

PAPER.

**Insects Occurring on Plants of Lobelioideae in the
Hawaiian Islands.**

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The species of this family are not much attacked by insects. Those which do attack them are not particularly injurious to the plants. The fact that so few insects attack the Lobelioideae accounts for there having been less special attention given to collecting insects from these plants than to many others which yield insects in greater numbers.

Some of the insects mentioned below may be specially attached to their respective plants, not having been reared from others; but the records are altogether too meager to state with certainty until more observations are made. The following list is made up from the records of several entomologists: Dr. Perkins, Messrs. Giffard, Swezey, Timberlake and Bridwell.

These records are almost entirely from collecting on the Island of Oahu. If special collecting should be done on the Lobelioideae on the other islands no doubt many more species could be added to the list.

HYMENOPTERA.

Family BRACONIDAE.

Microdus hawaiiicola. Bred from *Thyrocopa* sp. in dead stem of *Clermontia*.

A Figitid has been collected on *Rollandia*. It was probably parasitic on a Drosophilid.

LEPIDOPTERA.

Family GELECHIIDAE.

Thyrocopa sp. This moth has been reared from larvae in dead stems of *Clermontia*.

Family *Carposinidae*.

Heterocrossa olivaceonitens. This moth has often been reared from larvae in the fruit and flower buds of *Clermontia kakeana*. It has been reared also from various other kinds of fruits.

Heterocrossa gemmata. This moth has been reared from the flowers and fruit of *Rollandia*, and from the fruit of *Clermontia*.

Heterocrossa crinifera. This species occurs as a leaf-miner in *Rollandia Humboldtiana*.

Heterocrossa sp. An undetermined species reared on one occasion from larva boring in stem of *Cyanea*.

Family HYPONOMEUTIDAE.

Neelysia sp. Reared from larvae in dead stems of *Clermontia*.

Hyperdasys cryptogamiellus. This moth was reared from a larva in the dead stem of *Clermontia*. It has been found in dead wood of other kinds as well.

Family TINEIDAE.

Opogona aurisquamosa and *O. apicalis*. Reared from larvae in dead *Clermontia* stems.

DIPTERA.

Family AGROMYZIDAE.

Agromyza sp. On a few occasions the leaves of *Clermontia persicifolia* have been found mined with the larvae of a fly, but none reared to maturity.

Larvae of some fly have been found in young shoots of *Clermontia parviflora* on Hawaii. Perhaps some Drosophilid or other scavenger.

HEMIPTERA.

Family DELPHACIDAE.

Nesosydne blackburni. This leafhopper has been taken on *Clermontia parviflora*, on Hawaii, but it usually occurs on other plants.

Nesosydne pseudorubescens. This species has also been taken on *Clermontia parviflora*, tho it usually occurs on koa.

Nesosydne lobeliae and *N. montis-tantalus* occur on *Lobelia hypoleuca*.

Nesosydne timberlakei has been taken on *Cyanea truncata*.

Nesosydne wailupensis has been collected on *Rollandia crispa*.

Nesodryas giffardi has been collected in abundance on *Rollandia crispa*.

Family TETTIGONIIDAE.

Nesophrosyne spp. Several species of these leafhoppers have been collected from different Lobelioideae, but they are as yet undetermined.

Family MIRIDAE.

Several species of plant bugs have been collected from Lobelioideae, but they are as yet undetermined.

Family ANTHOCORIDAE.

A bug of this family has been taken in hollow dead stems, where in search of prey.

Family COCCIDAE.

Saissetia hemispherica. Has been found on *Clermontia parviflora* on Hawaii.

COLEOPTERA.

Family CARABIDAE.

A few of this family are sometimes found hiding or in search of prey in the hollow dead stems of *Clermontia*.

Family NITIDULIDAE.

Orthostolus robustus, and other beetles of this family are often found very numerous in the flowers and decaying fruits of many if not all species of Lobelioideae. Some are also found in decaying bark of the dying stems.

Family PROTERHINIDAE.

An undetermined species of this family has been reared from larvae in dead *Clermontia* stems. There may be other species also.

Family SCOLYTIDAE.

A species of this family has been taken in dead *Clermontia* stems.

Family CURCULIONIDAE.

Dryophthorus crassus. This large Cossonid beetle has been taken in abundance in dead *Clermontia* stems.

Oodemas sp. has been taken in similar situations as the above.

ORTHOPTERA.

Family GRYLLIDAE.

Prognathogryllus alatus and *P. stridulans*. These peculiar crickets and other allied species are often found hiding in hollow dead stems of *Clermontia* and other Lobelioideae.

THYSANOPTERA.

Heliothrips haemorroidalis. Has been collected on *Clermontia parviflora* on Hawaii.

NOTES AND EXHIBITIONS.

Pipunculus sp.—Mr. Rosa exhibited puparia of a *Pipunculus* fly obtained from leafhoppers on sugar cane at the H. S. P. A. Experiment Station grounds, undoubtedly the same species that was exhibited by Mr. Timberlake at the last meeting,