of all species reported within one year and perhaps the addition of new species for the region.

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Appendix I. Species list of the wasp moths (Ctenuchina y Euchromiina) *sensu lato* of the Los Tuxtlas Tropical Biology Station. Roman numerals indicate the months in which specimens were collected.

Arctiinae
Arctiini
Ctenuchina

Aclytia ventralis (Guérin-Menéville,[1849]) III, IV, VIII, X, XI, XII.
Belemnia inaurata (Sulzer, 1776) V, VI, VIII, IX.
Correbia affinis (Druce 1884) III, VIII, X, XI.
Correbidia elegans (Druce, 1884) V, VIII, XI, XII.
Correbidia germana (Rothschild, 1912) VIII.
Correbidia lycoides (Walker, 1854) X
Cyanopepla submacula borealis Rothschild, 1912 IV, V.
Delphyre hampsoni Rothschild XII
Delphyre rubricincta Hampson 1898 VI, VII.
Delphyre testacea (Druce 1889) XII.
Dinia eagrus (Cramer, 1779) III, X.
Episcepsis capysca Schaus, 1910 X
Episcepsis inornata (Walker, 1856) III, V, VIII, IX, X, XI, XII.
Episcepsis lenaeus (Cramer, 1780) XI
Episcepsis thetis (Linnaeus, 1771) X
Episcepsis venata (Butler, 1897) XI
Eucereon aroa Schaus, 1894 V, IX, X, XII.
Eucereon atrigutta (Druce, 1905) I, XII.
Eucereon formosum dognini Rothschild, 1912 I, X, XII.
Eucereon patrona (Schaus 1896) II, III, V.
Eucereron phaeoproctum (Hampson, 1899) I, III, XII.
Eucereon pseudarchias (Hampson, 1898) VIII, XI, XII
Eucereon rosa (Walker, 1854) IV, VIII, IX, X, XII
Eucereon tarona Hampson, 1898 II, III, VIII, X, XI, XII.
Hyaleucerea gigantea (Druce, 1884) XII
Ixylasia schausi (Druce 1896) III, X, XII.
Theages xanthura (Schaus, 1910) V, VI, VIII, X, XI, XII.
Timalus caeruleus (Hampson, 1898) III

Euchromiina
Chrostosoma braconoides (Walker, 1854) III, IX, X, XI, XII.
Chrostosoma caecum Hampson 1898 XII.
Chrostosoma festiva (Walker, 1854) VIII, X.
Chrostosoma hercyna hercyna (Druce, 1884) VIII, X, XI.

Chrostosoma impudica Schaus, 1911 III
Chrostosoma pudica Druce, 1894 X
Chrostosoma sectinota Hampson 1898 X
Chrostosoma semifulva (Druce, 1884) III, XII.
Chrostosoma stilbosticta (Butler, 1876) III, V, X, XIII.
Chrostosoma teuthras cingulatum Butler, 1876 VIII.
Chrostosoma xanthostictum (Hampson, 1898) VII, X.
Dycladia correbioides Felder, 1874 III, XII.
Hypocharis clusia (Druce, 1897) I, IV, VIII, X.
Isanthrene perbosci (Guérin-Menéville, 1844) II, V, VIII, X.
Loxophlebia masa (Druce, 1882) XII
Macrocneme chrysitis (Guérin-Menéville, 1844) III, V, IX, XII.
Nelphe relegatum (Schaus, 1911) I, X.
Nyridela xanthocera (Walker, 1856) X, XII.
Pheia drucei (Kirby, 1892) IX, XII.
Pseudohyaleucerea vulnerata vulnerata (Butler, 1875) XI, XII.
Pseudomya phoenicosticta (Hampson 1898) VIII
Psilopleura vittata (Walker, [1865]) XXX, XII.
Sphecosoma felderi (Druce, 1883) III, V.
Syntomeida epilais epilais (Walker, 1854) VI.
Syntomeida syntomoides (Boisduval 1836) X, XII.

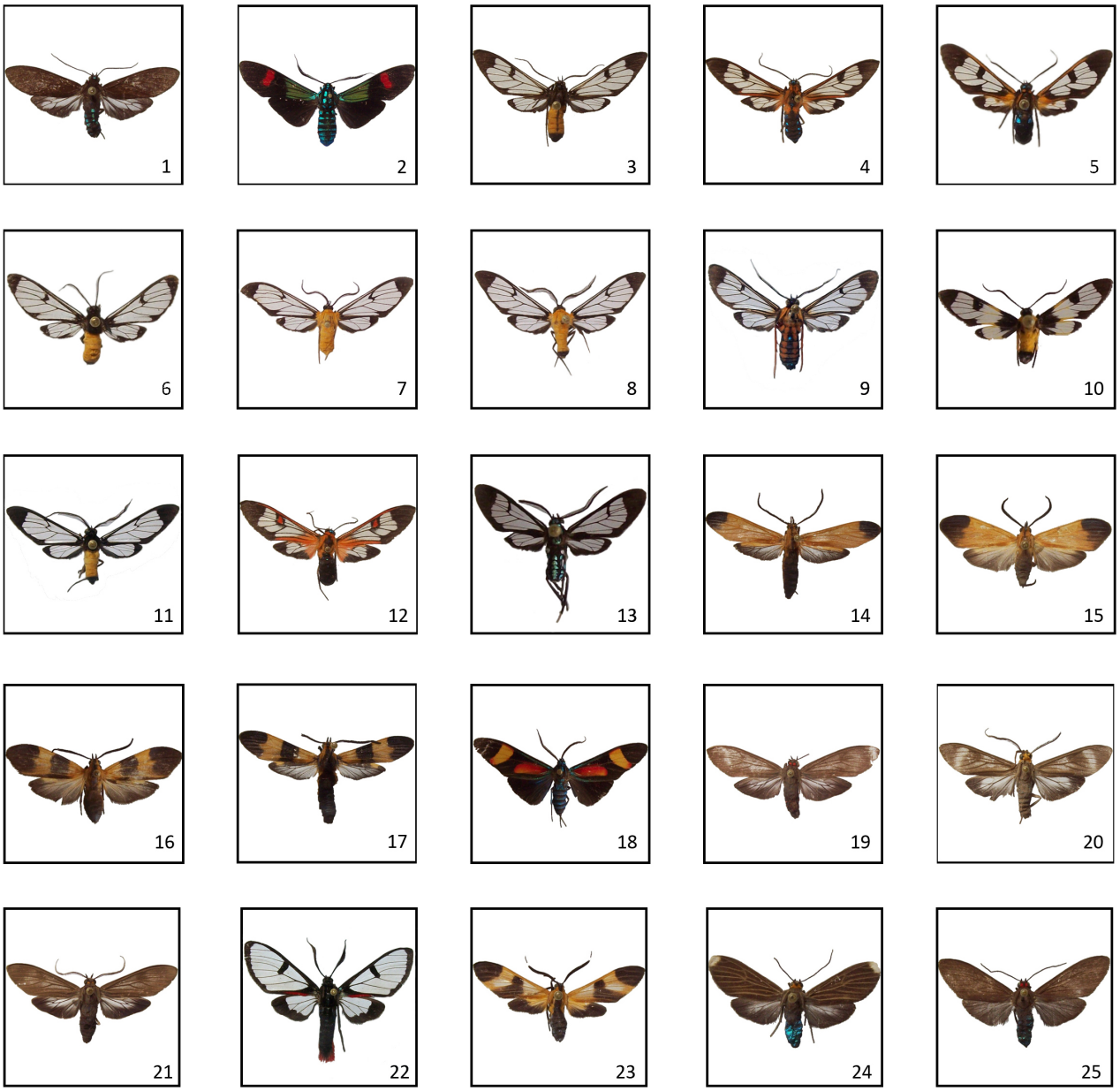

Plate 1. Color plate of identified Ctenuchina y Euchromiina species of the Los Tuxtlas Tropical Biology Station. Images of species are presented in alphabetical order. 1. *Aclytia ventralis*; 2. *Belemnia inaurata*; 3. *Chrostosoma braconoides*; 4. *Chrostosoma caecum*; 5. *Chrostosoma festiva*; 6. *Chrostosoma hercyna hercyna*; 7. *Chrostosoma impudica*; 8. *Chrostosoma pudica*; 9. *Chrostosoma sectinota*; 10. *Chrostosoma semifulva*; 11. *Chrostosoma stilbosticta*; 12. *Chrostosoma teuthras cingulatum*; 13. *Chrostosoma xanthostictum*; 14. *Correbia affinis*; 15. *Correbidia elegans*; 16. *Correbidia germana*; 17. *Correbidia lycoides*; 18. *Cyanopepla submacula borealis*; 19. *Delphyre hampsoni*; 20. *Delphire rubricincta*; 21. *Delphire testacea*; 22. *Dinia eagrus*; 23. *Dycladia correbioides*; 24. *Epyscepsis capysca*; 25. *Episcepsis inornata.*

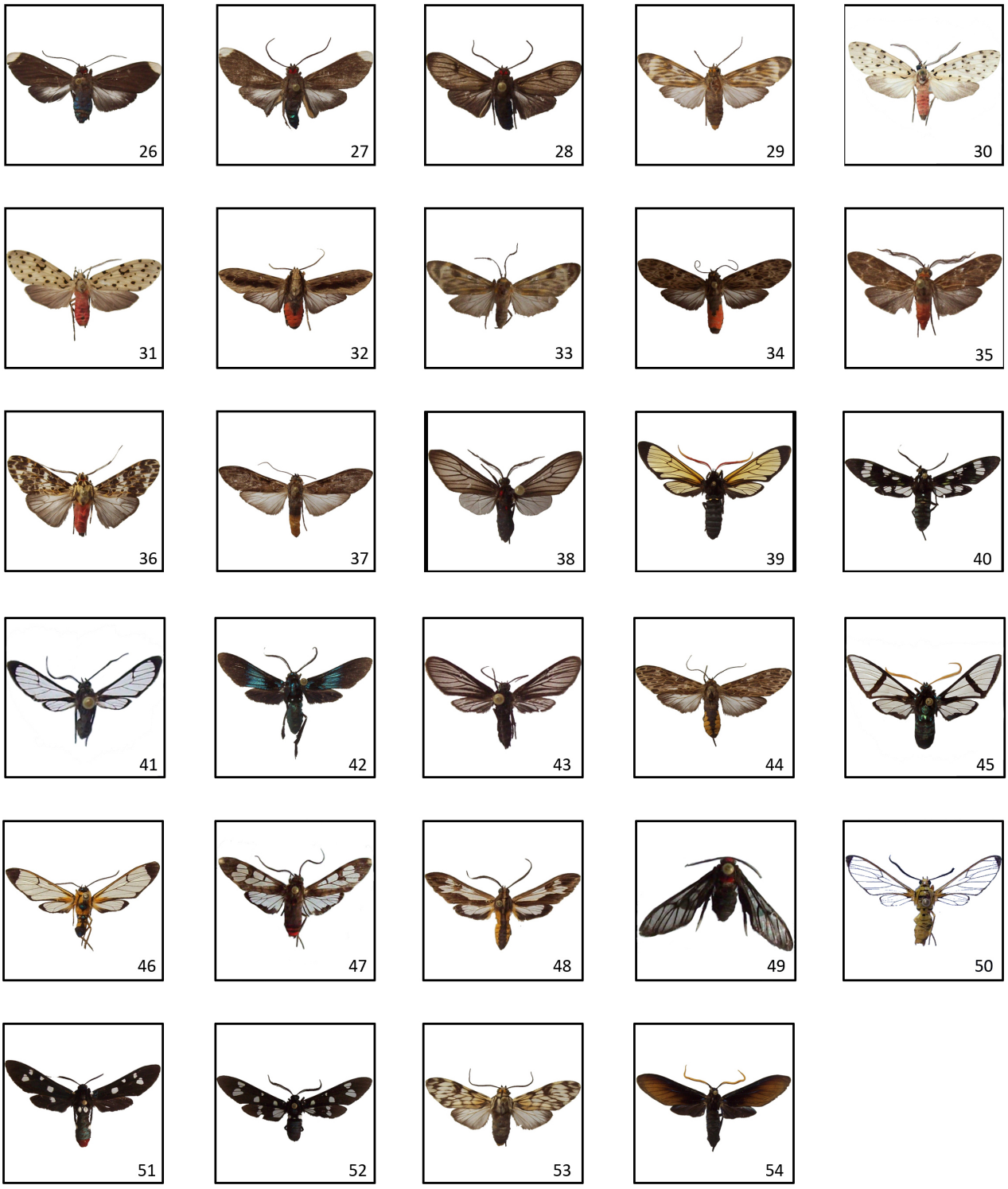

Plate 2. Color plate of identified Ctenuchina y Euchromiina species of the Los Tuxtlas Tropical Biology Station. Images of species are presented in alphabetical order. 26. *Episcepsis lenaeus*; 27. *Episcepsis thetis*; 28. *Episcepsis venata*; 29. *Eucereon aroa*; 30. *Eucereon atrigutta*; 31. *Eucereon formosum dognini*; 32. *Eucereon patrona*; 33. *Eucereron phaeoproctum*; 34. *Eucereon pseudarchias*; 35. *Eucereon rosa*; 36. *Eucereon tarona*; 37. *Hyaleucerea gigantea*; 38. *Hypocharis clusia*; 39. *Isanthrene perbosci*; 40. *Ixylasia schausi*; 41. *Loxophlebia masa*; 42. *Macrocneme chrysitis*; 43. *Mesothen desperata*; 44. *Nelphe relegatum*; 45. *Nyridela xanthocera*; 46. *Pheia drucei*; 47. *Pseudohyaleucerea vulnerata vulnerata*; 48. *Psilopleura vittata*; 49. *Pseudomya phoenicosticta*; 50. *Sphecosoma felderi*; 51. *Syntomeida epilais epilais*; 52. *Syntomeida syntomoides*; 53. *Theages xanthura*; 54. *Timalus caeruleus*.