

RESERVA KAREN MOGENSEN, COSTA RICA

Chalcidoidea Group (Families: Encyrtidae and Eulophidae)

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INSECTS (INSECTA): HYMENOPTERA

The insect order Hymenoptera (bees, wasps and ants) currently includes more than 120,000 described species worldwide. Adults vary in size from about 0.13mm ("fairy flies" or Mymaridae) to 55mm ("tarantula hawks" or Pompilidae) in length. The biology of the group is very diverse and includes a wide variety of plant feeding (phytophagous) species, but the vast majority live as predators of other insects and arthropods. The immature stages of most predatory species live in or on other arthropods and are parasitic in nature. These are known as parasitoids because they eventually kill the host. Adult parasitoids mostly have a different life style from their immature stages and are often free-living and may not feed at all.

It is likely that within Costa Rica the Hymenoptera is represented by more than 75,000 species but current knowledge is far from complete. Since the mid 1980's a concerted effort has been underway to improve our knowledge of this group in Costa Rica with most work being done on the parasitoid groups Ichneumonoidea, Platyastroidea and Chalcidoidea. The Chalcidoidea is probably the largest and most diverse of these groups.

The smallest known winged insect in the world is a chalcidoid (*Kikiki huna* Huber & Beardseely) and has been recorded from Costa Rica. The group includes many phytophagous species. Species of one group (Agaonidae, fig wasps) are essential pollinators of figs. Other groups include species whose immature stages feed within various fruits and may be classed as pests. However, the vast majority of chalcidoids are parasitoids of the immature and adult stages belonging to at least 15 orders of insects, various mites, ticks and spiders, and occasionally even nematodes. Because of their status as natural enemies, a large number of species have been used successfully as biological control agents making huge savings to the cost of pest control in many of the world's countries, including Costa Rica.

Over 4000 species of Chalcidoidea have been recognised in Costa Rica. Of the 22 families representing chalcidoids, the families Encyrtidae and Eulophidae have been the most studied. Currently about 2000 species of Encyrtidae and more than 1000 species of Eulophidae have been noted in Costa Rica and in recent years samples have been taken from most parts of Costa Rica including Reserva Privada Karen Mogensen. Most have yet to be formally described but at least 205 species belonging to these two groups have been noted from the reserve as listed here. The list includes a good number of species, but if we ever get to identify and name all of the species that we have collected in the Reserva Privada Karen Mogensen since 2005 I think the number of species could quite easily double or even triple.

Family Encyrtidae

sp.nov. = species new to science;

spp.nov. = several species new to science (total in brackets)

Acerophagoides almon Noyes

Acerophagus sp. A

Acerophagus oeta Noyes

Adelencyrtus moderatus (Howard)

Aenasius caeruleus Brues
Aenasius dives Noyes
Aenasius flandersi Kerrich
Aenasius frontalis Compere
Aenasius longiscapus Compere
Aenasius insularis Compere
Aenasius tachigaliae (Brues)
Aenasius zenonis Noyes
Agarwalencyrtus euroxes Noyes
Ammonoencyrtus sp. A
Anagyrus sp. A
Anagyrus aper Noyes & Menezes
Anagyrus californicus (Compere)
Anagyrus cercides Noyes & Menezes
Anagyrus gemma Noyes
Anagyrus lizanorum Noyes & Menezes
Anagyrus mirtesae Noyes & Menezes
Anagyrus phya Noyes & Menezes
Anagyrus pulchricornis (Howard)
Anagyrus putonophilus Compere
Anagyrus rosichoni Noyes & Menezes
Anagyrus sucro Noyes
Anagyrus trinidadensis (Kerrich)
Anagyrus villalobosi Noyes & Menezes
Anicetus sp.nov. (1)
Anicetus annulatus Timberlake
Arhopodiella sp.nov. (1)
Arrhenophagus sp.nov. (1)
Blepyrus clavicornis (Cameron)
Blepyrus hansonii Noyes
Blepyrus insularis (Cameron)
Blepyrus sappho Noyes
Bothriocraera fuores Noyes
Brachyplatycerus sp.nov. (1)
Cerchysiella spp.nov. (6)
Cerchysiella scutellata (Howard)
Cerchysiella laevigatus (De Santis)
Cheiloneurus spp.nov. (6)
Chrysoplatycerus ixion Noyes
Cicoencyrtus aetes Noyes
Coccidencyrtus sp.nov. (1)
Copidosoma sp.nov. (1)
Encyrtus aurantii (Geoffroy)
Encyrtus intolus Noyes
Exoristobia spp. nov. (2)
Forcipestricis spp. nov. (10)
Genus nov. A sp.nov. (1)
Genus nov. B sp.nov. (1)
Genus nov. C sp.nov. (1)
Genus nov. D sp.nov. (1)
Genus nov. E sp.nov. (1)
Genus nov. F sp.nov. (1)
Genus nov. G sp.nov. (1)
Gyranusoidea deione Noyes
Gyranusoidea dispar (Kerrich)
Hambletonia calvifrons Sharkov & Woolley
Hambletonia setosifrons Sharkov & Woolley
Helegonatopus pseudophanes Perkins

Ixodiphagus sp.nov. (1)
Lamennaisia spp.nov. (4)
Lirencyrtus spp.nov. (4)
Lohiella sp.nov. (1)
Mahencyrtus nitidus (Howard)
Meniscocephalus costaricanus Trjapitzin
Meromyzobia halpas Noyes
Metaphycus spp.nov. (8)
Metaphycus alberti (Howard)
Metaphycus codrus Noyes
Metaphycus crabra Noyes
Metaphycus cyrnos Noyes
Metaphycus dores Noyes
Metaphycus elisa Noyes
Metaphycus flavus (Howard)
Metaphycus harveyorum Noyes
Metaphycus hippo Noyes
Metaphycus issa Noyes
Metaphycus lebedus Noyes
Metaphycus merendo Noyes
Metaphycus metor Noyes
Metaphycus mus Noyes
Metaphycus norahae Noyes
Microterys vecoris Noyes
Noyesencyrtus sp.nov. (1)
Oobius sp.nov. (1)
Ooencyrtus spp.nov. (2)
Ooencyrtus acedes Noyes
Ooencyrtus anasae (Ashmead)
Ooencyrtus caligo Noyes
Ooencyrtus clanius Noyes
Ooencyrtus consona Noyes
Ooencyrtus submetallicus (Howard)
Ooencyrtus syrphidis Noyes
Ooencyrtus uturna Noyes
Parablatticida sp.nov. (1)
Pentelicus sp.nov. (1)
Plagiomerus ?diaspidis Crawford
Prochiloneurus sp.nov.(1)
Prochiloneurus dactylopii (Howard)
Protyndarichoides sp.nov. (1)
Pseudleptomastix ?mexicana Noyes & Schauff
Psyllaephagus rotundiformis (Howard)
Rhytidothorax spp.nov. (27)
Sectiliclava sp.nov. (1)

Family EULOPHIDAE

* = Known only from RP Karen Mogensen

Apleurotropis albicaulis Hansson
Apleurotropis anemia Hansson
Chrysonotomyia indigitus Hansson
* *Chrysonotomyia varitincta* Hansson
Cornugon diceros Hansson
Dentalion noyesi Hansson
Dentalion pinguicornis Hansson
Horismenus alnus Hansson
Horismenus amadeus Hansson

Horismenus amalurus Hansson
* Horismenus anisus Hansson
Horismenus arcuatus Hansson
Horismenus argus Hansson
Horismenus baeops Hansson
* Horismenus bonus Hansson
Horismenus cetiops Hansson
Horismenus cetratus Hansson
Horismenus discus Hansson
Horismenus dorypher Hansson
* Horismenus elongatus Hansson
Horismenus hadrops Hansson
* Horismenus lanceatus Hansson
Horismenus kaneus Hansson
Horismenus laselvae Hansson
Horismenus mexicanus Burks
Horismenus naevus Hansson
* Horismenus nicoyae Hansson
Horismenus nilus Hansson
* Horismenus peraclys Hansson
Horismenus pontus Hansson
Horismenus riatus Hansson
Horismenus sirenae Hansson
Horismenus striatus Hansson
* Horismenus striolatus Hansson
Horismenus ticus Hansson
Horismenus verus Hansson
Horismenus cetruchus Hansson
Horismenus culmatus Hansson
Horismenus doratus Hansson
Horismenus rosensis Hansson
Horismenus albicoxa Hansson
Horismenus albiscapus Hansson
Horismenus chydaeus Hansson