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**A PRELIMINARY LIST OF INSECTS OF DIEGO GARCIA
ATOLL, CHAGOS ARCHIPELAGO**

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A PRELIMINARY LIST OF INSECTS OF DIEGO GARCIA ATOLL, CHAGOS ARCHIPELAGO

by A. M. Hutson¹

INTRODUCTION

This paper presents a list of the insects collected by the author on Diego Garcia between March 19 and May 23, 1971, and discussion of earlier records. The circumstances of this visit are discussed in Hutson (1975). A general account of the geography and ecology of Diego Garcia is given in Stoddart & Taylor (1971). The intention of this paper is to give an idea of the composition of the insect fauna, to add to the previously recorded fauna such identifications as have been received to date and to make known what other material is available to specialists. All specimens are in the British Museum (Natural History). No attempt has been made to give details of locality, date, bionomics, etc. and numbers of specimens collected. Specimens were collected using hand techniques, at light and a small amount in a make-shift Herting Trap and water traps. The principal collecting sites were in the areas around Eclipse Point, Pte Marianne, De Moulin, Roche Point and East Point (see map in Hutson, 1975).

Other material, not examined in this study, was collected by Fehlmann in 1966 (see Stoddart, 1971) and by members of the U.S. Navy stationed on the atoll in 1971 (notably a dentist, Garry Miller). As yet unpublished records from other Chagos Archipelago islands were collected by M.J.D. Hirons et al. on Egmont Atoll in 1972-73, Eagle, Three Brothers and Danger Atolls in 1975 and elsewhere in 1978-79 during joint forces expeditions.

49 species of insect have been recorded from Diego Garcia and 113 from the Chagos Archipelago as a whole. All these records are discussed here. Where possible the nomenclature of these records has been brought up to date, but the identifications have not been checked except where stated. The author's interest in Diptera has probably given a bias to

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the collections made as well as to the results presented here. The previous major collection was by the Lepidopterist T. Bainbrigge Fletcher. Fletcher was on Diego Garcia for seven days of July, 1905 during the five weeks (May to July) that the Percy Sladen Trust Expedition was in the Chagos Archipelago. Of the 49 species previously recorded from Diego Garcia only 25 (51%) have been positively identified in the 1971 material. Similarly 49 (43%) of the 113 species previously recorded for the Chagos Archipelago as a whole have been identified in this material. More than 330 species were collected in 1971, but many of these still await identification.

THYSANURA

1 species unidentified

COLLEMBOLA

c.10 species unidentified

ODONATA

ANISOPTERA det. P.H. Ward

LIBELLULIDAE

Diplacodes trivialis (Rambur)
Pantala flavescens (Fabricius)
Trapezostigma limbata (Desjardins)

ZYGOPTERA det. P.H. Ward

COENAGRIIDAE

Agriocnemis pygmaea (Rambur)

Laidlaw (1907) recorded *Zyxomma seychellarum* Martin from Peros Banhos, *Orthetrum wrighti* (Selys) from Salomon, Peros Banhos and Diego Garcia, and *Ischnura senegalensis* (Rambur) (Agrionidae) from Diego Garcia. Champion (1913) re-identified the first two as *Zyxomma petiolatum* (Rambur) and *D. trivialis* respectively, and added *Tramnea limbata* Desjardins. Thus the present collection brings the total number of species to five for Diego Garcia and six for the Chagos.

ORTHOPTERA

TETTIGONIOIDEA det. J.A. Marshall

Euconocephalus chagosensis (Bolivar)

Gryllacrididae nymphs indet.

Bolivar (1912) described *Conocephaloides chagosensis* (now in the genus *Euconocephalus*) from Salomon and recorded *E. incertus* (Walker) (as *C. breviceps* Redtenbacher) from Salomon, Peros Banhos, Egmont and Diego Garcia.

GRYLLOIDEA det. J.A. Marshall

Ornebius validus (Bolivar)*Gryllodes sigillatus* (Walker)*Gryllotalpa* sp.

Bolivar (1912) described *Scottia chagosensis* (*Scottia* Bolivar preocc. = *Scottiola* Uvarov) from Salomon, and recorded *Curtilla* (= *Gryllotalpa*) *africana* (Pal. de Beauv.) from Peros Banhos and Egmont and *O. validus* from Salomon and Peros Banhos.

ACRIDIDAE det. L.M. Pitkin

Aiolopus simulatrix simulatrix Walker

Bolivar (1912) described *Aeolopus laticosta* from Salomon, Peros Banhos and Diego Garcia. This is now regarded as a synonym of *A. simulatrix*. ARDA (1961) records *A. savignyi* (Krauss), also a synonym of *A. simulatrix*, from Diego Garcia.

TETRIGIDAE det. J. Huxley

Paratettix chagosensis Bolivar

Bolivar (1912) described *P. chagosensis* from Diego Garcia.

DICTYOPTERA

BLATTODEA det. J.A. Marshall

Periplaneta americana (Linnaeus)*Periplaneta australasiae* (Fabricius)*Neostylopya rhombifolia* (Stoll)*Nauphoeta cinerea* (Olivier)*Leucophaea maderae* (Fabricius)*Pycnoscelus surinamensis* (Linnaeus)*Pycnoscelus indicus* (Fabricius)*Blattella germanica* (Linnaeus)*Margattea parvula* Bolivar

indet. nymphs

Bolivar (1924) recorded *B. germanica* from Salomon, *Margattea laxiretis* (described as a new species) from Salomon, *Periplaneta americana* from Peros Banhos, *P. australasiae* from Salomon and Diego Garcia and *P. surinamensis* from Diego Garcia and Peros Banhos. 9 of the 10 species recorded from the Chagos occur on Diego Garcia.

ISOPTERA

KALOTERMITIDAE det. R.M.C. Williams

Cryptotermes dudleyi Banks at a light
Glyptotermes sp. nr. *scotti* (Holmgren) trunk of rotting Cocos tree

RHINOTERMITIDAE det. R.M.C. Williams

Prorhinotermes canalifrons (Sjöstedt) trunk of rotting *Cocus* tree,
 crown of fresh *Cocos* tree
 and at light.

DERMAPTERA

CARCINOPHORIDAE det. A. Brindle

Anisolabis sp. ?nov.

CHELISOCHIDAE det. A. Brindle

Chelisoches morio (Fabricius)
Hamaxas sp. nov.

LABIIDAE

Labia curvicauda (Motschulsky)
 sp. indet.

Burr (1910) recorded *Borellia* [= *Euborellia*] *stali* (Dohrn) from Egmont and *Labidura riparia* (Pallas) from throughout the Chagos.

EMBIOPTERA

OLIGOTOMIDAE det. E.S. Ross

Oligotoma saundersii (Westwood)

PSOCOPTERA

indet. (c.10 species)

PHTHIRAPTERA

AMBLYCERA det. T. Clay

MENOPONIDAE

Austromenopon sp. from *Anous stolidus*

ISCHNOCERA det. T. Clay

PHILOPTERIDAE

Quadriceps separatus (Kellog & Kuwana) from *Anous stolidus*
Q. strepsilaris (Denny) from *Arenaria interpres*

Other unidentified lice were collected from *Acridotheres tristis* and *Streptopelia picturata*.

HEMIPTERA

HETEROPTERA det. P.S. Bloomfield

COREIDAE

1 sp. indet.

CYDNIDAE

1 sp. indet.

GERRIDAE

2 spp. indet.

LYGAEIDAE

4 spp. indet.

MIRIDAE

2 spp. indet.

PENTATOMIDAE

1 sp. indet.

REDUVIIDAE

1 sp. indet.

SALDIDAE

1 sp. indet.

Halobates alluaudi Bergroth was recorded without precise locality by Distant (1909, 1913). The Reduviid *Platymerus laevicollis* Distant was introduced to Diego Garcia in 1963 from East African stock in an attempt to control the Rhinoceros beetles, *Oryctes rhinocerus* (Linnaeus). 100 were released (Greathead, 1971), but there are no further records. The Reduviid mentioned for the present collection is a different species. No other Heteroptera have been recorded.

HOMOPTERA-AUCHENORHYNCHA det. P.S. Broomfield

CICADELLIDAE

5 spp. indet.

CIXIIDAE

1 sp. indet.

DELPHACIDAE

5 spp. indet.

DERBIDAE

1 sp. indet.

12 species here, no previous records.

HOMOPTERA-STERNORHYNCHA

APHIDIIDAE det. V.F. Eastop

Aphis gossypii Glover on *Vernonia*

COCCIDAE det. D.J. Williams

Pulvinaria grabhami Cockerell on *Achyranthes canescens*

DIASPIDIDAE det. D.J. Williams

Hemiberlesia lataniae (Signoret) on *Morinda citrifolia*

PSEUDOCOCCIDAE det. D.J. Williams

Planococcus citri-group on *Morinda citrifolia*
Pseudococcus citriculus Green on *Morinda citrifolia*

PSYLLIDAE det. D. Hollis

Leptynoptera sulphurea Crawford on *Calophyllum inophyllum*
Mesohomotoma hibisci (Froggatt) on *Hibiscus tiliaceus*

P. citri (Risso) was recorded from Diego Garcia from *Ficus* sp. by Green (1907) in the genus *Dactylopius* and by Mamet (1941) in the genus *Pseudococcus*. The group of species to which this belongs is currently under review and it is likely that the species on Diego Garcia is not true *citri*. Green also records *Lecanium* (= *Saissetia*) *oleae* (Olivier) (Coccidae) from "figuier des Banians" on Peros Banhos and Mamet (1941, 1943) recorded this species, *Ferrisia virgata* (Cockerell) (Pseudococcidae) and the Diaspidids *Aspidiella sacchari* (Cockerell), *Odonaspis ruthae* Kotinsky and *Pinnaspis aspidistrae* (Signoret). Greathead (1971) discusses the introduction of two species of Coccinellid beetle to control scale insects on Coconut and other crops. The scale insects were not named, but Orian (1959) listed *Aspidiotus destructor* Signoret, *Chrysomphalus ficus* Ashmead, *Pseudococcus adonidus* (Linnaeus) (= *longispinus* (Targioni Tozzetti) and *Pseudococcus* sp. as pests of coconut. Many palms were felled while the author was on the island, but no obvious damage by scale insects was evident.

Thus the present collection brings the published list for the Chagos to 12 species of Coccoidea. No other Sternorhyncha have been recorded previously so that the total for the whole group is 15.

THYSANOPTERA

PHLAEOTHIRIPIDAE det. B.R. Pitkin

Haplothrips gowdeyi (Franklin) on *Vernonia*, grasses, etc.

NEUROPTERA

CHRYSOPIDAE

Chrysopa sp.

Esben-Petersen (1927) described *Chrysopa rutila* as a new species from Salomon and Peros Banhos. This is now considered a synonym of the widespread *C. boninensis* Okamoto.

COLEOPTERA

BOSTRYCHOIDEA

LYCTIDAE det. E.R. Peacock

Lyctus brunneus Stephens

CARABOIDEA

CARABIDAE det. I.H. Davidson

indet.

ARDA (1961) states that the Carabid *Scarites madagascariensis* Dejean was being collected in Madagascar for despatch to Diego Garcia for control of Rhinoceros Beetle, *Oryctes rhinocerus* (Linnaeus), but I have not been able to establish whether this was actually accomplished and none was found in 1971.

DYTISCIDAE

Scott (1912) recorded *Bidessus thermalis* Germar from Diego Garcia, but no Dytiscids were found in 1971.

CHRYSOMELOIDEA

CERAMBYCIDAE det. I.H. Davidson

Cerambycinae indet.
Lamiinae indet.

Aurivillius (1922) recorded *Coptops aedificator* (Fabricius) from Salomon and Diego Garcia.

CLEROIDEA

CLERIDAE det. I.H. Davidson

Necrobia rufipes (Degeer)

The presence of this species on Diego Garcia was inferred by Orian (1959).

CUCUJOIDEA

ADERIDAE det. I.H. Davidson

Xylophilus spp. (3)

ANTHICIDAE det. I.H. Davidson

Anthicus nr. *andreae* Laf.

CERYLONIDAE det. I.H. Davidson

Euxestus ?*basalis* (Motschulsky)

Arrow (1922) recorded *E. parki* Wollaston from Egmont.

COCCINELLIDAE det. R.D. Pope

Chilocorus nigritus (Fabricius)
Coccinella repanda Thundberg var.
Platynaspis capicola Crotch
Scymnus (s.s.) sp.

C. nigratus and a *Scymnus* sp. were introduced to control scale insects on Coconut and other crops (Greathead, 1971). 2000 *Chilocorus* and 150 *Scymnus* were liberated in 1956 and a further shipment of *Chilocorus* in 1959. The only other Coccinellids recorded are *Menochilus sexmaculatus* (Fabricius) (in Chilomenes) recorded by Sicard (1912) from Salomon, Peros Banhos and Diego Garcia, and *C. repanda* recorded in ARDA (1961).

COLYDIIDAE det. I.H. Davidson

Colibicus nr. *specialis* Grouvelle
Ocholissa sp.
Trachypholis sp.
 indet.

CORYLOPHIDAE det. I.H. Davidson

indet.

CRYPTOPHAGIDAE det. I.H. Davidson

indet.

CUCUJIDAE det. I.H. Davidson

Psammoecus sp.

ENDOMYCHIDAE det. I.H. Davidson

Trochoideus desjardinsii Guérin

This was recorded from Egmont by Arrow (1922).

INOPEPLIDAE det. E.R. Peacock

Inopeplus sp.

NITIDULIDAE det. E.R. Peacock

Cybocephalus sp.

indet.

Grouvelle (1913) recorded *Carpophilus hemipterus* Linnaeus from Diego Garcia.

OEDEMERIDAE det. I.H. Davidson

Ananca aldabrana Champion
A. scabripennis Champion
A. ? var. of *scabripennis* Champion

RHIZOPHAGIDAE det. E.R. Peacock

Monotoma madagascariensis Grouvelle

TENEBRIONIDAE det. M.J.D. Brendell

Gonocephalum spp. (2)

indet.

CURCULIONOIDEA

ANTHRIBIDAE det. I.H. Davidson

indet.

APIONIDAE det. R.T. Thompson

Cylas formicarius Fabricius

CURCULIONIDAE det. R.T. Thompson

CURCULIONINAE det. R.T. Thompson

Cratopus adpersus Waterhouse

Microtrupis sp.

Mylocherus dentifer Fabricius var.

Pentarthrum sp.

Proeces depressus (Wollaston)

Stenotrupis sp.

?*Stenotrupis* sp.

SCOLYTINAE det. E.A.J. Duffey

Hypothenemus sp.

Xyleborus perforans Wollaston

Champion (1914) recorded *C. adpersus* from Salomon, Peros Banhos and Egmont, and *Sternochetus mangiferae* (Fabricius) (in the genus *Cryptorrhynchus*) without locality details.

DRYOPOIDEA

PTYLODACTYLIDAE det. I.H. Davidson

indet.

ELATEROIDEA

ELATERIDAE det. C.M.F. von Hayek

Lacon modestus (Boisduval)

Melanoxanthus sp.

Fleutiaux (1923) recorded *Melanoxanthus puerulus* Candèze var. *cribricollis* Fleutiaux from Peros Banhos.

EUCNEMIDAE

Fleutiaux (1923) described *Fornax puncticeps* (in the family Melasidae) from the Seychelles and Egmont, but no Eucnemids were collected in 1971.

HYDROPHILOIDEA

HYDROPHILIDAE det. I.H. Davidson

Paromicrus atomus Scott
indet.

HISTEROIDEA

HISTERIDAE

Regular shipments of *Hololepta quadridentata* Fabricius and *Plaesius javanus* Erichson were introduced from Trinidad to control the Rhinoceros beetle, *Oryctes rhinocerus* (Linnaeus), in 1959 (Greathead, 1971). They were seen in 1960 but there has been no evidence of their establishment and no Histerids were collected in 1971.

SCARABAEOIDEA

SCARABAEIDAE

APHODINAE det. I.H. Davidson

indet.

CETONIINAE det. M.E. Bacchus

Protaetia fusca (Herbst)

DYNASTINAE det. I.H. Davidson

Oryctes rhinocerus (Linnaeus)

RUTELINAE det. I.H. Davidson

Adoretus versutus Harold

Scott (1912) recorded *A. versutus* from Egmont, *Saprosites laticeps* (Fairmaire) from Egmont and *Oxycetonia versicolor* Fabricius from Peros Banhos. The Rhinoceros Beetle, *Oryctes rhinocerus*, was not noted then but was such a pest of coconuts by the 1950's that various attempts were made to control it. Greathead (1971) discusses the attempts with biological control and these are discussed under Reduviid Hemiptera,

Scoliid wasps and Histerid beetles. See also under Carabidae. None of these control methods seems to have had any great impact on the beetle.

STAPHYLINOIDEA

STAPHYLINIDAE det. P.M. Hammond

Acanthoglossa brachycera Kraatz
Aleochara puberula Klug
Aleochara sp.
Bledius sp.
Carpelimus sp.
Coenonica puncticollis Kraatz
Coproporus sp.
Lithocharis nigriceps Kraatz
Lithocharis sp.
Osorius sp.
Philonthus spp. (2)
Schistogenia crenicollis Kraatz
Scopaeus sp.
Thinodromus chagosanus (Bernhauer)

Bernhauer (1922) described *Thinodromus chagosanus* (in the genus *Troglophloeus*) from Diego Garcia.

SIPHONAPTERA

PULICIDAE det. A.M. Hutson

Ctenocephalides f. felis (Bouché)

DIPTERA

NEMATOCERA

CECIDOMYIIDAE det. K.M. Harris

CECIDOMYIINAE

Allobremia sp. nr. *upolui* Barnes
Lestodiplosis sp.
Lestodiplosini indet.
 spp. indet.

LESTREMIINAE

Lestremia sp.
Peromyia sp. nr. *seychellensis* Kieffer

PORRICONDYLINAE

Asynapta sp.
Porricondyla sp.

CERATOPOGONIDAE det. R.P. Lane

Atrichopogon sp.
Bezzia sp.
Dasyhelea spp. (3)
Forcipomyia spp. (2)

CHIRONOMIDAE det. P.S. Cranston

CHIRONOMINAE

Tanytarsini indet.

ORTHOCLADIINAE

Pseudosmittia sp.
sp. indet.

CULICIDAE det. G.B. White

Aedes albopictus (Skuse)
Culex quinquefasciatus Say

Theobald (1912) recorded *Aedes albopictus* (Skuse) (as *Stegomyia scutellaris* (Walker) from Peros Banhos (see also Mattingly & Brown, 1955). Lambrecht & Van Someren (1971) found *A. albopictus* and *C. quinquefasciatus* (as *pipiens* spp. *fatigans* Wiedemann) abundant on Diego Garcia, Salomon and Peros Banhos. They also reported *Aedes aegypti* (Linnaeus) on Diego Garcia and Salomon. It is interesting to note that the specimens collected (in 1969) were of the typical form rather than the form *queenslandensis* which is the dominant form in the Seychelles and Africa. It was searched for around settlements in 1971 and its apparent absence is curious.

MYCETOPHLIDAE det. A.M. Hutson

Allactoneura argenteosquamosa (Enderlein)

PSYCHODIDAE det. D.A. Duckhouse

Clogmia albipunctata (Williston)
Psychoda alternata Say
P. savaiiensis Edwards

SCATOPSIDAE det. A.M. Hutson

Holoplagia guamensis (Johannsen)

SCIARIDAE det. W.A. Steffan

Bradysia tritici Coquillett
Corynoptera latistylata Hardy
 indet.

TIPULIDAE det. A.M. Hutson

Gonomyia (Lipophleps) ornatipes (Brunetti)
Limonia (Atypophthalmus) umbrata (de Meijere)

BRACHYCERA

ASILIDAE det. S.J. Chambers

Clinopogon sp.

Lamb (1922) recorded *Stichopogon scalaris* Bigot (now a species of *Sarapogon*) from Salomon, Peros Banhos and Diego Garcia, but this was a misidentification of *Clinopogon nicobarensis* (Schiner) and is likely to be the same species as the species collected in 1971.

DOLICHOPODIDAE det. C.E. Dyte

Argyrochlamys impudicus Lamb
Chrysosoma leucopogon (Wiedemann)
Chrysotus pallidipalpus van Duzee
Sciapus librativertex Lamb
Sciapus sp. nov.

Lamb (1922) recorded *C. leucipogon* (in the genus *Psilopus*) from Salomon and Peros Banhos.

CYCLORRHAPHA

ASCHIZA

PHORIDAE det. K.G.V. Smith

Chonocephalus similis Brues
Megaselia sp.
 indet.

SYRPHIDAE

No Syrphidae were collected in 1971. Lamb (1922) recorded *Ornidia obesa* Fabricius (in the genus *Volucella*) from Diego Garcia and *Ischiodon aegyptium* (Wiedemann) (in the genus *Xanthogramma*) from Peros Banhos. The absence of *O. obesa* in 1971 is notable since this is such a large species which is very obvious in the field. The specimen of *Ischiodon* from Peros Banhos has been re-identified by K.G.V. Smith as the Oriental *scutellaris* Fabricius and not the African *aegyptium*.

SCHIZOPHORA

PLATYSTOMATIDAE det. B.H. Cogan

Plagiostenoptera ruficeps Hendel
Scholastes cinctus Guerin

Lamb (1914) recorded *S. cinctus* from Salomon and Diego Garcia.
 ARDA (1961) records *S. vicarius* Hendel, but doubtless all these records refer to the same species.

OTITIDAE det. B.H. Cogan

Physiphora demandata (Fabricius)
Pseudeuxesta prima Osten-Sacken

Lamb (1914) recorded *Physiphora azurea* (Hendel) (in the genus *Chrysomyza*) from Salomon.

SEPSIDAE det. J. Zuska

Australosepsis niveipennis Becker
Sepsis lateralis Wiedemann
Sepsis sp.

LAUXANIIDAE det. B.H. Cogan

Sapromyza spp. (2)

SPHAEROCERIDAE det. J.P. Dear

Leptocera (Coproica) ferruginata Stenhammer
L. (C.) hirtula Rondani
L. (Poecillosoma) angulata Thomson
L. (Limosina) bifrons Stenhammer
L. (L.) sp. nr. *moesta* Villeneuve

LONCHEIDAE det. B.H. Cogan

Lamprolonchaea aurea Macquart
Lonchaea spp. (2)

AGROMYZIDAE

No Agromyzidae were collected in 1971, but Lamb (1912) recorded an *Agromyza* sp. from Salomon.

XENASTEIDAE det. D.E. Hardy

Xenasteia similis Hardy, described from the present collection by Hardy (1980).

EPHYDRIDAE det. B.H. Cogan

Allotrichoma sp.
Hecamedea lacteipennis Lamb
Nostima striata Lamb
Nostima sp.
Placopsidella cyanocephala Kertesz
Scatella sp.

DROSOPHILIDAE

Mycodrosophila sp. det. L. Tsacas
Zaprionus ?vittiger Coquillett det. B.H. Cogan
Drosophila spp. (more than 4) det. B.H. Cogan

MILICHIIDAE det. B.H. Cogan

?*Desmometopa* sp.

CANACEIDAE det. B.H. Cogan

Nocticanace ?mahensis Lamb

CHLOROPIDAE det. B.H. Cogan

Cadrema nigricornis Thomsen
C. pallida Loew
C. pallida var. *bilineata* de Meijere

MUSCIDAE det. A.C. Pont

Atherigona orientalis Schiner
A. oryzae Malloch
Musca sorbens Wiedemann
Ophyra chalcogaster Wiedemann
Stomoxys calcitrans Linnaeus

CALLIPHORIDAE det. J.P. Dear

Chrysomya megacephala (Fabricius)
Rhinia apicalis Wiedemann

Stein (1910) recorded *R. apicalis* without details of locality and Bezzi quoted (1923) this record and recorded *C. megacephala* and *Lucilia argyrocephala* Macquart (sic) from Salomon. *L. argyrocephala* is a synonym of *L. cuprina* (Wiedemann).

SARCOPHAGIDAE det. J.P. Dear

Boettcherisca peregrina Robineau-Desvoidy
Sarcophaga (Curranea) tibialis Macquart
S. (Thyrsocnema) sp.

Bezzi (1923) recorded *Sarcophaga ruficornis* Wiedemann and *S. dux* Thomson from Peros Banhos. *S. dux* is a misidentification for *B. peregrina*.

TACHINIDAE det. R.W. Crosskey

Therobia abdominalis (Wiedemann)

LEPIDOPTERA

LYCAENIDAE det. C. Huggins

Petralaea dana de Niceville adults on *Terminalia* & *Morinda*

NYMPHALIDAE det. A.M. Hutson

Hypolimnas sp.

A single ♂ *Hypolimnas* was seen for several days in various scrubby bushes. It was thought to be *misippus* Linnaeus, but may have been *bolina* Linnaeus.

Bourne (1886) records *Vanessa 'bolini'* from Diego Garcia, but Poulton (1924) re-identified his specimen as *misippus*; this appears to be the only substantiated record of *misippus* from the Chagos. *H. bolina* was recorded by Fletcher (1910a) from Salomon, Peros Banhos, Diego Garcia and Egmont Atolls. Fletcher, and later Walker (1920), noted differences between specimens from Chagos and elsewhere and Poulton (1924) described this as a separate subspecies, *euphonoides*.

Bourne (op. cit.) also refers to seeing "one individual of *Oenone*". This may refer to *Junonia oenone* Linnaeus, widely recorded around the western Indian Ocean, but with no other records for the Chagos. Fletcher (op. cit.) records *J. villida* Fabricius (as *vellida*) from throughout the Chagos. On the basis of Fletcher's specimens Watkins (1925) described the subspecies *chagoensis*. Thus five species of butterfly have been recorded from Chagos with two endemic subspecies, but the status of some needs confirmation.

ARCTIIDAE det. M.A. Lane

ARCTIINAE

Utetheisa pulchelloides Hampson

LITHOSIINAE

Eilema spp. (?)

Fletcher (1910a) recorded *U. pulchelloides* from Salomon, Peros Banhos and Diego Garcia.

GEOMETRIDAE det. D.S. Fletcher

Chloroclystis immixtaria Walker
Pyrrohorachis p. pyrrhogona Walker
Scopula actuararia Walker

NOCTUIDAE det. A.H. Hayes (except where stated otherwise)

ACONTIINAE

Ilattia octo (Guenée)
Berresa natalis (Walker)
Porphyrinia cochylioides (Guenée)

ACRONICTINAE

Callopietria maillardi Guenée
Chasmina tibialis Fabricius
Prospalta capensis Guenée
Spodoptera litura Fabricius
S. mauritia acronyctoides Guenée (det. I.W.B. Nye)

CATOCALINAE

Mocis frugalis Fabricius

OPHIDERINAE

Anomis sabulifera Guenée

SARROTHRIPINAE

Characoma nilotica Rogenhofer

Fletcher (1910a) recorded six species of Noctuidae and 11 are listed here. The only two species occurring in both lists are *C. maillardi* which Fletcher recorded (in the genus *Eriopus*) from Salomon and *M. frugalis* which Fletcher recorded (in the genus *Remigia*) from Diego Garcia. The other species recorded by Fletcher are *Spodoptera littoralis* (Boisduval) (in the genus *Prodenia*) from Salomon, Peros Banhos and Diego Garcia; *Thias honesta* Hübner (in the genus *Ophiusa*) from Peros Banhos; *Chrysodeixis chalcytes* Esper (in the genus *Plusia*) from Egmont and *Anomis erosa* Hübner (in the genus *Cosmophila*) from Salomon. Thus 12 species are recorded from Diego Garcia of 15 for the Chagos as a whole.

SPHINGIDAE det. A.H. Hayes

Acherontia lachesis Fabricius
Agrius convulvuli Linnaeus
Macroglossum corythus Walker

Fletcher (1910a) recorded *A. lachesis* from Peros Banhos and Diego Garcia and *M. corythus* from Salomon and Peros Banhos. He also recorded *Cephanodes picus* Cramer and *Hippotion velox* Fabricius both from Peros Banhos. Orion (1959) recorded *A. convulvuli* (in the genus *Herse*) from Diego Garcia. Thus three species are recorded from Diego Garcia and five from the Chagos as a whole.

PTEROPHORIDAE det. M. Shaffer

Platyptilia pusillidactyla ?Walker

Fletcher (1910a) recorded *Trichoptilus defectalis* Walker from Salomon and Peros Banhos and later (1910b) transferred it to the genus *Buckleria*.

PYRALIDAE det. M. Shaffer

GALLERIINAE

Galleria mellonella Linnaeus

PHYCITINAE

Etiella grisea ?*grisea* Hampson
Phycita sp. nr. *jasminophaga* Hampson

PYRALINAE

Endotricha m. mesenterialis Walker

PYRAUSTINAE

Aethaloessa c. calidalis Guenée
Antiercta ornatalis Duponchel
Diaphania indica Saunders
Eurrhyarodes tricoloralis Zeller
Herpetogramma licarsisalis Walker
Hymenia recurvalis Fabricius
Lamprosema salomonalis (Fletcher)
Loxostege massalis Walker
Marasmia poeyalis Boisduval
Parotis suralis Lederer
Sufetula minimalis Fletcher

Fletcher (1910a) recorded *E. mesenterialis* from Salomon, *D. indica* (in the genus *Glyphodes*) from Peros Banhos and described *L. salomonalis* (in the genus *Nacoleia*) from Salomon. 9 other species not collected in 1971 were *Culladia admigratella* Walker (Diego Garcia), *Endotricha chagosalis* (described as a new species from Salomon, but also seen on Diego Garcia), *Bradina admixtalis* Walker (Salomon), *Mabra eryxalis* Walker (Egmont), *Zinckenia fascialis* Cramer (Salomon, Peros Banhos and Diego Garcia), *Marasmia venilialis* Walker (Salomon and Peros Banhos), *Syngamia floridalis* Zeller (Salomon), *Nacoleia niphealis* Walker

(Salomon and Peros Banhos) and *N. chagosalis* (described as a new species from Salomon and Egmont).

Thus 18 species are recorded from Diego Garcia and 24 from the Chagos as a whole.

TORTRICIDAE det. J.D. Bradley

Cryptophlebia encarpa Meyrick

The 1971 material also included about 30-35 spp in the following families (det. G.S. Robinson):

COSMOPTERIGIDAE

GELECHIIDAE

GLYPHIPTERIGIDAE

GRACILLARIIDAE

STATHMOPODIDAE

TINEIDAE

TORTRICIDAE

Meyrick (1911) recorded the Eucosmid *Argyroploce aprobola* Meyrick, the Cosmopterygid *Stagmatophora tentoria* as a new species and the Tineid *Dacadarchis molynta* as a new species. All were recorded from the Seychelles, with further specimens (without precise locality details) from the Chagos.

HYMENOPTERA

ACULEATA

APIDAE det. G.R. Else

Apis mellifera Linnaeus

Cameron (1907) recorded *Apis mellifera* (as *unicolor* Latreille) from Peros Banhos and Diego Garcia.

MEGACHILIDAE det. G.R. Else

Megachile sp.

XYLOCOPIDAE det. G.R. Else

Xylocopa sp.

EUMENIDAE det. E.A. Jarzembowsky

Euodynerus trilobus (Fabricius)
Eumeninae indet.

Subancistrocerus sichelii Sauss

Cameron (1907) described *Odynerus caeocephalus* from Salomon, Peros Banhos and Egmont, and *O. chagosensis* from Salomon and Peros Banhos. Both these species are now considered synonyms of *E. trilobus*.

FORMICIDAE det. B. Bolton

Cardiocondyla spp. (2)
Tapinoma sp.
spp. indet (c.6)

Forel (1907) recorded *Paratrechina bourbonica* (Forel) (in the genus *Prenolepis*) and *Camponotus maculatus* (Fabricius) (with two subspecies: *boivini* Forel and *fulvus* Emery) without details of locality. Orion (1959) recorded *Technomyrmex detorquens* (Walker) from Diego Garcia, but this probably refers to *T. albipes* (Smith).

SCOLIIDAE det. M.C. Day

Scolia ruficornis Fabricius

S. ruficornis was introduced (Greathead, 1971) from Zanzibar in 1951 to help control the Rhinoceros Beetle, *Oryctes rhinoceros* (Linnaeus). 89 ♀ and 6 ♂ were originally introduced and it was stated to be established in 1956 but ineffective — it is still well established and ineffective. 100 ♀ *S. oryctophaga* Coquillett were also introduced from Mauritius prior to 1951 for the same purpose, but they have not been recorded since.

SPHECIDAE det. C.R. Vardy

Ampulex sp.
Chalybion sp.
Pison sp.
Trypoxylon sp.

Cameron (1907) recorded *Chalybion bengalense* (Dahlbom) (in the genus *Sceliphron*) and *Ampulex compressa* (Fabricius) both from Salomon and Peros Banhos. Turner (1911) also recorded these species without locality details.

VESPIDAE det. O.W. Richards

Polistes olivaceus (Degeer)

Cameron (1907) recorded *Polistes hebraeus* Fabricius from Salomon and Diego Garcia, but Meade-Waldo (1912) considered this a misidentification of *P. macaensis* Fabricius. Both these species are now regarded as synonyms of *olivaceus* (Degeer).

PARASITICA

AGAONIDAE det. L. Rogers

indet.

APHELINIDAE det. L. Rogers

indet.

BRACONIDAE det. T. Huddleston

Spathius sp.

Cameron (1907) described *Tolbia scaevolae* from Salomon.

CERAPHRONIDAE det. N. Fergusson

indet. (1 sp.)

EUCARITIDAE

No Eucharitids were collected in 1971, but Cameron (1907) described *Stibula insularis* (in the family Chalcididae) from Egmont.

DIAPRIIDAE det. N. Fergusson

indet. (3 spp.)

ELASMIDAE det. L. Rogers

indet.

ENCYRTIDAE det. J. Noyes

Homalotylus sp.

EULOPHIDAE det. L. Rogers

indet.

EVANIIDAE det. M.G. Fitton

Evania sp.

Cameron (1907) recorded *Evania appendigaster* Linnaeus from Peros Banhos, Diego Garcia and Egmont.

ICHNEUMONIDAE det. M.G. Fitton

Enicospilus sp.

Cameron (1907) described *Echthromorpha latibalteata* from Peros Banhos. Morley (1912) considered this (by a lapsus as "*laeva* Cameron") to be a synonym of *notulatoria* (Fabricius). *E. notulatoria* is regarded as a synonym or subspecies of *agrestoria* (Swederus).

SCELIONIDAE det. N. Fergusson

indet. (3 spp.)

SUMMARY

Table 1 summarises, by order, the known fauna of the Chagos Archipelago with special reference to Diego Garcia.

Stoddart (1971) discusses earlier comparisons of the fauna of the Chagos and the Maldives. Since so little work has been done on either group, but particularly in the Maldives, there no longer seems any relevance in such a comparison. Neither is it possible to discuss in detail the origins of the fauna of these islands. Many of the species listed are common widely distributed species or species known from more restricted neighbouring faunas such as those of Seychelles, or Oriental or Afrotropical Regions, but these are likely to be the most readily recognisable and until some of the larger orders can be worked out completely it is only possible to surmise the obvious — that the fauna is more Oriental biased. The unidentified material includes many undescribed species, but it is unlikely that the Chagos Archipelago will have a substantial endemic fauna — of the 16 species described as new from the Chagos alone, 5 have been synonymised with other mainland species, 2 are still recognised as valid species, but are now known to have a much wider distribution and 9 have not been recorded subsequently (Table 2). Included in the latter are the two butterflies, *Hypolimnas bolina euphonoides* Poulton and *Junonia villida chagoensis* Watkins, which are currently regarded as valid endemic subspecies.

Of the species formerly recognised from these islands (113 from the Chagos as a whole, 49 from Diego Garcia) it is interesting that only 49 (43%) of the Chagos fauna and 25 (51%) of the Diego Garcia fauna was collected in 1971. Notable absentees were the two endemic butterflies mentioned above and the Diptera *Ornidia obesa* and *Aedes aegypti*. It is possible that this visit was not at the best time of year. The relatively small overlap of species recognised previously and found in 1971 suggests a much larger fauna for these islands, despite the restrictions imposed by their size, position and available habitat. Within the island group the proportion of insects recorded in 1971 and previously recorded from Diego Garcia is so much higher than that previously recorded for the Chagos as a whole that it is likely that there are good faunal differences between the islands, but

Table 1. Numbers of species of insects previously recorded from the Chagos Archipelago, with special reference to Diego Garcia, compared with the 1971 collection.

	Previously recorded from Chagos...	...but not collected 1971	Previously recorded from Diego Garcia...	...but not collected 1971	Collected Diego Garcia 1971	Total for Diego Garcia	Total for Chagos Arch.
Thysanura	0	0	0	0	1	1	1
Collembola	0	0	0	0	?	?	?
Odonata	4	2	2	1	4	5	6
Orthoptera	7	2	3	1	7	8	9
Dictyoptera	5	1	2	0	9	9	10
Isoptera	0	0	0	0	3	3	3
Dermaptera	2	2	?1	?1	5	?6	7
Embioptera	0	0	0	0	1	1	1
Psocoptera	0	0	0	0	c.10	c.10	c.10
Phthiraptera	0	0	0	0	5+	5+	5+
Hemiptera	11	10	5	4	32	36	42
Thysanoptera	0	0	0	0	1	1	1
Neuroptera	1	?0	0	0	1	1	1
Coleoptera	21	11	12	6	65+	71+	76+
Siphonaptera	0	0	0	0	1	1	1
Diptera	15	7	6	2	87+	89+	94+
Lepidoptera	32	22	12	7	69+	76+	91+
Hymenoptera	15	7	6	2	35+	37+	42+
Totals	113	64	49	24	336+	370+	400+

Table 2. The current status of species of insects originally described only from Chagos Archipelago. (names listed in original combination).

<i>Conocephaloides chagosensis</i> Bolivar	(Orthoptera)	Valid species only known from Chagos, now in <i>Euconocephalus</i>
<i>Scottia chagosensis</i> Bolivar	(Orthoptera)	no further records, ? valid species, now in <i>Scottiola</i>
<i>Aeolopus laticosta</i> Bolivar	(Orthoptera)	= <i>A. simulatrix</i> Walker, widespread e.Africa, se Palaearctic, Orient.
<i>Paratettix chagosensis</i> Bolivar	(Orthoptera)	valid species, recorded Seychelles, Madagascar
<i>Margattea laxiretis</i> Bolivar	(Dictyoptera)	no further information
<i>Chrysopa rutila</i> Esben-Petersen	(Neuroptera)	= <i>C. boninensis</i> Okamoto, widespread Old World
<i>Fornax puncticeps</i> Fleutiaux	(Coleoptera)	no further information
<i>Trogophloeus chagosanus</i> Bernhauer	(Coleoptera)	no further records, now in <i>Thinodromus</i>
<i>Hypolimnas bolina euphonoides</i> Poulton	(Lepidoptera)	no further records, but regarded as valid endemic subspecies
<i>Junonia villida chagosensis</i> Watkins	(Lepidoptera)	no further records, but regarded as valid endemic subspecies
<i>Endotrichia chagosalis</i> Fletcher	(Lepidoptera)	no further records, now in <i>Sufetula</i>
<i>Nacoleia chagosalis</i> Fletcher	(Lepidoptera)	recorded Thailand, ? south India, now in <i>Lamprosema</i>
<i>Nacoleia salomonalis</i> Fletcher	(Lepidoptera)	no further records, now in <i>Lamprosema</i>
<i>Odynerus caenocephalus</i> Cameron	(Hymenoptera)	= <i>Euodynerus trilobus</i> Fab., widespread
<i>Odynerus chagosensis</i> Cameron	(Hymenoptera)	= <i>Euodynerus trilobus</i> Fab., widespread
<i>Echthromorpha latibalteata</i> Cameron	(Hymenoptera)	= <i>E. notulatoria</i> Fab., widespread
<i>Stibula insularis</i> Cameron	(Hymenoptera)	no further information

it seems unlikely that there is any strong change in diversity through the island chain linked with distance from the mainland. The disturbance by humans of the three major islands has been great, but very few species are recorded that would not have been able to reach there by more natural devices. It would be interesting to see whether recent changes in land use with concomitant changes in origin of visiting transport has produced any changes in the fauna or flora.

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