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CONTRIBUTION TO THE KNOWLEDGE OF THE MADEIRA BEETLES

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With 2 figures

CONTENTS

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ABSTRACT. Coleoptera collected by the authors and others from 1963 to 1987 on Madeira are listed.26 (+3?) species are recorded as new to the Archipelago and 11 species to one of the Madeiran islands. These and relevant other species of special interest are discussed.

RESUMO. No presente trabalho é dado uma lista de coleópteros colhidos pelos autores e outros, na Madeira, entre 1963 e 1987. São dadas como novas para o Arquipélago 26 (+3?) espécies e 11 para apenas uma das ilhas. Estas e outras espécies com interesse especial relevante são discutidas.

INTRODUCTION

The authors visited the islands of the Madeira Archipelago several times: Hinterseher, Jan./Febr. 1973 - Madeira; Erber, March 1981 - Madeira and Porto Santo; Erber and Hinterseher, March 1982 - Madeira, Deserta Grande and Ilhéu Chão; Erber,Aug. 1983 - Madeira; Erber, Sept. 1985 - Madeira; Erber, Sept. 1987 - Madeira.

The trips resulted in a sizable collection of coleoptera which in large part confirmed findings of earlier collectors and also added some new records.

In the report we provide, first, a survey on the entire

material collected, giving also consideration to the material collected by E.Weinreich in July/Aug.1963 and by K.Groh, J.Hemmen and J.Gerber at various times on the islands, as well as to a few finds by other collectors.

To save space the locality records are codified. A list of all localities and an outline map at the end of the survey provide the key to the code and to the location of the localities on the map.

All species, which are new to the Archipelago or one of the islands or those which are of special interest for other reasons are discussed in a following chapter.

Not all finds could be fully identified up to now. This applies to some Curculionids especially to species of the genus *Laparocerus* and to all Ptinidae, as well as to a few specimens of other families. We plan to give information on these finds in a follow-up-publication.

SYSTEMATIC LIST

M e t h o d s

The last listing of the Coleoptera of Madeira was given by Lundblad 1958. To provide a clearer surveillance and comparison the following sequence follows this list. Whenever the nomenclature does not agree, the name used by Lundblad is added.

The locality data are codified as follows:

- Island (**M** = Madeira proper, **PS** = Porto Santo, **D** = Desertas);
- each locality is given as a number in bold type (corresponding to the locality list and the outline map; e.g. **55/56** means, that the beetle was found between these two points);
- the data of collection (month in roman, and year in arabic number), number of specimens, and in some cases with notes, in parentheses.
- Specimens are kept in the collections of the authors. For those specimens, which have been deposited elsewhere, the relevant place is given in brackets: AU = Audisio, Rome; B = Benick, Berlin; F = Folwaczny †, Bad Hersfeld; FÜ = Fürsch, Passau; G = Groh, Darmstadt; GT = Gillerfors, Varberg/Sweden; H = Heinz, Wald-Michelbach; I = Israelson, Lund/Sweden; IPE = Institut für Pflanzenschutz, Eberswalde; L = Liebegott, Frankfurt/M.; MMF = Museu Municipal do Funchal/Madeira; MW = Museum Wiesbaden; P = Puthz, Schlitz; PA = Pankow, Freiburg; SCH = Schmidt, Köln; SCHEU = Scheuern, Grafschaft Esch; UH = Uhmann, Pressath.
- The collectors for the most part are indicated with the locality data:

VII/VIII.1963	=	Weinreich,
I/II.1973	=	Hinterseher,
IV.1973	=	Hemmen,
XII.1980	=	Hemmen,
III.1981	=	Erber,

III.1982 = Erber and Hinterseher,
VI/VII.1983 = Groh and Hemmen,
VIII.1985 = Erber,
VII/VIII.1985 = Gerber, Groh and Hemmen,
IX.1985 = Erber,
IX.1987 = Erber.
Finds by other collectors are named in full.
All species preceded by an asterix (*) will be discussed in the succeeding chapter.

List of the records

Fam.: Carabidae

Calosoma maderae F.

PS: XII.80(1).

**Leistus ellipticus* Woll.

M: 72:IX.85(1).

**Notiophilus quadripunctatus* Dej.

M: 30:III.82(6), IX.85(1); 31:VII.85(2); 32:III.81(2); 37:VIII.85(1); 46:IX.85(1); 47:VII.85(1). [G., H.]

Elliptosoma wollastoni Javet.

M: 37:VIII.85(2); 42:II.73(1); 43:VIII.83 (3); 85:IX.85 (1). [H.]

Scarites abbreviatus Dej.

M: 3:III.81(3); 6:III.81(12),III.83(3); 18:VIII.83(1); 27:VIII.85(3); 29:III.81(1); 30:II.73(3),III.82(4), VIII.83 (19); 32:III.81(5); 37:VIII.85(6); 40:VIII. 83(2); 41:VIII.83(1); 42:II.73(1); 45:IX.85(1); 48: III.81(2); 53:VII.85(7); 72:IX.85(1); 74:VIII.83(9); 77:III.81(1); 78:III.81(5), III.82(2); 92:II.73(14)
PS: XII.80(4);VI.83(6); 2:III.81(4); 3:III.81(4); 5:VIII. 85(3).
D: 1:III.82(12); 2:III.82(12),VIII.85(2).
[G.,H.,MMF.,MW.]

Bembidion tabellatum Woll.

M: 21:III.82(2,near water). [H.]

Bembidion atlanticum Woll.

M: 21:III.82.(2,near water). [H.]

Bembidion schmidti Woll.

M: 43:VIII.83(1); 44:III.81(1).

Bembidion tethys Net.

M: 2:VIII.85(1); 21:III.82(8); 30:III.82(4),IX.85(12); 32:III.81(1),VIII.83(3). [H.]

****Bembidion harpaloides*** Serv.

M: 53:VII.85(1); 72:IX.85(1); 90:VII.83(1).

Tachys bistriatus Duft.

M: 30:III.82(1).

****Tachys diabrachys*** Kol.

D: 2:III:82(2).

Trechus flavomarginatus Woll.

M: 42:II.73(1); 74:VIII.83(2). [SCH.]

****Trechus maderae*** Franz

M: 51:VIII.83(1,in rotten wood of *Pinus*); 74:IX.85(3,in surface litter).

Trechus custos Woll.

M: 37:IX.83(2); 42:II.73 (8, under bark); 45:II.73 (1,in mould of *Erica*);51:VIII.83(1,in dead *Pinus*); 72:IX.87 (4);74:IX.85(1); 75:III.82(5); 90:VII.83(3). [MW.,SCH.]

****Trechus laurisilvae*** Franz

M: 1:II.73(1, under bark); 16:IX.85(1); 18:VIII.85(1); 30:III.82(1); 42:II.73(1,under bark); 51:VIII.83(1,in dead *Pinus*); 75:III:82(18); 84:IX.85(1). [SCH.]

****Trechus ribeiranus*** Franz

M: 18:VIII.85(1); 75:VIII.83 (1, in surface litter); 83: II.73(2,in surface litter); 85:IX.85(3).

PS: 7:VIII.85(1); 18:VIII.85(1).

**Trechus rabaçalensis* Franz

M: 19:III.82(1).

Trechus cautus Woll.

PS: 7:VIII.85(1); 18:VIII.85(1).

Trechus nigrocruciatus Woll.

M: 72:IX.85(1,in wood of *Erica*); 74:IX.87(1).

Thalassophilus whitei Woll.

M: 21:III.82(21,near water). [H.]

Eurygnathus latreillei Woll.

PS: XII.80(3),VI.83(1),VII.83:(6); 5:VIII.85(1); 13:VIII.85(1).
D: 2:III.82(1). [MW.]

Nesarpalus gregarius Fauv.

M: 18:VIII.83(4); 20:VIII.85 (1); 27:VIII.85(14); 41:VIII.83(3); 42:II.73(1); 43:IX.85(1); 47:VII.85(1); 74:VIII.83(7); 90:III.81(4), VII.83(12); 92:II.73(9); 93:VII.85(15); 94:VIII.83(3),IX.85(5); 95:IX.85(2).
D: 1:III.82(61); 2:III.82 (213), VIII.85(51); 3:VII.85(23). [G.,H.,MMF.,MW.]

Nesarpalus sanctae-cruzis Woll.

PS: XII.80(3); VI.83(7); VII.83(4); 1:I.83(4); 2:III.81(6); 3:III.81(17); 4:VII.83(4); 5:VIII.85(17);7:VIII.85(31); 9:VIII.85(12), 10:VIII.85(12); 13:VI.83(12), VIII.85(9); 17:VII.83(1); 18:VI.83(7), VIII.85(10). [G.,H.,MMF.,MW.]

Harpalus distinguendus Duft.

M: 6:III.81(2),VIII.83(1); 15:VIII.83(2); 30:III.81(1), III.82(4),VIII.83(2); 44:III.82(1); 45:III.82(1); 90:VII. 83(1); 92:VIII.83(?). [H.,MMF.,MW.]

Harpalus tenebrosus Dej.

M: 56:I73(1); 93:VIII.83(2).
PS: VII.83(1); 5:VIII.85(1). 9:VIII.85(9); 10:VIII.85(4).
D: 1:VIII.85(10). [G.]

Harpalus attenuatus Steph.

M: 4:VIII.83(1); 9:VIII.83(2); 15:VIII.83(2); 19:IX.85 (1); 30:II.73(3),III.82(4),VIII.83(2);30/31:IX.87 (3, in cattle dung);32:III.81(2),VIII.83(2);33:IX.85(14), IX.87(4,under old cattle dung); 37:III.82(2),VIII.83 (3); 40:VIII.83(8); 45:VII.85(1);52:VII.85(1); 71:IX. 85(1); 72:IX.85(1),IX.87(1);83a:IX.87(1);92:II.73(3); 94:VIII.83(3), IX.85(1),IX.87 (3, under dry leaves of plants).
D: 2:III.82(1). [G.]

Bradycellus harpalinus Serv.

M: 30:III.81(1),VIII.83(1),IX.85(2); 33:IX.85(6);38:III. 82(2); 45:VII.85(1). [H.]

Bradycellus excultus Woll.

M: 38:III.82(1), 74:IX.85(1).

Anisodactylus binotatus F.

M: 27:VIII.85(1); 52:VIII.83(3); 78:III.82(1).

****Amara superans*** Woll.

M: 30:VIII.83(1);49:VII.85(1), 50:VII.85.(1).

Amara aenea Deg.

M: 4:VIII.83(2); 9:VIII.83(1); 30:III.82(18),VIII.83(2), IX.85(3); 31:III.81(1),VII.85(4); 32:VIII.83(1); 33: IX.85(1); 43:IX 85(3); 44:VIII.83(2); 45:VII.85(9); 46:IX.85(1); 47:VII.85(2),IX.87(1); 48:III.81(3); 56: II.73(3); 64:III.82(1); 71:IX.85(1); 90:VII.83(1). [G.,MMF.]

****Amara cottyi*** Coq.

D: 2:III.82(1).

Pterostichus robustus (Woll).
(*Orthomus robustus* Woll.)

M: 41:VIII.83(1); 43:VIII.83(1); 45:VII.85(1); 46:IX.85 (1); 50:VII.85(7); 53:VII.85(3); 60:VIII.83(?); 64: III.82(1); 74:VII.63(3). [G.,H.]

Pterostichus dilaticollis (Woll).
(*Orthomus dilaticollis* Woll.)

M: 6:III.81(4); 20:VIII.85(1); 24:IX.85(1); 83:IX.86(5,

Lange leg.);85 :IX.86(1,Lange leg.). [H.]

Pterostichus gracilipes (Woll).
(*Orthomus dilaticollis* Woll.)

M: 16:IX.85(2); 17:VIII.63(?); 18:VIII.83(5); 37:III.82 (4),VIII.85(6); 42:II.73(3); 74:VII.63(1),VIII.83(5); 84:IX.85(2); 85:IX.86(1,Lange leg.). [G.,H.]

Pterostichus curtus (Woll).
(*Orthomus curtus* Woll.)

M: 20:VIII.85(1); 33:IX.87(1); 36:VII.85(2); 37:VIII.85 (1); 72:IX. 85(2); 74:VIII.83(2); 75:III.82(5); 83: IX.86(2,Lange leg.);84:IX.85(1).

Pterostichus lundbladi (Jeann).
(*Orthomus lundbladi* Jeann.)

M: 17:VIII.63(?); 36:VII.85(2); 44:III.81(1); 51:VIII.83(1).

Intermediate between *P. curtus* und *P. lundbladi.*

M: 30:III.82(6); 41:VIII.83(1); 43:VIII.83(1).

Zargus schaumi Woll.

M: 20:VIII.85(1); 36:VII.85(1),IX.87(1); 43:VIII.83(1); 48:III.81(1).

Zargus desertae Woll.

D: 2:III.82(3).

Calathus complanatus Dej.[3)]

M: 20:VIII.85(5); 22:IX.85(3); 24:IX.85(4); 30:II.73(5), III.81(3),III.82(22),VIII.83(12); 31:VII.85(14); 33: IX.85(2); 36:VII.85(2); 37:III.82(1),VIII.85(2); 43: VIII.83(12); 44:III.81(1),III.82(1),VIII.83(1); 45: II.73(1),VII.85(4),IX.85(12); 46:IX.85(3); 47:VII.85 (15); 50:VII.85(1); 51:VIII.83(6); 71:IX.85(1); 74: VII.63(1),VIII.83(4); 82:IX.85(6); 90:VII.83(1); 92: II.73(22). [G.,MMF.,MW.]

Calathus complanatus Dej.ssp *vandeli* Colas & Mateu

D: 1:III.82(2); 2:III.82(3).

[3)] We refrained from distinguishing the taxa *pecoudi* and *obesus* of Colas (1937 and 1963) from one another, because of the numerous transitional specimens.

Calathus fimbriatus Woll.

PS: VI.83(3); 2:III.81(1); 3:III.81(1); 5:VIII.85(2); 7:VIII.85;(2); 10:VIII.85. 13:VII.83(1). [G.]

Calathus vividus Woll.

M: 20:VIII.85(3); 30:II.73(1); 31:VII.85(4); 36:VII.85 (2),IX.87(1); 42:II.73(1); 43:VIII.83(7); 45:VII:85 (1); 47:VII.85(1); 51:VIII.83(10); 72:IX.85(2); 74: VIII.83(2); 83:IX.86(1,Lange leg.) 84:IX.85(9), 85: IX.86(1,Lange leg.); 90:VII.83(2). [G.]

Calathus subfuscus Woll.

M: 30:II.73(12), III.81(1), III.82(9), VIII.83(12),IX.85 (1); 31:VII.85(1); 32:VIII.83(4); 33:IX.85(1);45:VII. 85(1); 46:III.82(7),IX.85(7); 47:VII.85(2); 48:III.81 (1); 49:VII.85(3); 60:VIII.63(?).74:VII.63(?). [G.,H.,MMF.]

Calathus colasianus Mateu.

M: 23:III.81(1); 76:III.82(12,under bark of *Pinus*); 83: IX.86(1,Lange leg).

Laemostenus complanatus Dej.

M: 53:VII.85(2); 56:I.73(4); 59:VIII.85(1); 86:VII.85 (1); 92:II.73(5).
PS: VI.83(1). [G.]

Olisthopus ericae Woll.

M: 18:IX.85(1),IX.87(3); 30:III.82(1) 34:IX.85(2); 84: IX.87(1).

**Olisthopus fuscatus* Dej.
(*Olisthopus fuscatus elongatus* Woll.)

PS: VII.83(1).
D: 2:III.82(1).

Olisthopus maderensis Woll.

M: 1:II.73(2); 4:VIII.83(2); 5:IX.87(1); 16:IX.85(2); 18:VIII.83(12),VIII.85(6),IX.85(1); 30:III.81(1),III. 82(6),VIII.83(1),IX.85(6); 31:VII.85(3); 33:IX.85(5); 36:VII.85(2); 37:III.82(10),IX.85(3); 38:III.82(2); 41:VIII.83(10); 42:II.73(4); 43:VIII.83(5); 45:II. 73(2),VII.85(1),IX.85(2); 46:IX.85(12); 47:VII.85(8), IX.85(2); 48:III.81(3),IX.85(1); 49:VII.85(2); 50: VII.85(3); 74:VIII.83(11), IX.85(1); 75:VIII.83(3);

76:III.82(1); 82:IX.85(7); 84:IX.85(11),IX.87(1) 90: VII.83(6). [G.,H.,MW.]

Olisthopus humerosus Woll.
(*Olisthopus maderensis* var. *humerosus* Woll.)

D: 2:III.82(69),VIII.85(7); 3:VII.85(1). [G.,H.,MMF.]

****Agonum marginatum*** L.

M: 30:VIII.83(4),IX.85(6).

Agonum ruficorne Goeze.

M: 3:III.81(1); 18:VIII.83(1),IX.87(1); 20:VIII.85(8); 21:III.82 (2,near water), VIII.83(2,near water); 22: VIII.83 (1,near water); 27:VIII.85(4); 30:III.82(8); 36:VII.85(5),IX.87(5); 37:III.82(2); 50:VII.85 (1); 53:VII.85(3); 72:IX.85 (2,near water); 75:III.82(9, under moss near water),VIII.83(7,near water); 76:III. 82(9, under bark of *Pinus*); 78:III.82(3); 83a:IX.87 (1); 85:IX.85(1),IX.86(2,Lange leg.); 90:VII.83(1). [G.,MMF.,MW.]

Dromius insularis Woll.

M: 1:II.73(1,on *Ulex*); 34:IX.85(1,under bark of *Erica*); 47:IX.87(1); 83:II.73(1,in surface litter).

Philorhizus wollastoni (Fauv.)
(*Dromius wollastoni* Fauv.)

M: 37:III.82(1); 43/44:IX.87(1); 53:II.73(2,under bark of *Pinus*); 65:VIII.85(1).

****Philorhizus umbratus*** (Woll.)

M: 93:28.VII.85(1).
D: 1:III.82(2).

Metabletus fuscomaculatus Motsch.

PS: VII.83(10); 3:III.81(1); 7:VIII.85(1); 9:VIII.85 (2).

Metabletus lundbladi Jeann.

M: 4:VIII.83(1); 30:II.73(15),III.82(30),VIII.83(19),IX. 85(5); 31:VII.85(5); 32:III.81(14),VIII.83(1); 37: III.82(1); 43:VIII.83(2); 44:VIII.83(6),IX.85(1); 45: II.73(3),VII.85(4),IX.85(1); 46:III.81(3),III 82(15); 47:IX.81(2); 49:VII.85(12); 50:III.81,VII.85(1); 71: IX.85(1); 72:IX.85(3). [G.,MMF.,MW.]

Microlestes negrita Woll.

M: 2:IX.85(1); 24:IX.85(2); 30:III.82(9),IX.85(1);32: III.81(2),VIII.83(5); 33:IX.85(2); 38:III.82(7); 45: VII.82(2); 47:VII.85(1); 71:IX.85(1); 72:IX.85(1); 82:IX.85(1); 83a:IX.87(1); 93:VIII.83.
PS: VI.83(2).
D: 1:III.82(1); 3:VII.85(1). [MW.]

Cymindis setifensis Luc.ssp. ***pseudosuturalis*** Bedel
(*Cymindis setifensis* Luc.)

PS: VII.83(1).

Cymindis maderae (Woll.)

M: 4:VIII.83(1); 24:IX.85(1); 30:III.81(2),VIII.83(1); 33:IX.85(3); 37:III.82(6); 38:II.73(12), III.82(2), VIII.83(2); 43:VIII.83(4); 45:II.73(3), III.81(1),IX. 85(8); 46:III.81(2); 48:III.81(12); 72:IX.85(4), IX. 87(2,in dead *Pinus*); 82:IX.85(2). [H.,MMF.,MW.]

Fam.: D y t i s c i d a e

Hydroporus obsoletus Aubé
(*Coelambus confluens* F.)

M: 29:III.81 (3,in fresh water pool among algae), III.82 (8).

Potamonectes dubius Aubé
(*Deronectes vigilans* Woll.)

M: 16:IX.87(3); 18:VIII.83(6); 19:IX.85(1); 22:VIII.83 (1); 52:IX.87(3); 75:IX.85(1).

Agabus maderensis Woll.

M: 18:IX.85(1); 30:III.82(8); 36:VII.85(8) ; 37:III.81 (5); 46:III.82(3); 48:III.81(3); 75:IX.85(1); 76:III. 82(7); 84:IX.85(3). [G.,MMF.,MW.]

Agabus wollastoni Sharp.

M: 18:IX.85(3); 30:III.81(1), III.82(8); 31:VII.85(4); 34:IX.85(3); 37:III.81(6),III.82(14); 46:III.81(1); 72:IX.85(,immature); 74:IX.85(in great numbers under stones in mud); 75:IX.85(2); 76:III.81(1).
[G.,MMF.,MW.,]

Agabus nebulosus Forst.

M: 30:III.81(1).

Meladema lanio F.

M: 9:VIII.83(2); 18:VIII.83(3),IX.85(1); 22:VIII.83(1), IX.85(2); 38:III.81(1); 41:VIII.83(1); 72:IX.85(1); 74:VII.63(1); 75:VIII.83(2),IX.85(3); 76:III.81(1), VIII.83(1).

Fam.: H y d r a e n i d a e

Ochthebius quadrifoveolatus Woll.

M: 21:VIII.83(1); 78:III.81(1,under bark).

**Ochthebius rugulosus* Woll.

D: 2:III.82(29 in a fresh water cistern among algae).

Fam.: H y d r o p h i l i d a e

Dactylosternum insulare Lap.

M: 56:II.73 (1, in rotten leaf of Agave; 7, in rotten leaves of Banana trees).
PS: 9:VIII.85(1).

Sphaeridium bipustulatum F.

M: 9:VIII.83(3,in cattle dung); 40:VIII.83 (4,in rotten pumpkin).

Cercyon quisquilius L.

M: 32:III.81(2,in sheep dung).

**Megasternum boletophagum* Marsh.

M: 67:IX.85(1,on window pane, Pieper leg.).

**Pachysternum capense* Muls.

M: 40:VIII.83(1); 56:II.73(1).

Laccobius atricolor D'Ochr.

M: 44:III.81(1,under stone); 47:IX.85(1,in the area of a

natural spring).

Fam.: S i l p h i d a e

Catops murrayi Woll.

M: 72:VIII.85(1).

Fam.: O r t h o p e r i d a e

Sericoderus lateralis Gyll.

M: 67:IX.85(1,on window pane, Pieper leg.).

Fam.: P t i l i i d a e

Ptenidium pusillum Gyll.

M: 30:III.82(3).

**Acrotrichis matthewsii* Woll.

M: 30:III.82(16).

Fam.: S t a p h i l i n i d a e

Phloeonomus pusillus Grav.

M: 16 :IX.87(12,in flight in the evening); 53:II.73(1); 78:III.81(2,under bark of *Pinus*).

Trogophloeus corticinus Grav.

M: 67:IX.81(1,on window pane, Pieper leg.).

Oxytelus piceus L.

M: 17:VIII.63(2); 40:VIII.83(32,in rotten pumpkin); 90: III.81(1); 92:II.73(3,in cattle dung); 93:VIII.83(3, in cattle dung).

Oxytelus sculpturatus (Grav.).
(*Oxytelus sculptus* Grav.)

M: 30:III.82(1), 90:III.81(1).

Oxytelus insignitus Grav.

M: 56:II.73(4,partly among rotten Banana leaves); 67:IX.85(1,on window pane, Pieper leg.).

Oxytelus nitidifrons (Woll.)

M: 56:II.73(16,in rotten sugar cane). [P.]

Oxytelus complanatus Er.

M: 53:III.73(1,in dung); 56:II.73(5,in dung;1,on rotten leaf of *Agave*); 78:III.82(1).

Stenus guttula Müll.

M: 21:III.82(4); 37:III.81(3); 75:VIII.83(2); 78:IX.85(3).

Stenus providus Er.

M: 18:VIII.85(1).

Stenus cicindeloides Schall.

M. 18:IX.87(3).

Stenus ossium Steph.

M: 18:VIII.83(2), IX.85(1); 30:III.82(1); 34:IX.85(1); 37:III.82 (1); 38:III.81(1); 42:II.73(1); 43:VIII.83(1),IX.85(8); 43/44:IX.87 (2,in moist grass); 46:III.81(1); 47:IX.85(2); 75:III.83(5); 77:III.81(1); 85:IX.85(1). [MMF.]

Astenus longelytratus Palm

M: 43:IX.85(1); 47:IX.85(1).

Hypomedon propinquus (Bris.)
(*Medon propinquus* Bris.)

M: 30:II.73(1); 32:VIII.83(1).

Xantholinus longiventris Heer

M: 30:III.82(4).

**Gyrohypnus fracticornis* (Müll.)
(*Xantholinus punctulatus* Payk.)

M: 30/31:IX.87(1,in cattle dung).

**Gyrohypnus liebei* Scheerp.
(*Xantholinus punctulatus* Payk.)

M: 77:III.81(1); 78:II.82(1).

Othius strigulosus Woll.

M: 6:IX.86(1,Lange leg.); 18:IX.87(1); 22:IX.85(1); 38: III.81(1); 84:IX.85(2); 85:IX.85(2),IX.86 (2, Lange leg.).

Othius jansoni Woll.

M: 24:IX.85(3,in litter of *Erica arborea*); 31:VII.85(1).

Philonthus longicornus Steph.

M: 17:VIII.63(1); 40:VIII.83 (3,in rotten pumpkin); 76: III.82(1,on dead pig).

Philonthus fenestratus Fauv.

M: 9:VIII.83(8); 15:VIII.83(1); 93:VIII.83(5); (all in cattle dung).

**Philonthus jurgans* Totth.

M: 20:IX.85 (2,in cattle dung); 30:IX.85(1); 40:VIII.83 (6); 59:VIII.85(1); 67:IX.85(4,on window pane, Pieper leg.); 83a:IX.87(1).

**Philonthus rectangulus* Sharp.

M: 78:III.82(1).

**Gabrius simulans* (Woll.)

M: 67:IX.85(1,on window pane, Pieper leg.).

Creophilus maxillosus (L.)

M: 28:VIII.83 (14,on dead rabbit); 76:III.82 (6,on dead pig).
PS: VII.83(1). [MW.]

**Ocypus aethiops* (Waltl)

M: 15:VIII.83(2); 31:VII.85(2); 53:VII.85(3); 59:VIII. 85(3); 75:IX.85(1); 78:III.81(1).

**Ocypus cupreus* Rossi
(*Staphilinus fortunatorum* Woll.)

M: 30:II.73(1).

**Ocypus obscuroaeneus* Fairm.ssp. *schatzmeyeri* J.Müller.
(*Staphilinus obscuroaeneus schatzmeyeri* Jarr.)

M: 4:VIII.83(1); 30:III.82(7),VIII.83(13); 73:II.73(1); 90:VII.83(1). [MW.]

**Ocypus olens* (Müll.)

M: 6:VIII.83(1); 30:III.82(3),VIII.83(1),IX.85(1) ; 32: VIII.83.(1); 37:VIII.85(2); 43:VIII.83(5); 44:VIII. 83(1); 47:IX.85(2),IX.86 (1,Lange leg.); 52:VIII.83 (3); 53:VII.85(3); 59:VIII.85(1); 66:XII.85(1,Stillger leg.); 74:IX.87(1); 78:III.83(3); 90:VII.83(3).
D: 2:III.82(2). [G.,MW.]

Heterothops minutus Woll.
(*Heterothops dissimilis* Grav. var.*brunneipennis* Kiesw.)

M: 67:IX.85(3,on window pane, Pieper leg.).

Quedius tristis Grav.
(*Quedius* sp.)

M: 30:III.82(1),VIII.83(1); 33:IX.87 (2,under dry cattle dung);78:III.82(1).

**Bolitobius thoracicus* F.

M: 30:III.82(1).

**Conosoma marshami* Steph.

M: 43:VIII.83(1); 64:III.82(4).

Conosoma testaceum F.

M: 76:III.82(5).

Tachyporus nitidulus (F.)

M: 18:VIII.83(1); 29:III.81 (1,in fresh water pool among algae).
D: 1:III.82(3); 2:III.82(4).

**Tachyporus chrysomelinus* L.

M: 30:III.82(1),VIII.83(1); 43:IX.85(11).

**Tachyporus solutus* Er.

M: 30:III.82(1).

**Tachyporus celer* Woll.

M. 18:IX.87(1).

**Coproporus pulchellus* Er.

M: 56:II:73(1); 67:IX.85(8,on window pane, Pieper leg.).

**Oligota granaria* Er.

M: 67:IX.85(7,on window pane, Pieper leg.).

Oligota parva Kr.

M: 67:IX.85(5,on window pane, Pieper leg.).

**Placusa tachyporoides* Waltl

M: 16:IX.87 (4, in flight in the evening).

**Placusa pumilio* Grav.

M: 16:IX.87 (3, in flight in the evening).

**Alpinia truncorum* (Woll.)
(*Leptusa truncorum* Woll.)

M: 1:II.73(2). [B.]

Cordalia obscura Grav.

M: 56:II.73(2); 67:IX.85(2,on window pane, Pieper leg.);
92: II.73(2,in cattle dung).

Aloconota sulcifrons (Steph.)
(*Atheta sulcifrons* Steph.)

M: 30:III.82(1); 74:VIII.83(1),IX.85(1).

Atheta insignis (Woll.)

M: 1:II.73(2,under bark).

Atheta coriaria (Kraatz)

M: 52:VII.85(1); 67:IX.85(2,on window pane,Pieper leg.);
92:II.73 (1,in cattle dung).

Atheta atramentaria (Gyll.)

M: 30:III.82(5); 32:III.81 (2,in sheep dung); 67:IX.85 (2,on window pane, Pieper leg.); 92:II.73(3,in cattle dung).

Atheta longicornis (Grav.)

M: 20:IX.85(2); 30/31:IX.81(1,in dung of sheep).

Atheta fungi Grav.

M: 30:III.82(4); 46:III.81(2); 47:IX.85(2); 50:III.81 (1); 52:IX.87 (1, on light).

**Atheta negligens* Muls.

M: 67:IX.85(1,on window pane, Pieper leg.).

Atheta sanguinolenta (Woll.)

M: 41:VIII.83(1).

**Atheta laticollis* Steph.
(*Atheta* sp.)

M: 1:II.73(1); 56:II.73(1); 67:IX.85 (2, on window pane, Pieper leg.); 74:VIII.83(2); 75:VIII.73(1).

**Atheta trinotata* Kraatz

M: 30:III.82(2).

**Atheta amicula* (Steph.)

M: 1:II.73(1); 30:III.82(4); 37:III.82(1); 56:II.73(1).

**Atheta gagatina* Baudi

M: 67:IX.85(2,on window pane, Pieper leg.).

**Phloeopora testacea* Mannerheim

M: 1:II.73(1); 78:III.81(1).

Xenomma planifrons Woll.

M: 45:II.73(1,in mouldy *Erica*).

Oxypoda lurida Woll.

M: 30:III.82(19).

**Aleochara clavicornis* Redt.

M: 67:IX.85(1,on window pane, Pieper leg.).

**Aleochara puberula* Klug

M: 67:IX.85(1,on window pane,Pieper leg.).

Aleochara moesta Grav.

M: 9:VIII.83(4); 18:IX.87(1); 20:IX.85(22); 30/31:IX.87 (4,in sheep dung); 92:II 73(1); 93:VIII.83(7);(all in cattle dung).

**Aleochara lindbergi* Likowsky
(*Aleochara bilineata* Gyll.)

M: 17:VIII.83(2); 30:III.82(16),VIII.83(1); 33:IX.85(1).
PS: 5:VIII.85(1).

Fam.: H i s t e r i d a e

Saprinus semistriatus Scriba

M: 28:VIII.83(5,on dead rabbit).

Saprinus apricarius Er.

PS: 1:III.81(1,on beach, under wood).

**Saprinus semipunctatus* F.

PS: VII.83(1). [MW.]

**Macrolister major* L.

PS: VII.83(1).

Fam.: C a n t h a r i d a e

Malthinus scriptus Kiesw.

M: 38:VIII.83(2,on *Echium candidans*).

Fam.: M a l a c h i i d a e

Attalus rostratus (Woll.)

D: 1:III.82(11); 2:III.82(3,in flower of *Senecio*).

Attalus maderensis (Woll.)

M: 18:VIII.83(2); 43:VIII.83(1).

Attalus rugosus (Woll.)
M: 36:VII.85(1); 38:VIII.83(8,on *Echium candidans*).

Fam.: D a s y t i d a e

Psilothrix illustris (Woll.)

PS: 1:III.81(7,in flowers of *Convolvulus*); 8:III.81(5,in flowers of *Carduus*).

Fam.: M e l y r i d a e

**Melyrosoma artemisiae* Woll.

M: 94:VIII.83(15,on Labiatae),IX.81(1).
PS: VII.83(1). [MW.]

Fam.: C o r y n e t i d a e

**Necrobia rufipes* Deg.

PS: 1:III.81(8). [MMF.]

Fam.: D r y o p i d a e

Dryops luridus Er.

M: 30:III.82(5); 37:III.82(4); 38:III.82(9); 52:IX.87(1); 72:IX.85(2); 78:III.81(16),III.82(25); 83a:IX.87(4) 90:VII.83(2). [MMF.,MW.]

Fam.: D e r m e s t i d a e

Dermestes maculatus Deg.
(*Dermestes vulpinus* F.)

M: 92:VIII.63(6).

****Dermestes frischi*** Kugel

M: 28:VIII.83(9); 30:III.82(3,on dead sheep),VIII.83(2).
[MW]

Anthrenus verbasci L.

M: 78:III:82(9).

Fam.: B y r r h i d a e

****Syncalypta ovuliformis*** Woll.

M: 30:II.73(1).

Fam.: N i t i d u l i d a e

Pria dulcamarae (Scop.)

M: 56:I.73(1); 67:IX.85 (1,on window pane, Pieper leg.).

Meligethes isoplexidis Woll.

M: 47:III.82(1); 91:III.81(4,in flowers of *Echium*).
[AU.,MMF.]

Meligethes planiusculus Heer
(*Meligethes tristis* Sturm)

M: 30:III.82(1); 56:I.73(1).
PS: 3:III.81(9,in flowers of *Carduus*). [AU.]

****Brachypeplus mauli*** Gard.& Class.
(*Brachypeplus rubidus Murr.*)

M: 56:II.73(8, partly on Banana plants); 67:IX.85 (2, on window pane, Pieper leg.). [AU.]

Carpophilus mutilatus Er.

M: 67:IX.85(1,on window pane,Pieper leg.).

Carpophilus freemani Dobs.
(*Carpophilus dimidiatus* F.)

M: 67:IX.85(1,on window pane, Pieper leg.).

Carpophilus marginellus Motsch.

M: 67:IX.85(2,on window pane, Pieper leg.).

**Haptoncus luteolus* Er.

M: 67:IX.85 (1,on window pane, Pieper leg.).

Nitidula flavomaculata Rossi

M: 30:III.82(1).

**Omosita discoidea* (F.)

M: 76:III.82(3).

Epuraea unicolor Ol.

M: 30:II.73(1).

Xenostrongylus histrio Woll.

M: 47:IX.85(2).
D: 2:III.82(6).

Fam.: R h i z o p h a g i d a e

**Rhizophagus depressus* F.

M: 30:II.73(2); 78:III.81(27).

Fam.: C u c u j i d a e

**Monotoma spinicollis* Aubé

M: 56:II.73(3,in pith of sugar cane).

Ahasverus advena Waltl

M: 94:VIII.83(1).

Cryptamorpha desjardinii Guér.

M: 56:I.73(33), IX.85(4); 70:VIII.83(1); (all on Banana

trees).

**Laemophloeus capensis* Waltl
(*Laemophloeus elongatulus* Luc.)

M: 67:IX.85 (1, on window pane, Pieper leg.); 76:III.82 (1); 92:II.73(2).
PS: VII.83(1).

Laemophloeus donacioides Woll.

M: 1:II.73 (1, under bark of *Eucalyptus*); 73:II.73 (12, under bark of *Erica*).

**Laemophloeus axillaris* Woll.

M: 37:III.82(1).
D: 1:III.82(10).

Fam.: C r y p t o p h a g i d a e

Cryptophagus saginatus Sturm

M: 30:III.82(1).

**Cryptophagus vini* (Panz.)

M: 30:III.82(31); 64:III.82(2); 78:IX.85(4); 95:IX.85 (1). [ISR.]

**Atomaria apicalis* Er.

M: 67:IX.85(1,on window pane, Pieper leg.).

Fam.: P h a l a c r i d a e

**Olibrus millefolii* Payk.

M: 93:VIII.83(1).

Olibrus affinis Sturm

M: 18:VIII.85(6); 19:IX.85(3); 30:III.82(4,at *Ulex*); 37: VIII.85(1); 40:VIII.83(1); 43:IX.85(1); 43/44:IX.87 (1); 51:VIII.83 (1); 52:IX.87(1); 64:IX.85 (1, on *Rumex*); 72:IX.85(1),IX.87(1); 78:IX.85 (5,sifted from moss and grass).

Fam.: T h o r i c t i d a e

**Thorictus westwoodi* Woll.

PS: VII.83(1).

Fam.: L a t h r i d i i d a e

Lathridius nodifer Westw.

M: 16:IX.87(1,in flight in the evening); 30:II.73(4),II.82(1); 73:II.73(1); 76:VIII.83(4).

**Lathridius constrictus* Gyll.

M: 67:IX.85(1,on window pane, Pieper leg.).

Fam.: M y c e t o p h a g i d a e

**Litargus pilosus* Woll.

M: 16:IX.87(1).

Litargops pictus Woll.

M: 37:II.73(2,in *Polyporus* spec.).

Fam.: C o l y d i i d a e

Tarphius lowei Woll.

PS: VII.83(1); 7:VIII.85(1).

Tarphius compactus Woll.

M: 71:IX.85 (81, under bark of dead *Pinus* together with *Pseudophloeophagus tenax*). [GI.]

Tarphius nodosus Woll.

M: 37:III.82(1); 45:II.72(3,under bark of *Erica*).

Tarphius cicatricosus Woll.

M: 31:VII.85(1 o, 1 o).

Tarphius brevicollis Woll.(?)[4]

M: 24:IX.85(1 o ,in litter of *Erica*).

Ploeosoma ellipticum Woll.

M: 11:II.73 (1,in wood of *Pinus*); 81:II.73 (1,in mouldy wood).

Fam.: C o c c i n e l l i d a e

Rhizobius litura (F.)

M: 2:VIII.85(3); 40:VIII.83(9,on *Brassica*);45:III.82(1); 47:III.82(2),IX.85(7); 56:VII.85(1); 64:III.82(1),IX.85(8,on *Rumex*); 72:IX.85(1),IX.87(3); 75:VIII.83(2); 76:III.82(1); 78:III.81(3); 92:VIII.63(1); 93:VII.85(2).
D: 2:VIII.85(3). [G.,MW.]

**Rodolia cardinalis* Muls.

M: 56:VII/VIII.63(7); 67:IX.85(4,on window pane, Pieper leg.).. [MMF.]

**Stethorus tenerifensis* Fürsch

M: 56:VII.87(5,on leaves of *Clerodendron*, Maul leg.). [FÜ., MMF.]

**Scymnus pallidivestris* Muls.

M: 67:IX.85(2,on window pane, Pieper leg.).

**Scymnus rubromaculatus* Goeze

M: 67:IX.85 (2,on window pane, Pieper leg.).

Scymnus interruptus Goeze

M: 18:IX.87(1); 37:VIII.85(1); 40:VIII.83(1); 43:IX.85(8); 45:III.82(1); 47:IX.85(2); 52:III.83(1),IX.87(6); 56:VII.63(1),II.73(3),III.82(1),VIII.83(5); 59:VIII.85(1); 67:IX 85 (1,on window pane,Pieper leg.); 78:III.82(2),IX.85(1); 91:VIII.83(1), IX.85(1); 93:

[4] Determination uncertain, because of being a female.

VIII.83(2); 95:VII.85(4). [G.]

Scymnus flavopictus (Goeze)

M: 56:VII.87 (1,on leaf of *Clerodendron*, Maul leg.); 67: IX.85(2,on window pane, Pieper leg.); 95:IX.85(1).
D: 1:III.82(1).

Adonia variegata Goeze.

M: 4:VIII.83(1); 9:VIII.83(1); 10:VIII.83(1); 18::IX. 87(1); 30:VIII.83(1); 40:VIII.83(2); 43:IX.85 (3); 43/44:IX.87(2); 45:III.82(1); 47:IX.85(6); 51:VIII. 83(1); 52:VIII.83(10),IX.87(2); 56:VIII.63(3); 67: IX.85 (2, on window pane, Pieper leg.); 72:IX.87(1); 92:VIII.83(1); 94:VIII.83(2),IX.85 (7, in dry fruits of Composites;2,in lichens).
D: 2:VIII.83(3); 3:VII.85(1).
PS: VIII.63(1);VI.83(2); 2:III.81(1);4:VII.83(3);7:VIII. 85(1); 8:III.81(1). [G.,MMF.]

**Adalia bipunctata* (L.)

M: 56:I.73(1),VIII.83(1).

**Adalia decempunctata* (L.)

M: 30:III.82(1,on *Ulex*).

**Myrrha octodecimguttata* (L) ab. *andersoni* Woll.

M: 67:IX.85(2,on window pane, Pieper leg.).
PS: VIII.63(3).

**Coccinella genistae* (Woll.)
(*Tytthaspis phalerata* Costa ab. *genistae* Woll.)

M: 45:III.82(1); 47:IX.85 (6,partly on *Sarothamnus*),IX. 87(2,Kirschbaum leg.); 52:IX.87(1).

**Coccinella algerica* Kovář
(*Coccinella septempunctata* L.)

M: 15:VIII.83(1); 22:VIII.83(1); 30:III.82(5), VIII.83 (3); 31:III.81(1); 32:VIII.83(1); 37:III.82(1); 44: VIII.83(1); 45:III.82(1); 46:III.81(1),III.82(2); 47: IX.85(3); 52:VIII.83(1).
D: 2:VIII.85(3).
PS: VII.83(2); 2:III.81(1); 3:III.81(1). [G.]

**Harmonia quadripunctata* (Pont.)

M: 30:III.82(13,on *Pseudotsuga*).

Fam.: C i s i d a e

**Cis wollastoni* Mellié

M: 59:VIII.85(1).

Cis lauri Woll.

M: 37:II.73(23,in *Polyporus* spec.); 85:IX.87(16,in *Polyporus* spec. from *Erica arborea*).

Octotemnus opacus Mellié

M: 18:IX.87(9,in *Trametes* spec.); 74:VIII.83(40); 75:III.82(2). [MW.]

Fam.: O e d e m e r i d a e

Oedemerella lowei (Woll.)
(*Oedemera lowei* Woll.)

M: 7:VIII.85(6); 16:IX.87(3); 17:VIII.63(1); 18:VIII.83(1); 36:VII.85(4); 38:VIII.83 (23, on *Echium candidans*); 43:VIII.83(5,on yellow Composite flowers); 45:VII.85 (1); 51:VIII.83 (16, on yellow Composite flowers); 52:VII.85(1). [G.,MMF.,MW.]

Fam.: P y t h i d a e

**Rabocerus impressus* (Woll.)

M: 30:III.82(2,on dead *Ulex*).

Fam.: A n t h i c i d a e

**Omonadus floralis* (L.)
(*Anthicus floralis* L.)

M: 93:VIII.83(2).

Cordicomus instabilis (Schm.)
(*Anthicus instabilis* Schm.)

D: 2:VIII.85(7).
PS: 3:III.82(1,in flowers of *Carduus*). [G.,UH.]

Anthicus hispidus (Rossi)

M: 78:III.82(1).

****Anthicus crinitus*** Laf.

M: 93:VIII.83(10). [UH.]

Anthicus lubbocki Woll.

M: 15:VIII.83(1); 30:II.73(6),III.82(2); 31:VII.85(3); 32:VIII.83(1); 33:IX.85(2); 37:III.82(3); 43:VIII.83(2); 43/44:IX.87(1); 44:VIII.83(1); 45:VII.85(1); 47:III.82(1),IX.85(2); 50:III.81(13); 71:IX.85(1); 83a:IX.87(1); (mostly under stones). [G.,UH.]

Fam.: M e l o i d a e

Meloë rugosus Marsh.

M: 94:IX.87 (1, dead under a plant).

Meloë murinus Brandt

D: 2:III.67(1,Winkelmeyer leg.:MMF), III.87 (1, Biscoito leg.:MMF 24181).

Meloë austrinus Woll.

M: 45:III.81(1),III.82(1); 46:III.81(1),III.82(1); 47/48:III.87(1,Zino leg.:MMF 24182).

Euzonitis quadripunctata (F.)

PS: 8:III.81(3,in flowers of *Carduus*).

Fam.: M o r d e l l i d a e

Anaspis proteus Woll.[5)]

M: 5:IX.85(5); 16:IX.87(1); 18:IX.87(1); 31:VII.85(1);

[5)] We refrained from distinguishing between the taxa *proteus* and *imitator*. For discussion on the taxonomical uncertainty see Ermisch 1963 and Israelson 1984.

38:VIII.83 (18, on *Echium*); 43:VIII.83(7); 47:III.82(1); 52:VIII.83(1),VII.85(1) 74:VII.63(3),VIII.83 (71, in flowers of Labiatae and of *Sonchus*); 75:VIII.83(9); 78:IX.85(1).
D: 1:III.82(99). [PA.,MMF.,MW.]

Fam.: T e n e b r i o n i d a e

Hegeter tristis F.

M: 56:II.73(1).
D: 2:III.82(1).
PS: XII.80(1); 1:III.81(23,on beach under wood),VI.83(3); 4:VIII.85(2); 9:VIII.85(2); 12:VIII.63(1); 13:VI.83(5),VIII.85(1). [G.,MMF.,MW.]

Blaps gigas L.

PS: VI.83(2); VII.83(2); 9:VIII.85(7). [G.,MW.]

Hadrus alpinus Woll.

M: 2:VIII.85(1); 36:VII.85(7); 38:III.8 2(13), VIII.83(2); 47:VII.85(1); 59:VIII.85(1); 72:IX.85(5); 74:VII.63(3),VIII.83(1); 79:VIII.63(2). [G.]

Hadrus carbonarius Quens.

M: 2:VIII.85(6); 56:I.73(14), III.75(1); 69:VII.85(5); 90:VII.83(10); 91:III.81(14); 92:II.73(8); 93:III.81(6),VII.85(13); 94:VIII.83(28),IX.85(2); 95:IX.85(6).
D: 2:III.82(numerous),VIII.85(49); 3:VII.85(32).
[G.,MMF.,MW.]

Hadrus carbonarius sousai All.[6]

D: 1:III.82(53),VIII.87(5,Biscoito leg.). [MMF.]

Hadrus illotus Woll.

PS: XII.80(2); 1:VIII.63(2),III.81(4,on beach),VI.83(16); 2:III.81(8); 3:III.81(7); 4:VIII.85(15); 7:VIII.85(14); 9:VIII.85(11); 10:VIII.85 (25); 13:VI.83(4), VIII.85(16); 15:VII.83(3); 16:VII.83(8); 17:VII.83(3); 18:VI.83(4),VIII.85(6). [G.,MMF.,MW.]

[6] See Ardoin 1960.

Gonocephalum rusticum Ol.

M: 53:II.73(22,under bark of *Pinus*).

Opatropis hispida (Brullé)

M: 90:VII.83(1); 92:VIII.63(4); 93:VIII.83(28,in cattle dung); 94:VIII.83(15),IX.87(1,under a plant).
D: 1:III.82(1).
PS: VIII.63(3); VII.83(1); 2:III.81(1).

Phaleria ciliata Woll.

PS: VIII.63(2); 1:III.81(12,on beach under wood); 12:VII.83(8). [MMF.,MW.]

Ellipsodes glabrata (F.)

M: 18:VIII.85(3); 31:VII.85(12); 36:VII.85(7); 37:III.81(2),III.82(21,under stones); 51:VIII.83(3); 71:IX.85(2); 74:VII.63(2),VIII.83(5),IX.85(1); 76:III.82(1); 90:IV.75(3).
D: 3:VII.85(1). [G.,MW.]

Nesotes asper (Küster)

M: 90:VII.83(6); 92:II.73(17,under bark); 93:VII.85(15).
D: 1:III.82(13); 2:III.82(25). [G.,MW.]

Nesotes confertus (Woll.)

M: 1:II.73(2,under bark of deciduous tree); 3:III.81(1, in wood); 45:III.81(?); 46: III.81(?); 76:III.82(10, under bark of *Pinus*); 77:III.81(1, under wood).

Nesotes confertus (Woll.)ssp.*colasi* Ardoin

M: 30:IX.85(1); 43:IX.85(2).

Nesotes lucifugus (Woll.)

PS: VI:83(8); 2:III.81(5); 3:III.81(9); 4:VII.83(18); 6:III.81(2,in dead wood of *Ficus*); 7:VIII.85(7).
[G.,MW.]

Nesotes congregatus (Woll.)

M: 92:II.73(8).
D: 1:III.82(5); 2:III.82(2).

Nesotes infernus (Woll.) ***wollastoni*** Ardoin
(*Nesotes infernus* Woll.)

PS: XII:80(2); VII.83(1); **18**:VIII.85(1).

Nesotes obliteratus (Woll.)

M: 92:II.73(1).

Nesotes gagatinus (Küster)

M: **30**:II.73(25), III.81(4),III.82(33),IX.85(1); **32**:III.81(2); **45**:II.73(1), III.82(1), III.83(6),VII.85(10), IX.85(2); **46**:III.81(1),III.82(17); **47**:VII.85(3); **49**:VII.85(5); **50**:III.81(34); **71**:IX.85(1); **74**:VII.63(1); **90**:VII.83(2). [G.,MMF.,MW.]

Nesotes graniger Küster var.***validus*** Reitt.

M: 93:II.73(1,in dry fruit of a composite).

Nesotes portosanctanus Woll.

PS: XII.83(1).

Fam.: S c a r a b a e i d a e

Aphodius hydrochaeris F.

M: 92:II.73(1,in cattle dung).

Aphodius granarius (L.)

PS: 3:III.81(1,in cattle dung).

****Aphodius pseudolividus*** Balth.

M: 93:VIII.83(90,in cattle dung). [SCHEU.]

****Aphodius fimetarius*** L.

M: **4**:III.81(3); **9**:VIII.83(15); **15**:VIII.83(21); **30**:III.82(2); **31**:IX.87(4); **45**:III.82(1); **76**:III.82(1); **77**:III.81(15); (all in cattle dung). [MMF.,MW.]

****Aphodius ghardimaouensis*** Balth.

M: 92:II.72(5,in cattle dung).

Aphodius sturmi Har.

M: 93:VIII.83(22,in cattle dung). [SCHEU.]

Fam.: C e r a m b y c i d a e

**Criocephalus ferus* Muls.

M: 13:VIII.83(1); 51:VIII.83 (2,in wood of dead *Pinus*); 72:IX.81 (2, under bark of *Pinus*); 76:III.82 (1 fragment).

Blabinotus spinicollis Woll.

M: 4:III.81(1).

Fam.: C h r y s o m e l i d a e

For earlier records see ERBER 1986.

Chrysomela banksi F.

M: 36:IX.87(2); 85:IX.86(1,Lange leg.),IX.87(1).

Chrysomela fragariae Woll.

M: 74:IX.87(4).

Longitarsus isoplexidis Woll.

M: 37:IX.87(3,on *Echium candidans*).

Longitarsus cinerariae Woll.

M: 18:IX.87(7); 74:IX.87(1).

Psylliodes vehemens Woll.

M: 43/44:IX.87(3).

Fam.: B r u c h i d a e

Bruchus lichenicola (Woll.)

D: 1:III.82(1).

**Bruchidius lividimanus* Gyll.

M: 44:III.82(1,on *Erica*).

Fam.: C u r c u l i o n i d a e

Apion radiolus Kirby ssp.*chalybeipenne* Woll.

PS: 4/5:VIII.85(2).

Apion frumentarium (Payk.)

M: 43:VIII.83(1).

Apion semivittatum sagittiferum Woll.[7]

M: 56:VII.87(4,on leaves of *Clerodendron*, Maul leg.).
D: 2:III.82(16). [L., MMF.]

Apion rotundipenne Woll.

PS: 3:III.81(1).

Apion wollastoni Chevr.

M: 83a:IX.87(2) [L.]

**Caenopsis fissirostris* Walt.

M: 64:III.82 (1,under wood).

Cathormiocerus viennoti Hoffm.

M: 29:III.81(1); 30:III.82(1); 31:VII.85(2); 32:VIII.83 (4); 47:VII.85(1); 48:III.81(2); 49:VII.85(8).[IPE.]

**Laparocerus morio morio* Boh.

M: 2:II.73(1),VIII.85(1); 6:III.81(1); 27:VIII.85 (2); 37:VIII.85(1); 58:VIII.85(2); 64:IX.85(1); 69:VII. 85(1); 74:VII.63(1); 79:VIII.63(1); 83:IX.86(3,leg LANGE); 86/87:VII.85(1); 90:III.81(1),VII.83(9); 92: VII.63(4),II.73(19); 93:III.75(8),III.81(1), VIII.83 (9),VII.85(23); 94:IX.85(7),IX.87(1).
PS: 1:VI.83(3); 2:III.81(8); 3:III.81(19); 4:VII.83(13); 5/6:VIII.85(31); 7:VIII.85(38); 9:VIII.85(27); 10: VIII.85(8); 13:VI.83(2), VIII.85(1); 15:VII.83 (1);

[7] Lundblad (1958) lists *semivittatum* and *sagittiferum* as separate species; Roudier (1963) views *sagittiferum* as a subsp. of *semivittatum*.

17:VII.83(3); 18:VI.83(1),VIII.85(25).
D: 2:III.82(4),VIII.85(20); 3:VIII.85(10).
[G.,IPE., MMF.,MW.]

Laparocerus morio vandeli Roud.

D: 1:III.82(11).

Laparocerus distortus (Woll.)

M: 43:VIII.83(1).

Laparocerus lamellipes Woll.

M: 6:IX.86(1,Pieper leg.); 16:IX.85 (1,knocked from *Vaccinium maderense*); 18:VIII.83(2); 19:IX.85(1); 22:IX.85(3); 24:IX.85 (1,knocked from *Vaccinum maderense*); 30:IX.85(1); 72:IX.85 (18,knocked from *Laurus* spec.), IX.87(1); 74:VIII.83(1); 74a: IX.86 (1, Pieper leg.); 93:III.75(1).

Laparocerus vespertinus (Woll.)

M: 6:VIII.83(1); 30:III.82(5),VIII.83(1); 31:VII.85(2); 32:VIII.83(4); 37:III.82(1); 42:II.73(3); 43:IX.85(2); 44:VIII.83(1); 45:II.73(2),VII.85(2); 46:III.82(2); 47: IX.85(2); 56:III.75(1); 71:IX.85(2); 90:VII.83(4). [IPE.,MW.]

Laparocerus schaumi (Woll.)

M: 18:VIII.83(1).

Laparocerus ventrosus (Woll.)

M: 45:VII.85(1); 46:III.81(3); 47:IX.85(1).

Laparocerus waterhousei (Woll.)

M: 32:III.81(6); 37:III.82(4); 90:IV.75(2).
[MMF.,MW.]

**Lichenophagus fritillus* Woll.

PS: VII.83(6); 13:VIII.85(4). [IPE.]

**Barypithes indigens* Boh.

M: 12:II.73(3, on freshly peeled *Pinus*); 78:III.82(1).

Strophosomus melanogrammus Först.

M: 73:III.81(1).

Pantomorus cervinus Boh.
(*Pantomorus godmani* Crotch).

M: 40:VIII.83(1); 52:VIII.83(1); 56:II.73(1).

Sitona puberulus Reitt.[8]
(*Sitona cambricus* Steph.)

M: 90:VII.83(1); 93:VII.85(9).
PS: VI.83(2),VII.83(11); 9:VIII.85(19). [G.,IPE.,MW.]

Sitona latipennis Gyll.

M: 30:III.82(2,on *Ulex*); 31:VII.85(1); 36:VII.85(1); 37: III.82(5); 44:III.82(25,on *Sarothamnus*); 47:III.82(2, on *Sarothamnus*). [IPE.,MW.]

Sitona lineatus (L.)

M: 2:II.73(1); 43:VIII.83(1).

Sitona discoideus Gyll.[9]
(*Sitona humeralis* Steph.)

PS: VII.83(2); 7:VIII.85(1).

**Sitona flavescens* Marsh.

M: 94:IX.85(1).

**Sitona intermedius* Küst.

PS: VII.83(1).

Lixus algirus L.

M: 44:III.82 (2, on *Sarothamnus*); 52:VIII.83 (1, on *Ipomoea*).

[8] It is likely that on all Atlantic Islands only *S. puberulus* occurs. It was separated from *S. cambricus* by Dieckmann (1963 and pers. comm.).

[9] Probably it is only *S. discoideus* that occurs on all Atlantic Islands; it was formerly treated as *S.humeralis* (Dieckmann 1963 and pers. inf.).

Lixus cheiranthii Woll.[10)]
(*Lixus ascanii* L.)

M: 52:VIII.83(1,on *Ipomoea*).

Rhopalomesites maderensis (Woll).
(*Mesites maderensis* Woll.)

M: 4:IX.85 (2,under bark of *Laurus*); 37:IX.85 (2, under bark of *Laurus*); 42:II.73(1).

Rhopalomesites euphorbiae (Woll.)
(*Mesites euphorbiae* Woll.)

M: 67:IX.85(1,on window pane, Pieper leg.).

**Barretonus desertae* Roud.

PS: 7:VIII.85(3).
D: 2:VIII.85(3)

**Barretonus major* Folw.

D: 1:III.82(1).

**Barretonus major hinterseheri* Folw.

M: 56:II.73(4). [F.]

Caulotrupis lacertosus Woll.

M: 1:II.73(51,under bark of *Eucalyptus*).

Caulotrupis impius Woll.

M: 45:VII.85(1); 93:VII.85(1).
PS: 7:VIII.85(2); 13:VIII.85(1).
D: 1:III.82 (223,mostly in stems of *Matthiola maderensis* and Composites). [IPE.,MW.]

Caulotrupis lucifugus Woll.
(several varietes)

M: 90:VII.83(7); 92:II.73(4).
PS: 4:VII.83(6); 7:VIII.85.
D: 1:III.82(13); 2:III.82(1); 3:VII.85(1). [G.,MW.]

[10)] *L. cheiranthii* is clearly differentiated from *L. ascanii*, that it constitutes a species of its own *L.ascanii* occurs only in Italy (Dieckmann 1980 and pers. inf.)

**Pselactus spadix* Herbst ssp. *sulcipennis* Woll.
(*Rhyncolus sulcipennis* Woll.)

M: 56:II.73(71). [MMF.]

Pseudophloephagus tenax (Woll.)

M: 1:II.73(10); 11:II.73(98); 16:IX.87(6,in dead *Erica*); 19:III.82 (26,in wood of *Erica*); 20:VIII.85(1); 25: VIII.83(1); 30:III.82(11); 37:III.82(18); 42:II.73 (1); 43:IX.85 (2,in wood of *Erica*); 45:II.73(2); 52: VIII.83(1); 59:VIII.85(2); 71:IX.85 (25,under bark of *Pinus*, together with *Tarphius compactus*); 72:IX.85 (2),IX.87(8); 74:II.73(1); 75:VIII.83(5,under bark of *Erica*); 78:III.82(17); 83: II.73(3,in mouldy wood). [G.,IPE.]

Pachytychius robustus Woll.

M: 90:IV.75(1).
PS: VII.83(1); 10:VIII.85(1).
D: 1:III.82(7). [IPE.]

Pissodes notatus F.

M: 30:II.73(1).

**Cleonus conicirostris* (Ol.)
(*Cleonus conicirostris jekelii* Woll.)

M: 93:VIII.83(3). [IPE.]

Hypera lunata Woll.
(*Phytonomus fasciculatus* (Herbst))

PS: VI.83(1); VII.83(2); 7:VIII.85(2).

Hypera postica (Gyll.)
(*Phytonomus variabilis* (Herbst))

M: 47:IX.85(1); 93:III.75(2),VII.85(8),IX.85(1).
PS: XII.80(1); VII.83(11); 7:II.78 (1, Waldén leg.:MMF), VIII.85(1); 10a:I.78 (1, Waldén leg.:MMF),VII.83(4).

Cosmopolitus sordidus (Germ.)

M: 56:II.73(8,on rotten leaves of Banana trees).

**Sitophilus zeamais* Motsch.

M: 56:VII.85(1).
PS. VII.83(5). [MW.]

Ceutorrhynchus geographicus Goeze

M: 37:III.81(1).

Ceutorrhynchus quadridens Panz.

M: 30:III.82(2).

**Cionus allauda* Herbst

M: 74:VII.63(1); 85:IX.85 (3, Pieper leg.).

Fam.: S c o l y t i d a e

**Hylastinus obscurus* Marsh.

M: 1:II.73(5); 30:II.73(8),III.82(6); 73:II.73(29); (all under bark of *Ulex* and *Erica*).

**Blastophagus piniperda* (L.)

M: 30:II.73 (1,on freshly peeled *Pinus*); 64:III.82(3,in wood of *Pinus*); 78:III.82(4).

Hylurgus ligniperda (F.)

M: 30:II.73 (4, on freshly peeled *Pinus*); 78:III.81 (6, under bark of *Pinus*).

**Hylastes linearis* Er.
(*Hylastes linearis* Er. var.*corticiperda* Er.)

M: 37:III.82(1).

**Hylastes angustatus* Herbst

M: 78:III.82(2).

Liparthrum curtum Woll.

M: 9:VIII.83 (1, in bark of *Laurus*).

**Hypothenemus eruditus* Westw.
(*Hypothenemus aspericollis* Woll.)

M: 56:III.81(7),VIII.83(3); 67:IX.85 (14,on window pane, Pieper leg.).

Phloeophthorus rhododactylus (Marsh.)

M: 30:III.82(5); 47:III.82(1); 73:II.73 (8,under bark of *Erica*).

Xyleborus saxesenis Ratz.

M: 16:IX.87 (25, in flight in the evening).

Orthotomicus erosus (Woll.)

M: 53:II.73(17,under bark of *Pinus*).

DISCUSSION OF NEW RECORDS AND LITTLE KNOWN SPECIES

Fam.: C a r a b i d a e

Leistus ellipticus Wollaston 1857

A very rare species, which has not been recorded since Wollaston (1857), who had captured eight specimens in the forest district of Cruzinhas in July 1855.

We found one specimen on 12.IX.1985 at Cabeço das Águas das Becas (NW Poiso), 1450 m.

Notiophilus quadripunctatus Dejean 1826

New to the Madeira Archipelago.

We collected 13 specimens at different points all above 1000m. The beetles were detected under stones on grassy ground.

The species is spread over western and southern Europe (Freude *et al.* 1976).

Bembidion harpaloides Serville 1821

Since Wollaston (1857), who had found the species in the South of Madeira proper, only one further find has been made by Serrano & Borges (1987) at Ribeiro Frio in V.1980 (1 specimen).

As our finds were made at different points of the island at lower and higher altitudes, we suppose, that the species is well established on the island, though very rare.

The species is distributed in western and central Europe and the Mediterranean region (Freude *et al.* 1976). It also occurs on the Azores (Mardsen 1969).

Tachys diabrachys Kolenati 1845

The species was recorded by Wollaston (1854) as *Bembidion curvimanum* from Madeira proper and Porto Santo. The first record from Deserta Grande was made by Serrano & Borges (1987): one specimen on 3.V.1980. We found two specimens on the same island under stones on 18.III.1982.

The species is also known from the Azores, the Canaries and the Cape Verdes.

Trechus maderae Franz 1981

The species was first discovered by Franz (1981) in April 1968 at three different localities: Ribeiro Frio (5), Fajã da Nogeira (22) and Ribeiro Bonito (2). Probably, the species has also been found by other collectors before 1968, but was not described as a new endemic species.

The specimens recorded here were found between Curral das Freiras and Torrinhas, at 900m, on 18.III.1983 in rotten wood of *Pinus* (1) and near Ribeiro Frio at the Levada of Balcões (860m) on 21.IX.1985 in surface litter (3).

Trechus laurisilvae Franz 1981

This species was separated by Franz (1981) from *Trechus custos* Wollaston 1854, which is abundant on Madeira proper. The type specimens (holotype and paratypes) were collected at Queimadas and Ribeiro Bonito from trees of *Laurus*.

The speciemens recorded here were found at different points of the island. We suppose that it is as widely distributed as *Trechus custos*.

Trechus ribeiranus Franz 1981

This species was also separated from *Trechus custos* Wollaston 1954 by Franz (1981), based on specimens from different localities (e.g. Ribeiro Grande, Queimadas, Ribeiro Frio).

The specimens recorded here were found partly in surface litter under deciduous trees.

Trechus rabaçalensis Franz 1981

Franz (1981) sifted one specimen from mould of *Laurus* on 9.IV.1968 at Ribeira da Janela near Miradoro do Rabaçal and described it as a new species.

Our find, a male from Rabaçal-Lombo do Risco, 1300m, 23.II. 1982, was identified by Franz as the second individual of this new species. (M. Schmidt, Köln, however, could not differentiate our specimen from *Trechus laurisilvae* (pers. comm.)).

Amara superans Wollaston 1854

Wollaston (1854) already recorded this species as very rare, occurring only at the highest altitudes of Madeira proper. Since Wollaston only two specimens have been collected by Lundblad at the Paul da Serra in August 1935 (Jeannel 1939).

This record and our finds, made at Paul da Serra-Estanquinhos, 1500m on 21.VIII.1983 (1, under a stone), at Pico do Juncal, 1700m, on 25.VII.1985 (1) and near Pico do Areeiro (Meteorological Observatory), 1650m, on 26.VII.1985 (1) confirm Wollaston's supposition.

Amara cottyi Coque 1858

New to the Madeira Archipelago.

The species is known from the Canary Islands and the Selvagens.

Our sole specimen was captured on Deserta Grande on 17.III. 1982.

Olisthopus fuscatus Dejean 1828

New to the Deserta Islands.

The species had been recorded from Madeira proper and Porto Santo (Wollaston 1857 (as *O.elongatus* Wollaston 1854); Colas 1963).

We captured a single specimen on Deserte Grande on 17.III.1982.

Agonum marginatum Linnaeus 1758

Wollaston (1854) already supposed the species to be very rare on Madeira proper, living there only in damp areas at high altitude.

The four specimens recorded here were found under stones at Paul da Serra-Estanquinhos, 1500m, on 21.VIII.1983. Four further specimens were collected by Mendes at Pico do Areeiro on 26.IX.1984 (Serrano & Borges 1987).

This species of eastern palaearctic distribution is also known from the Canaries and the Azores.

Philorhizus umbratus Wollaston 1865

New to the Deserta Islands.

Only two specimens had hitherto been recorded from Madeira proper (in the collection of Bewicke) but without exact dates (Wollaston 1865).

We found two specimens on Ilhéu Chão on 19.III.1982; one was captured at Ponta de São Lourenço on 29.VII.1985.

Microlestes negrita (Wollaston 1854)

New to Porto Santo.

This species is well known from Madeira proper, where it was found by Wollaston (1854), Liebmann (1939), Lundblad (Jeannel 1939), Gardner & Classey (1962), Colas (1963) and Serrano & Borges (1987). On Deserta Grande one specimen was found by Serrano & Borges (1987) on 14.V.1980.

Most of our finds were made also at different points and different altitudes on Madeira proper. Two specimens were collected on Porto Santo in the period of 16.-30.VI.1983 and one specimen each was found on Ilhéu Chão on 19.III.1982 and on Bugio on 29./31.VII.1985.

This species of wide distribution (Europe, Mediterranean region, Caucasus, Asia) is also known from the Canaries and the Azores.

Fam: H y d r a e n i d a e

Ochthebius rugulosus Wollaston 1857

New to the Deserta Islands.

The endemic species was already known from Madeira proper (Lindberg 1963a and Serrano & Borges 1987) and from Porto Santo (Wollaston 1857).

We captured 29 specimens in fresh water among algae in a small cistern on Deserta Grande on 17.III.1982.

The species also occurs on the Canary Islands.

Fam.: H y d r o p h i l i d a e

Magasternum boletophagum Marsham 1802

New to the Madeira Archipelago.

The species, which is distributed over Europe and the Mediterranean region inclusive of North-Africa (syn.: *algericum* Sahlberg 1903), has hitherto not been recorded from any other Atlantic Island (Hofmann: pers. inf.).

Pachisternum capense Mulsant 1844

New to the Madeira Archipelago.

This species, widely spread in tropical Africa, is known from the Canary Islands, where it was first detected on La Palma in 1972 and later on Tenerife in 1977 (Palm 1977). The beetles were found there in cattle manure and donkey manure as well as in rotting plants.

One of the two specimens recorded here was found at Funchal-Lido, on 11.II.1973 under a rotting leaf of a Banana tree, the other one was detected at Boaventura-Falca de Cima on 20.VIII. 1983 in a rotting pumpkin among a great number of Staphilinids.

Fam.: P t i l i i d a e

Acrotrichis matthewsii Wollaston 1864

New to the Madeira Archipelago (?).

Wollaston (1864) detected the species on the Canary Island of La Palma. As it was found everywhere in the forest, he already then supposed, that it should be abundant on all of the Canary Islands. Probably *A.matthewsii* is identical with *A. atomaria* DeGeer 1774, which is listed for Madeira proper by Lundblad (1958).

The 16 specimens collected by us at Paul da Serra-Estanquinhos, 1500m, on 23.III.1982, flew toward bright clothes.

Fam.: S t a p h i l i n i d a e

Gyrohypnus fracticornis (Müller 1776)
(*Xantholinus punctulatus* Paykull 1789)

This species was separated from *Gyrohypnus punctulatus* Payk. by Lohse in 1958 (Smetana 1963). It is still uncertain, whether both species occur on Madeira. Horion (1965) is convinced, that *G. punctulatus* does not exist on the Archipelago.

G.fracticornis, which is distributed over Europe and the Mediterranean region, has been collected in numbers by Lindberg at different localities on Madeira proper. We found only one specimen in cattle dung on the Paul da Serra on 15.IX.1987.

The species is also known from the Canaries and the Azores.

Gyrohypnus liebei Scheerpeltz 1929

This species was described by Scheerpeltz (1926) on the basis of one specimen, which Liebe had captured at Santo António da Serra in July 1925. Further finds were recorded by Lindberg at Valparaíso, Serra de Água and Fonte das Pedras in April 1959, each consisting of one specimen (Smetana 1963). Scheerpeltz (1926) supposed, that the species had been captured already in former times, but was determined erroneously as *Xantholinus (Gyrohypnus) punctulatus* Paykull 1789.

We collected two specimens at the Levada da Serra do Faial, one in the vicinity of the Cabeço da Madeira, 810m, on 10.III. 1981, the other one in the area of Curral Velho, 800m, on 13.II. 1982.

Philonthus jurgans Tottenham 1937

New to the Madeira Archipelago.

This European species has not yet been recorded from any of the other Atlantic islands.

Our records are from different points and different altitudes of Madeira proper: Rabaçal-Ribeiro do Alecrim, 1300m, 19IX.1985 (2 in cattle dung); Paul de Serra-Estanquinhos, 1500m, 17.IX.1985 (I); Boaventura-Falca de Cima, 350m, 20.VIII.1983 (6 in a rotting pumpkin); Funchal-Monte, 10.VIII.1985 (I). We may suppose, that the species is well established in the Madeiran fauna.

Philonthus rectangulus Sharp 1874

New to the Madeira Archipelago.

This widely ranging species (Europe, Asia, Chile) is also known from the Canaries.

We captured one specimen at the Levada da Serra do Faial-Curral Velho, 800m, on 13.III.1982.

Gabrius simulans (Wollaston 1957)

This species is endemic to Madeira, as has been clarified by Smetana 1962. It has been found to be of very sparse distribution on Madeira proper: Wollaston (1857) separated five specimens from a series, which he had determined as *Philonthus aterrimus* Grav. (syn. to *G. nigritulus* (Grav.)), but did not give exact indications as to localities, where they had been captured.

Two further specimens were collected by Lindberg in April 1959, one at Serra de Água, the other one at Terreiro da Luta (Smetana 1963).

Serrano & Borges (1987) recorded two specimens of *Gabrius heres* Smetana 1962, one from Chão do Areeiro and one from Sítio do Salão, both of May 1980. *Gabrius heres*, however, is at present only known from the Canary Island of Gran Canaria consisting of one male (= holotype) and is probably endemic to the Canaries (Smetana 1963). (Coiffait (1974:56), however, wrote: type = "Gran Canaria", distribution ="Ile de Madére"; obviously a mistake). We therefore assume, that Serrano & Borges's specimens also belong to *G. simulans*.

Our single specimen is a female and was collected by Pieper from a window pane in Caniço de Baixo in IX.1985.

Ocypus aethiops Waltl 1835

The species was first captured by G.E. Maul in the summer and in December 1979 (Israelson 1981). Israelson (1981) found it in October 1980 near Camacha and at Terreiro da Luta.

Our finds show that the species, which is distributed over southwestern Europe, North Africa and the Azores, has extended its range widely over Madeira proper since first recorded and must be regarded as a well established member of the Madeiran coleopterous fauna.

Ocypus cupreus Rossi 1790

The first find was made by Pécoud at Pico do Areeiro (Jarrige 1953). The species seems to be still rare on Madeira, though it had been known from the Canary Islands already by Wollaston, who described it under the names of *O.punctatissimus* (1964) and *O.fortunatorum* (1971). The species is distributed over central Europe and the Mediterranean region.

We collected one specimen at the Paul da Serra-Estanquinhos, 1500m, on 3.II.1973.

Ocypus obscuroaeneus Fairmaire 1852 ssp.*schatzmayeri* G.Müller 1923

Jarrige (1953) first recorded the species from Santo da Serra and Pico do Areeiro. Further finds were made by Gardner & Classey (1961) and by Lindberg (Smetana 1963) at different points of Madeira proper. Mitter (1984) captured a large number of this species in August 1983 near Santo da Serra under stones; Serrano (1987) found three specimens in May 1980 on the Fanal.

This and our records show that the species, which is distributed over southwestern France, the Iberic Peninsula and North Africa is now well established as a member of the Madeiran fauna.

Ocypus olens Müller 1964

New to the Deserta Islands.

This relatively recent member of the Madeiran fauna was first detected by G.E. Maul in Funchal in December 1978 and again in November 1979 (Israelson 1981). Since that time the species has dispersed widely over the island: Israelson (1981) found it near Funchal, at Ponta do Garajau and at Terreiro da Luta in November 1980; Mitter (1984) collected five specimens at Poiso and at the Encumeada in August 1983.

We found it at Pico do Coelho, Torrinhas, Curral das Freiras and repeatedly at the Paul da Serra. The two specimens collected on Deserta Grande on 16.III.1982 are the first record from the Deserta Islands.

Ocypus olens is distributed over the western Palaearctic and North Africa and has been known from the Canaries and the Azores for some time (Jarrige 1953).

Bolitobius thoracicus Fabricius 1777

New to the Madeira Archipelago.

This species of wide distribution (Palaearctic, Siberia, Japan, southern Europe, North America (Horion 1967)) is not yet known from any other of the Atlantic Islands.

We found one specimen at the Paul da Serra, 1500m, on 24.III.1982.

Conosoma marshami Stephens 1832

New to the Madeira Archipelago (?).

Probably, this species was not differentiated formerly from *C. testaceum* Fabricius 1790 (=*Conurus* or *Conosoma pubescens* Paykull 1790 in Wollaston 1854 and 1865) (see Strand 1966), which was recorded as abundant on Madeira proper (Wollaston 1854, 1865; Smetana 1967). *Conosoma marshami* is distributed over northern and central Europe and Tunesia (Horion 1967).

We collected one specimen at Torrinhas, 1500m, on a southern exposure on 18.III.1983 and four specimens near Camacha, 700m, on 14.III.1982.

Tachyporus chrysomelinus Linnaeus 1758

This species was first detected by Brinck and Dahl at Queimadas on 24.IV.1957 (Smetana 1970). Later it was found by Lindberg at Ribeiro Frio, between Poiso and Pico do Areeiro, at Queimadas and at Rabaçal, May to July 1957, and at Encumeada and Queimadas, April/May 1959 (Smetana 1963). The species is distributed over the Palaearctic, Siberia, Mongolia, and North America (Horion 1967). On the Canaries it was first found by Machado (Israelson *et al.* 1981).

We found two specimens at the Paul da Serra-Estanquinhos, 1500m; one on 24.III.1982 in a ground trap, the other one on 20.VIII.1983.

Tachyporus solutes Erichson 1839/40

New to the Madeira Archipelago.
This species of European and Mediterranean distribution had not yet been known from any of the Atlantic Islands.
We collected one specimen at the Paul da Serra on 23.III.1982.

Tachyporus celer Wollaston 1854

Since Wollaston (1854 a. 1857) this endemic species has been recorded only twice from Madeira: Lundblad captured one specimen in July-August 1935 at Rabaçal; Serrano (1987) found two specimens on Deserta Grande in May 1980.
We found one specimen at the same locality as Lundblad in moist grass in IX.1987.
Already Wollaston called it a rare species, living in damp places, mainly in the north of Madeira proper.

Coproporus pulchellus Erichson 1839

This neotropic species is present on the Canary Islands, the Azores and on Madeira, mostly in compost, but was cited in the literature erroneously as *Tachyporus brevis* Har. (pers. comm. by Israelson, who identified our specimen).
The only specimen we captured in Funchal on 11.II.1973 was clinging to sugar cane.

Oligota granaria Erichson 1837-39

New to the Madeira Archipelago.
This species, which is distributed in central Europe and Great Britain (Winkler 1924-32), had hitherto not been known from any of the Atlantic Islands.
Pieper took seven specimens from a window pane at Caniço de Baixo in September 1985.

Alpinia (=*Leptusa*) *truncorum* (Wollaston 1857)

A very rare species, which was recorded only twice from Madeira proper: By Wollaston (1857), who found it during July 1855 among vegetable litter at the base of old trees at Cruzinhas and the Fanal, and by Bernhauer (1949), who reported one specimen, collected by Frey at Rabaçal on 7.V.1938.

We found two specimens at Santa Madalena on 5.II.1973 under bark.

Placusa tachyporoides Waltl 1838

Only a few specimens are known from Madeira proper: One was found by Wollaston (1854) in the wooded district of Montado dos Pecegueiros, recorded as *Homalota umbratilis*; two further specimens were collected by Mason at the Fanal, recorded by Wollaston (1857) as *Homalota alutaria*. These were cited by Jansson (1940) and Lundblad (1958), but there are no further records in the literature.

We captured four specimens on 16.IX.1987 by the Ribeira da Janela at 720m, where they were flying in the evening.

The species is distributed from Japan over Siberia to Europe, including the Mediterranean region of North Africa. It is also known from North America and the Azores.

Placusa pumilio Gravenhorst 1802

Liebmann (1939) found one specimen of *Placusa atrata* Sahlberg 1834 under the bark of a dead pine tree near the Levada between Camacha and Funchal in Febr. 1939. This was later cited by Jansson (1940) and Lundblad (1958). Horion (1967), however, doubted the correctness of this determination, as *P. atrata* is distributed in the northern palaearctic region; it is missing in the Mediterranean and western European regions. He assumed that the specimen of Liebmann belongs to *P. tachyporoides* Waltl, which was already known from Madeira.

Since we have now (16.IX.1987) captured three individuals of *P. pumilio* by the Ribeira da Janela at 720m, where they flew in the evening, we suppose that Liebmann's specimen could also be a member of this species of palaearctic distribution (Siberia, Europe and North Africa).

Atheta negligens Mulsant & Rey 1873

This species which was separated by Mulsant & Rey from *A. fungi* Grav. had hitherto not been recorded from Madeira nor from any other Atlantic island.

The distribution is still not cleared.

Our single specimen was collected by Pieper at Caniço de Baixo from a window pane in September 1985.

Atheta laticollis Stephens 1832

New to the Madeira Archipelago.

Jansson (1940) listed a find of *Atheta* spec. from Rabaçal, which is at least closely related to *A.laticollis*. The species is present on the Canaries and the Azores.

Our specimens were found at Santa Maria Madalena on 5.II.1973 under bark (1), in Funchal on 11.II.1973 under a stone (1), at the Levada da Serra do Faial-Queimada Chã, 830m, on 15.VIII.1983(1) and in the botanical garden of Ribeiro Frio on 26.VIII.1983 on the leaf of a tree-fern (2).

Atheta trinotata Kraatz 1856

New to the Madeira Archipelago.

We captured two specimens at the Paul da Serra on 23.III.1982.

The species is distributed over Europe and the Mediterranean region and is not yet known from any other Atlantic island.

Atheta amicola Stephens 1832

The species was first detected by Gardner & Classey (1961) in December 1957. They found one specimen at Monte in a fungus. Subsequently Lindberg collected it at Serra de Água, Porto Moniz, Praia Formosa near Funchal and at Caniço, all in April 1959, each time only one specimen (Likowský 1963).

Our finds were made at Santa Maria Madalena on 5.II.1973 under bark (1) at Funchal on 11.II.1973 within sugar cane (1), at the Encumeada on 24.III.1982 (1) and at the Paul da Serra on 24.III.1982 (4).

The species is also present on the Canaries and the Azores (Brinck 1977).

Atheta gagatina Baudi 1848

New to the Madeira Archipelago.

The species which is distributed in Europe and the Caucasus (Winkler 1924-32) had hitherto not been known from any of the Atlantic Islands.

We have two specimens, collected by Pieper from a window pane at Caniço de Baixo in September 1985.

Phloeopora testacea Mannerheim 1830

New to the Madeira Archipelago (?).

Jansson (1940) listed the species, but we can not find any records in the literature. Lundblad (1958), therefore, tended to delete the species from the Madeiran fauna.

We collected the species, which is distributed over Europe, the Canaries and North America (Horion 1967), at Santa Madalena

on 5.II.1973 under bark (1) and at the Levada da Serra do Faial-Curral Velho, 800m, on 9.II.1981 also under bark (1).

Aleochara clavicornis Redtenbacher 1849

Though Wollaston (1867) had captured only one specimen "on the wing" at Funchal in December 1865 he suggested the species should become established shortly in Madeira. There has, however, been no further record in the literature.

Our single specimen was collected by Pieper at Caniço de Baixo from a window pane in September 1985.

This species of European and Mediterranean distribution is also known from the Azores and the Canaries.

Aleochara puberula Klug 1832/33

This cosmopolitan species had already been recorded by Wollaston (1854 and 1857) from Madeira proper and Porto Santo. Wollaston assumed, that the species was introduced to the islands recently. But since that time no further records have been made.

Our only specimen was collected by Pieper from a window pane in Caniço de Baixo in September 1985.

The species is also known from the Canaries, the Azores and the Cape Verdes (Horion 1967).

Aleochara lindbergi Likowský 1963

This species is closely related to *A.bilineata* Gyllenhal 1810, which is distributed in Europe, the Caucasus, Asia Minor and North America (Horion 1967) and was listed by Lundblad (1958) for Madeira proper. Likowský (1963) separated *A.lindbergi* as a new species on the basis of numerous specimens, which Lindberg had collected at several points on Madeira proper.

We captured a good series at the Paul da Serra and two specimens at Rabaçal.

Fam.: H i s t e r i d a e

Saprinus semipunctatus Fabricius 1792

New to the Madeira Archipelago.

This species, distributed in the Mediterranean region and over Asia, has not yet been recorded from the Atlantic Islands except the Cape Verdes, where it was captured recently (Gomy 1986).

Probably the specimen found by Hemmen on Porto Santo in July 1983 was casual and had drifted there.

Macrolister major Linnaeus 1767

The species, distributed over southern Europe, North Africa and the Canaries, is known as very sparce in Porto Santo. There are only a few records, one by Wollaston (1854), who found one specimen on the beach, one by Lindberg (1963b), who collected three specimens, one in May 1957 and one each at Baleira and at Ilhéu da Fonte d'Areia in April 1959. Lundblad (1958) cites also Madeira proper as a locality, but we could not find any record in the literature which substantiates this.

Our single specimen was also found on Porto Santo, by Groh during the first days of July 1983.

Fam.: M e l y r i d a e

Melyrosoma artemisiae Wollaston 1854

New to Madeira proper and Porto Santo.

This endemic species had been known, hitherto, only from Deserta Grande and Ilhéu Chão (Wollaston 1854; Lindberg 1936b).

The finds on Porto Santo in July 1983 (1) and on Ponta de São Lourenço in the vicinity of the Casa do Sardinha, 100m, on 14.VIII.1983 (15) and on 7.IX.1985 (1) shows, that the species prefers arid habitats. The series of 15 specimens was clinging to a Labiate plant.

Fam.: C o r y n e t i d a e

Necrobia rufipes DeGeer 1875

New to the Madeira Archipelago.

Wollaston (1854) recorded *Necrobia ruficollis* Fabricius 1775 for both Archipelagos, the Canaries and Madeira. *Necrobia rufipes*, however, he recorded for the Canaries and the Cape Verdes (1867); on the latter it is now considered established (Geisthardt 1984).

We found eight specimens of this palaearctic species on Porto Santo above Vila Baleira on cattle bones.

Fam.: D e r m e s t i d a e

Dermestes frischi Kugelmann 1792

New to the Madeira Archipelago (?).

Fauvel (1897) cited this palaearctic species in his list of the Madeiran Coleoptera and so did Lundblad (1958) obviously following Fauvel. But there are no records in the literature on which this was based. Wollaston (1864 and 1865) recorded the species from the Canary Islands. In 1982 it was first found on the Cape Verdes (Geisthardt 1984); Israelson (1984 and 1985) recorded it from the Azores.

All our finds were made at different points of the Paul da Serra. We found them in March 1982 on a dead sheep (3), in August 1983 on a piece of sheep's skin (2) and on a dead rabbit (9).

Fam.: B y r r h i d a e

Syncalypta ovuliformis Wollaston 1854

Though Wollaston (1854 and 1857) called this species - which is endemic to the Canaries and Madeira - abundant in pine forests in median altitudes of Madeira, there is only one further record in the literature: Lindberg (1963b) found one specimen at Valparaíso on 13.VI.1957. Probably, the secretive mode of life is the reason for the missing records.

We also detected only one specimen at Paul da Serra, 1400m, on 3.II.1973 under a stone in the earth.

Fam.: N i t i d u l i d a e

Brachypeplus mauli Gardner & Classey 1961

Liebmann (1949) was the first to collect a few individuals of a *Brachypeplus* species in the area of Funchal. He determined them as *B.rubidus* Murray, which is distributed in tropical Africa. He assumed that it was imported to Madeira from western Africa. Afterwards these finds were cited in the lists of Jansson (1940) and Lundblad (1958). Lindberg collected 24 individuals of this species in 1959 at Funchal; Spornraft (1966), who has reported on Lindberg's findings, doubted the identity with *B.rubibus*.

Later Gardner & Classey (1961) stated, that a *Brachypeplus*, which they had found on a window of a hotel at Terreiro da Luta in Dec.1957, had to be recognised as a new species and was specifically identical with individuals from Australia. They named it B.mauli and supposed that the Madeiran individual was introduced with seeds of *Acacia* or *Eucalyptus* from Australia.

Our specimens, which were collected at Funchal in Jan./Febr.1973, living between the leaf sheaths of banana plants, and at Caniço de Baixo in Sept.1985, were also determined as *B.mauli*

(Audisio det.). Therefore we may assume, that the specimens collected by Liebmann and Lindberg also belong to this species.

Haptoncus luteolus Erichson 1843

Pieper collected a single specimen from a window pane at Caniço de Baixo in September 1986.

This species had already been found on Madeira by Spornraft (pers. inf.) and was recorded from Gomera (Canary Islands) by Israelson *et al.* 1981. It is a widely distributed species, mainly in the tropic regions.

Omosita discoidea (Fabricius 1775)

Wollaston (1854) who collected some specimens from bones in the area of Funchal during spring and winter time, already called the species very rare. Since that time there have been no further records.

This palaearctic species has been recorded recently by Serrano & Borges (1987) from the Azores (Terceira); three specimens were detected in fruit remains.

We found three specimens at the Levada da Serra do Faial-Lombo da Raiz, 800m, on 14.III.1982: they were in the remains of the carcas of a pig.

Fam.: R h i z o p h a g i d a e

Rhizophagus depressus Fabricius 1792

New to the Madeira Archipelago.

Wollaston recorded this species 1864 from the Canary island La Palma (as *R.subopacus* because he considered it a new species). He had found it under the bark of *Pinus*, which is also the habitat of *R.pinetorum* Wollaston 1864, a more abundant species endemic to the Canaries. From Madeira only *R.bipustulatus* Fabricius 1792 has hitherto been known (Jansson 1940; Lundblad 1958).

We found *R.depressus* (distributed over Europe, the Caucasus and Africa) at the Paul da Serra on 3.II.1973 from a freshly peeled pine tree (2) and at the Levada da Serra do Faial-Curral Velho on 9.III.1981 under the bark of *Pinus* (27).

Fam.: C u c u j i d a e

Monotoma spinicollis Aubé 1837

Wollaston (1857: *M.spinifer*) called this species very rare on Madeira proper. He found it under rotting plants. There are no further records in the literature.

We found three specimens of this widely distributed species (Europe, the Caucasus, North Africa) at Funchal on 11.II.1973 in the pith of sugar cane.

The species is also known from the Azores, the Canaries and the Cape Verdes.

Laemophloeus capensis Waltl 1832

New to Porto Santo.

Wollaston (1854) differentiated this species into two species (*L.clavicollis* and *L.vermiculatus*) and called them common to Madeira proper. Jansson (1940) listed the species as *L.ater* Ol.a. *clavicornis* and Lundblad (1958) used the name *L.elongatus* Luc.. This species of wide distribution (Europe, Caucasus, Mediterranean region) is known also from the Cape Verdes, the Canaries and the Azores. It is found mostly under bark, preferring *Euphorbia* species (Wollaston 1865).

Laemophoeus axillaris Wollaston 1854

New to the Deserta Islands.

Hitherto, the species has been known only from Madeira proper, where Wollaston (1854) found a single specimen at Ribeiro Frio on 6.VIII.1850. Since that time there had been no further records of this endemic species.

We collected one specimen at the Encumeada on 21.III.1982 and 10 specimens on Ilhéu Chão on 19.III.1982.

Fam.: C r y p t o p h a g i d a e

Cryptophagus vini (Panzer 1797)

New to the Madeira Archipelago.

This species of European and North African distribution (Horion 1960) is not known from any other Atlantic island.

We collected it at different points of Madeira proper: near Camacha, 13.III.1982 (2); Paul da Serra-Estanquinhos, 23.III. 1982 (31); Ilhéu da Cevada, 7.IX.1985 (1); Levada da Serra do Faial-Curral Velho, 10.IX.1985 (4). The series from the Paul da Serra was beaten from *Ulex*; *Ulex* and *Sarothamnus* are the preferred host plants of *C.vini* (Freude *et al.*1967).

Atomaria apicalis Erichson 1846

This widely distributed species (Europe, Caucasus, Siberia, North-America,and Canaries)is only known from very few records from Madeira: Wollaston (1857) had collected one specimen at Boa Ventura in August 1855, Uyttenboogaart (1974) captured one specimen at Funchal, Johnson (1970) recorded finds of Lindberg and Palm, both made at Funchal.

We have only one specimen from Caniço de Baixo, taken by Pieper from a window pane in September 1985.

Fam.: P h a l a c r i d a e

Olibrus millefolii Paykull 1800

New to the Madeira Archepilago.

This palaearctic species is not known from any other Atlantic island.

We captured only one specimen at Ponta de São Lourenço on 14.VIII.1983 from cattle dung.

Fam.: T h o r i c t i d a e

Thorictus westwoodi Wollaston 1854

This endemic species is very rare. It was found by Wollaston (1854 and 1857) on Madeira proper (Funchal-Praia Formosa, May 1848; Ribeiro de São Gonçalo, January 1849) and on Porto Santo. Further records have been given only by Cockerell (1923) also for Madeira proper and Porto Santo; he maintains that *T.westwoodi* lives in community with ants.

Groh collected one specimen on Porto Santo during 1. to 7. VII.1983.

Fam.: L a t h r i d i i d a e

Lathridius constrictus Gyllenhal 1827

New to the Madeira Archipelago.

This cosmopolitan species had hitherto not been known from any of the Atlantic Islands.

Our single specimen was found by Pieper at a window pane at Caniço de Baixo in September 1985.

Fam.: M y c e t o p h a g i d a e

Litargus pilosus Wollaston (1857)

A very rare species on Madeira proper.

We captured one specimen, which was flying in the evening and landing on our tent by the Ribeira da Janela, about 720m, on 16.IX.1987. This is the first record since Wollaston, who had 2 specimens: one of them being captured by himself "on the wing" at the Carmo, the other one had been found by M.Park near Funchal.

The species is endemic to the Atlantic Islands; it has also been found in the Canaries and the Azores (Israelson 1984, Serrano & Borges 1987).

Fam.: C o c c i n e l l i d a e

Rodolia cardinalis Mulsant 1850

This Australian species is now of wide ranging distribution: USA, Japan, Formosa, India, Africa, southern Europe. On the Atlantic Islands it has been introduced first in the Canaries (Uyttenboogaart 1930), then in Madeira, where Lindberg detected one male in July 1959 at Serra de Água (Bielawski 1963). The first finds on the Azores were made in 1965 (Mardsen 1969); on the Cape Verdes the species was found for the first time in 1970 (Geisthardt 1982).

We have seven specimens, collected by Weinreich at Funchal on 28.VII. and 7.VIII.1963.

Stethorus tenerifensis Fürsch 1987

New to the Madeira Archipelago.

This recently described species is known from the Canary islands (Tenerife, Gran Canaria, Hierro and Fuerteventura (Fürsch 1987)).

The five Madeiran specimens were collected by Maul at Funchal-Barreiros from leaves of *Clerodendron trichotomum* on 28.VII.1987.

Scymnus mediterraneus Khnozorian 1972
(*Scymnus pallidivestris* Bielawski 1963, nec Mulsant 1853)

On Madeira the first record was made by Lindberg; he captured one female at Prazeres on 22.IV.1959 (Bielawski 1963).

We have two specimens, which Pieper had taken from a window pane in Caniço de Baixo in September 1985.

The species is distributed in southern Europe and also known from the Canaries (Fürsch 1987).

Scymnus rubromaculatus (Goeze 1777)

This species was recorded from Madeira by Uyttenboogaart (1947); he had captured one male at Funchal-Monte.

We have two specimens, which Pieper had taken from a window pane at Caniço de Baixo in September 1985.

This palaearctic species is also known from the Cape Verdes and the Azores (Fürsch 1986).

Adalia bipunctata (Linnaeus 1758)

New to the Madeira Archipelago.

We found two specimens at Funchal, one on 31.I.1973, the other one on 17.VIII.1983 on *Lagerströmia indica*.

This palaearctic species is also known from the Canary Islands.

Adalia decempunctata (Linnaeus 1758)

This species has first been listed by Fauvel (1897), but without dates. Recently Lindberg found the species in July 1957 at Serra de Água (5) and on Porto Santo (1) (Bielawski 1963).

We captured one specimen at Paul da Serra on 23.III.1982 by beating plants of *Ulex*.

This palaearctic species is not known from any other Atlantic island

Myrrha octodecimguttata (Linnaeus 1758) ab.*andersoni* Wollaston 1862

New to Porto Santo.

We have three specimens collected by Weinreich during 10.to 12.VIII.1963 on this island.

This aberration of the palaearctic *M.octodecimguttata* has been found repeatedly by Wollaston (1862) at Santo Antônio of Funchal. Later Lindberg captured one specimen at Ribeira Brava on 20.IV.1957 (Bielawski 1963).

M.octodecimguttata (ancestral form?) was first found on the Azores (S.Maria) by Israelson (1984) in VIII.1983.

Coccinella genistae (Wollaston 1854)

Wollaston (1854) called this species very rare on Madeira occurring only at high altitudes. He had captured only single specimens, at Paul da Serra, at Cruzinhas and at Encumeada, all

in the summer. The only record since Wollaston has been given by Mitter (1984), who found one specimen at Pico do Areeiro, 1800m, on 24.VIII.1983 on a stone wall.

We collected one specimen at Pico Ruivo, 1800m, on 21.III.982 and six specimens at Calheta, 1580m, (between Pico do Areeiro and Pico das Torres) on 14.IX.1985; the latter by beating *Sarothamnus*.

Coccinella algerica Kovář 1977

Before 1977 all finds had been determined as *C.septempunctata* L. Later Kovář examined specimens from North Africa and the Canary Islands and differentiated them as *C.algerica* distinct from *C.septempunctata*.

Our finds also have the characters of *C.algerica*. We, therefore, suppose that the older finds also belong to this new species, which is also known from the Selvagens.

Harmonia quadripunctata (Pontoppidan 1765)

New to the Madeira Archipelago.

We collected 13 specimens at Paul da Serra-Estanquinhos, 1500m, on 23.III.1982 from *Pseudotsuga*. Two further specimens were captured by Maul at the Achada do Teixeira, 1600m, on 2.VI.1985.

The species, which is distributed in Europe and Asia Minor probably has been introduced in Madeira recently.

Fam.: C i s i d a e

Cis wollastoni Mellié 1849

The only record hitherto is from Wollaston (1854), who found the species widely distributed, but never abundant, on Madeira proper between 700 and 1500m mostly under the bark of dead trees.

Our only specimen of this endemic species has been collected by Gerber, Groh and Hemmen at Monte on 10.VIII.1985.

Rabocerus impressus (Wollaston 1857)

This species, endemic to Madeira proper, was already considered very rare by Wollaston (1857 and 1865). He gave the following records: Lombo da Vaca, in August 1855 (1), area of Funchal (2-3) and Camacha (1). Since that time there have been no further records.

We found 2 specimens at Paul da Serra-Estanquinhos on 22. III.1982 on a dry *Ulex*.

Fam.: A n t h i c i d a e

Omonadus floralis (Linnaeus 1758)

Though Wollaston (1865) called this cosmopolitan species abundant in the area of Funchal, where he found it under rotting plants, there are only two further records from Madeira proper: without locality, V.1936 (4)(Uyttenboogaart 1947); Serra de Água, 17.VII.1954(?), collected by Lindberg (Bonadona 1963).

We found two specimens in cattle dung at Ponta de São Lourenço on 15.VIII.1983.

The species is also known from the Canaries and the Azores (Serrano & Borges 1987).

Anthicus crinitus Laferte 1848

This very widely distributed species (India, Thailand, Philipines, Afghanistan, Egypt, Senegal, Antilles, Mexico, Florida, Canaries, Cape Verdes (Uhmann, pers.comm.), is very rare on Madeira proper. A few specimens have been found by Wollaston (1857) at Praia Formosa near the sea shore on 1.IX.1855 and at Funchal.

We found 10 specimens at Ponta de São Lourenço in cattle dung on 15.VIII.1983.

Aphodius pseudolividus Balthasar 1941

We collected 90 specimens from cattle dung at Ponta de São Lourenço on 14.VIII.1983.

These beetles had at first been identified as *A.lividus* (Ol.), which had already been recorded from Madeira proper and from Porto Santo (Wollaston 1865; Uyttenboogaart 1947; Gardner & Classey 1961; Clement 1963), as well as from the Canaries. However, on reexamining the material, Dr.Pittino of Milano informed us, that the specimens belong to *A.pseudolividus*. This species is known from South America, from where it probably has been introduced in Madeira. The occurrence of *A.lividus* on Madeira is not certain.

Aphodius fimetarius Linnaeus 1758

The species was first recorded from Madeira by Mitter (1984), who collected it on 26.VIII.1983 near Poiso in cattle dung.

We found it already in March 1981 and again in March 1982 and in August 1983 at different points of the island, mostly in cattle dung.

This palaearctic species must be one of the most recently introduced members of the coleopterous fauna of Madeira.

Aphodius ghardimaouensis Balthasar 1929

The species was first collected by Lindberg on Madeira proper at Fonte das Pedras and on Porto Santo at different points, all in April 1959 (Clement 1963). The species, distributed in the Mediterranean region and Iran, is also known from all major Canary Islands (Israelson *et al.*, 1981).

We found five specimens near Caniçal on 2.II.1973.

Fam.: C e r a m b y c i d a e

Criocephalus ferus Mulsant 1839

New to Porto Santo proper.

While *C.rusticus* L. has been cited only by Picard (1936, unfortunately without data of collection, probably Madeira proper), all our finds have been identified as *C.ferus*: A fragment (a pair of elytra) at Levada da Serra do Faial-Lombo da Raiz on 18.VIII.1983; two specimens between Curral das Freiras and Torrinhas, 900m, in dead *Pinus* on 18.VIII.1983; one specimen at the Levada near Canhas, 650m, on 25.VIII.1983, flying in the evening; one specimen on Porto Santo in VII.1983 collected by Hemmen. The latter find is the first record from this island.

The examination of seven specimens, which are preserved in the collection of the Museu Municipal do Funchal (6 collected at Funchal, 1 at Camacha), showed that all belong to *C.ferus*. The occurrence of both species on the Madeira Islands, therefore, is not certain.

Fam.: B r u c h i d a e

Bruchidius lividimanus Gyllenhal 1833

New to Madeira proper.

We captured one specimen near Pico do Coelho (NW of Pico Ruivo), 1600m, on 21.III.1982 on *Erica arborea*.

This is the second specimen found on the Madeira Archipelago. The first one was detected by Lindberg (1963c) on Porto Santo at Serra de Dentro-Pico Juliana on 13.IV.1959.

The species, distributed in central and southern Europe and Africa, is also known from the Azores (Israelson 1984).

Fam.: C u r c u l i o n i d a e

Caenopsis fissirostris Walton 1847

The species was first collected by Lindberg at Valparaíso on 13.VI.1957 (2) and on 18.IV.1959 (4) (Roudiér 1963). Probably a find (11 animals), made by Alluaud at Camacha in June 1938 and described by Uyttenboogaart (1940) as *C.maderensis* also belongs to this species (Roudiér 1963).

We detected one specimen near Camacha on 13.III.1982 under a piece of wood.

C.fissirostris is distributed over nothern and western Europe and is not yet known from any other Atlantic island.

Laparocerus morio Boheman 1834

Roudiér (1961) differentiated three subspecies: *L.morio morio*, occurring on Madeira proper, Porto Santo and Deserta Grande; *L.morio cevadae*, occurring on Ponta de São Lourenço (the eastern promontory of Madeira proper); *L.morio vandeli*, occurring on Ilhéu Chão. As main differentiating characters he used the average size and the end of the posterior tibia of the males. Specimens from Bugio he obviously has not had for examination.

We have 10 specimens from this island, collected by Groh, Hemmen and Gerber in September 1985. Two of them agree in size as well as in the posterior tibia character with the subsp. *morio*; the other eight have the size of the subsp. *vandeli*, their posterior tibia character, however, is between *morio* and *vandeli*.

Lichenophagus fritillus Wollaston 1854

Though Wollaston (1854) reported the species to be common on Porto Santo, there were no further records in the literature. The species is endemic to Porto Santo, where it secretes itself within lichens and in fissures of the rocks - perhaps the reason why it had not been detected by later collectors.

We have 10 specimens, all collected by Groh, Gerber and Hemmen, partly in VII.1983, partly in VIII.1985.

Barypithes indigens Boheman 1834

The species was recorded first in 1957 by Lindberg (Roudiér 1963) and by Gardner & Classey (1961). Both found numerous spe-

cimens at Rabaçal, Valparaíso (Lindberg) and Monte (Gardner & Classey). The next find was made by Lindberg in 1959 at Terreiro da Luta (Roudiér 1963).

The species is distributed in western Europe. We found it at Levada da Serra do Faial-Curral Velho on 13.III.1982 and at Pinho de Dentro on 3.II.1973 (3, on freshly peeled *Pinus*). Since these localities are widely dispersed, we can assume that the species is well established on Madeira.

Sitona flavescens Marsham 1802

New to the Madeira Archepilago.

This widely distributed species (Europe, Asia Minor, Siberia, Algeria, North America) is also known from the Azores (Uyttenboogaart 1947; Roudiér 1965).

We found only one specimen at Ponta de São Lourenço-Casa do Sardinha on 8.IX.1985.

Sitona intermedius Küster 1847

The species was first found on Madeira (Caniçal IV.1959: 3 specimens) and Porto Santo (VIII.1957: 4 specimens) by Lindberg (Roudiér 1963).

We have a single specimen from Porto Santo, collected by Hemmen in VIII.1983.

The species is distributed over southern Europe and the Mediterranean region (Roudiér 1963).

Barretonus desertae Roudiér 1958

This very rare, endemic species had been represented hitherto by only five specimens: four of them were collected by Barreto on Deserta Grande in August 1946; another specimen was found on Porto Santo at Pico Branco on 13.IV.1968 by Franz, who had sifted earth he took from beneath an *Artemisia* plant (Folwaczny 1973).

We have six specimens from Groh, Hemmen and Gerber, collected on Porto Santo at Pico Branco on 14.VIII.1985 (3) and on Deserta Grande in the north part on 4.VIII.1985 on an Agave (3, together with larva and pupa).

Barretonus major Folwaczny 1972

We detected one specimen on Ilhéu Chão on 18.III.1982 in a dry stem of a Composite plant.

This is the second specimen of this species ever found. The first one had been found by Franz on 17.IV.1970 also on Ilhéu Chão (Folwaczny 1972).

Barretonus major Folwaczny 1972 ssp. ***hinterseheri*** Folwaczny 1975

Hinterseher found four specimens at Funchal when he turned a rotting plank in a saw mill in the vicinity of the hotel Duas Torres on 8.II.1973. The subspecies was described by Folwaczny (1975) based on these four specimens.

Nine further specimens were collected by Vit also in the area of Funchal, three under wooden trunks, one under a stone, and five at the foot of a palm tree (Osella 1976).

Pselactus spadix Herbst 1795 ssp. ***sulcipennis*** Wollaston 1854

The only records, hitherto, were given by Wollaston (1854 and 1865), who found the species in numbers near Funchal.

Hinterseher found 71 specimens under the same rotting plank where he detected *Barretonus major* ssp. *hinterseheri*.

Whilst the ancestral form has a wide distribution (Europe, Algeria, Azores, USA, Australia, New Zeeland: Roudiér 1965), this subspecies is known only from Madeira proper.

Cleonus conicirostris (Olivier 1807)

New to the Madeira Archipelago.

We found three specimens at Ponta de São Lourenço on the hill behind the Casa do Sardinha on the ground beneath a small plant on 14.VIII.1983.

As Wheater also collected the species on Ponta de São Lourenço in July/August 1986 (see Erber and Wheater 1987), it seems, that it has become established, meanwhile, in this dry and sandy area, similar to the other localities of its distribution on the Canary islands Lanzarote, Fuerteventura, Gran Canaria (Wollaston 1865) and Graciosa as well as on the Selvage Islands (Uyttenboogaart 1940).

Sitophilus zeamais Motschulsky 1855

New to the Madeira Archipelago.

We have five specimens, which Hemmen collected on Porto Santo in July 1983 and one specimen; captured at Funchal on 26.VII.1985.

The species, which originates from South America, is a relatively recent imigrant to the Atlantic Islands. It was first recorded from the Azores by Uyttanboogaart (1947), who found it on Pico Madalena on 1.VII.1938 (but he identified it as a subspecies of *Calandra* (=*Sitophilus*) *oryzae*). Since 1979 it has also been known from the Cape Verdes (Geisthardt 1982).

Cionus allauda Herbst 1884

The species was first found by Lindberg at Terreiro da Luta (8), Ribeiro Frio (3) and Queimadas (1), all in May 1959 (Roudiér 1963).

We have one specimen, collected by Weinreich at Ribeiro Frio on 31.VII.1963, and 3 specimens, captured by Pieper at Calderão do Inferno on 14.IX.1985 from a Scrophulariaceae, its special host plant.

The species seems to be established now on Madeira proper.

Fam.: S c o l y t i d a e

Hylastinus obscurus Marsham 1802

The species has hitherto been considered rare on Madeira proper, as there have been only a few records: Ribeiro Frio, VIII.1850 (2) (Wollaston 1854); Ribeiro Frio, V.1938 (1) (Uytenboogaart 1947); Valparaíso, Portela and Serra de Água, IV./V.1959 (Schedl 1963).

Since we have found the species in numbers at different points on Madeira proper, we consider it well established on this island. We found the species mostly under bark of *Ulex*, but also under bark of *Erica*.

Blastophagus piniperda Linnaeus 1761 [11]

There have been only two records of this species up to now: vicinity of Funchal (1) (Wollaston 1854); Terreiro da Luta, 1.V.1959 (Schedl 1963).

We collected one specimen at Paul da Serra on 3.II.1973 from a freshly cut pine tree, three specimens near Camacha on 13.III.1982, also from pine trees and four specimens at the Levada da Serra do Faial-Curral Velho on 13.III.1982.

Hylastes linearis Erichson 1836

The species, distributed over Europe, the Mediterranean region and Asia Minor, is very rare on Madeira proper. It has been recorded only twice: from Ribeiro Frio (Wollaston 1854) and from Serra de Água, collected by Lindberg on 20./21.IV.1959 (Schedl 1963).

[11] The *Blastophagus* from Madeira probably belong to *destruens* Wollaston 1865; a new examination is planned (Olmi, per.comm.). A note concerning this had already been made by Lundblad (1958).

We captured one specimen at the Encumeada on 21.III.1982. Lundblad (1958) listed the Madeiran specimens as belonging to the subspecies *corticiperda* Erichson 1836.

Hylastes angustatus Herbst 1793

New to the Madeira Archipelago.

We found two specimens at the Levada da Serra do Faial-Curral Velho on 13.III.1982 under bark.

The species is distributed over Europe, Siberia and the Caucasus; it is not known from any other Atlantic island.

Hypothenemus eruditus Westwood 1826

Wollaston (1860 and 1865: *Cryphalus aspericollis*) called the species common on Madeira; he found it at Porto da Cruz, Fajã dos Padres and near Funchal in numbers, some of them in dead wood of *Ficus*. But there have been no further records.

We have seven specimens which hatched from seeds of a palm tree, we had collected in the Botanical Garden of Funchal on 20.III.1981. We found three more specimens at Funchal on 17.VIII.1983. Fourteen specimens were collected by Pieper from a window pane at Caniço de Baixo in IX.1985.

The species is known from the Canaries, the Azores and the Cape Verdes. Winkler (1924-32) also cites "Britannia" (= Great Britain) as a locality.

SUMMARY

Additional forms of the coleopterous fauna of Madeira have in recent years repeatedly been discovered. It is unlikely that all of these had formerly been overlooked; more likely one must suppose that new species are constantly migrating to the islands.

Of those 26 species, which we have added to the faunal list, the majority originates from the European-Mediterranean region and very likely has migrated from southwestern Europe to Madeira. Some of the species had already been noted on neighbouring Atlantic archipelagos and may have entered from there (*Atheta laticollis, Necrobia rufipes, Rhizophagus depressus*). Surely this must be the case for *Atheta cottyi* and *Cleonus conicirostris* since these species are known only from the Canaries or the Selvagens. Also *Pachysternum capense*, arising from tropical Africa, may have used the Canaries as stepping stones.

The exact means of how these animals got to the Madeiras is a matter for speculation. Some species, e.g. *Bolitobius thoracicus* and *Atheta laticollis*, are very small flying insects who can easily drift with the wind. Insect pests, e.g. *Sitophilus zeamais*

and *Hylastes angustatus*, associated with food stuffs or lumber could have entered the islands in shipments. (Lundblad (1958) ascribes chief importance to dispersal by man.)

Not quite half of the species here newly listed are based on single individuals. We can therefore not assume, that these have already become established on Madeira.

Also unknown to date is the ecological influence of the immigrants: whether they are replacing indigenous species, damage the vegetation or impinge on the local ecology in some other way.

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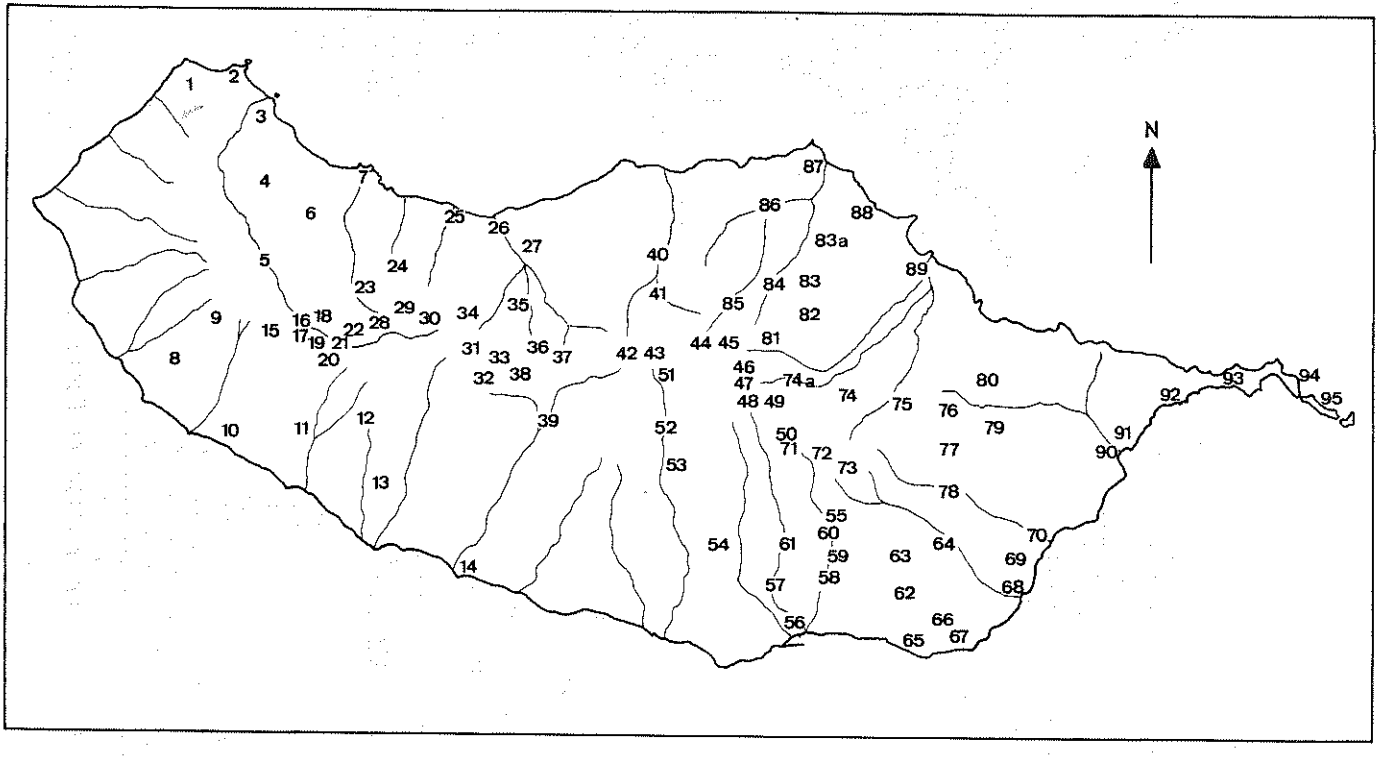

FIG.1.— OUTLINE MAP OF MADEIRA WITH LOCALITIES

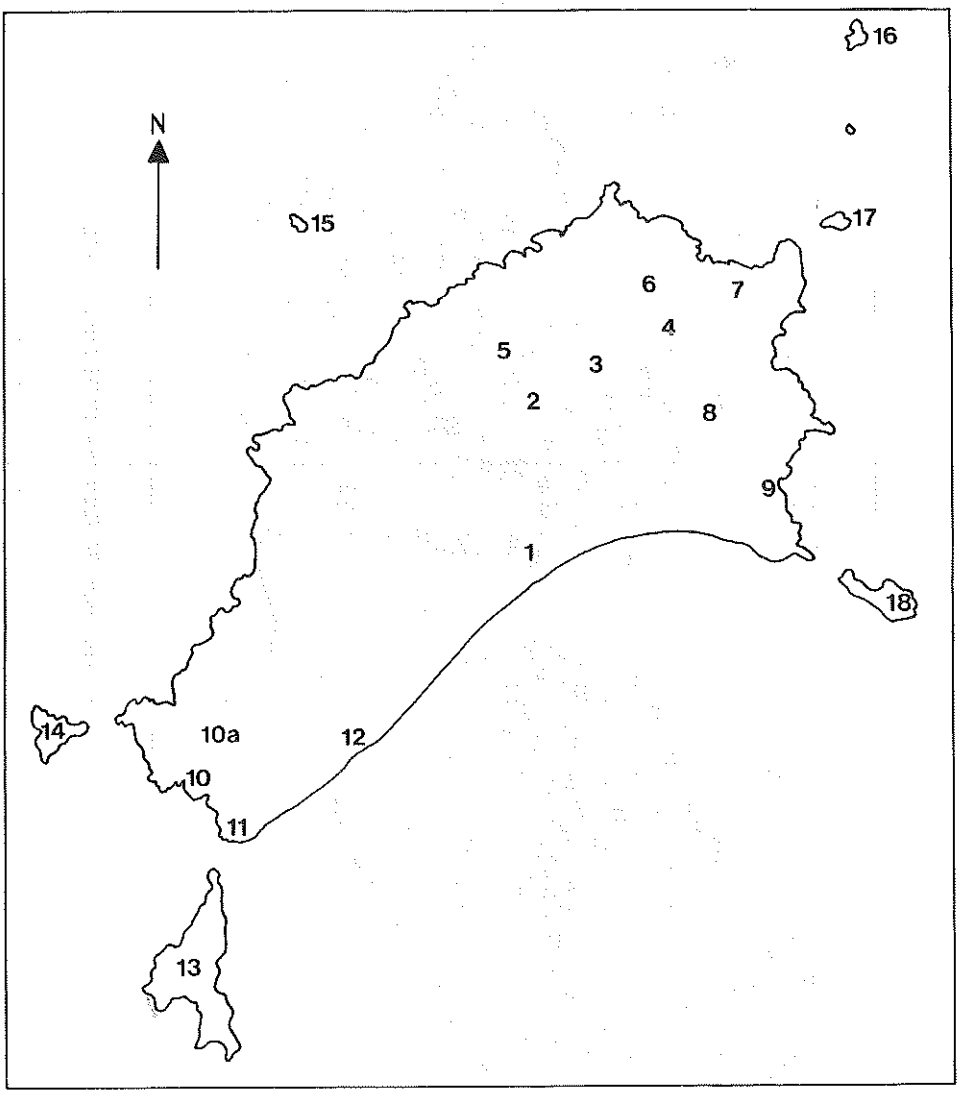

FIG.2.— OUTLINE MAP OF PORTO SANTO WITH LOCALITIES

LOCALITIES

Madeira Islands:

1 Santa Madalena (400m)
2 Porto Moniz
3 Ribeira da Janela (village, 300m)
4 Fanal - Cabo da Entroza (900m)
5 Ribeira da Janela (gorge, 500m)
6 Fanal - Pico da Pedreira (1200m)
7 Seixal
8 Prazeres
9 Prazeres - Lombo das Uveiras (1000m)
10 Calheta
11 Arco da Calheta (800m)
12 Pinheiro de Dentro (1000m)
13 Canhas (Levada, 600m)
14 Ribeira Brava
15 Pico Gordo (1200m)
16 Ribeira da Janela (gorge, 800m)
17 Rabaçal (1070m)
18 Rabaçal - Levada Vinte e Cinco Fontes (900m)
19 Rabaçal - Lombo do Risco (1300m)
20 Rabaçal - Ribeira do Alecrim (1300m)
21 Rabaçal - Ribeira Grande (1250m)
22 Rabaçal - Ribeira da Água Negra (1300m)
23 Ribeira do Seixal (1000m)
24 Fonte do Curral Falso (Top of Ribeira de João Delgado, 1400m)
25 Ribeira do Inferno (10m)
26 São Vicente
27 Pedreira da Cal (400m)
28 Paul da Serra - Pico da Setada (1400m)
29 Paul da Serra - Achada dos Láparos (1450m)
30 Paul da Serra - Estanquinhos (1550m)
31 Paul da Serra - Bica da Cana (1580m)
32 Paul da Serra - Poças (1580m)
33 Pináculo (1500m)
34 Caramujo (1300m)
35 Rosário (500m)
36 Rocha Negra (1200m)
37 Encumeada (1000m)
38 Encumeada - Lapa do Sul (1400m)
39 Serra de Água (400m)
40 Boaventura - Falca da Cima (350m)
41 Ribeira do João Fernandes (600m)
42 Pico Jorge (1600m)
43 Torrinhas (1500m)
44 Pico do Coelho (1600m)
45 Pico Ruivo (1700-1860m)
46 Pico das Torres (1600-1800m)
47 Calheta (saddle between Pico das Torres and Pico do Areeiro, 1580m)
48 Pico do Areeiro (1600-1800m)
49 Pico do Juncal (1800m)
50 Casa do Areeiro (Meteorological Observatory, 1650m)
51 between Curral das Freiras and Torrinhas (800-1400m)
52 Curral das Freiras (600-800m)
53 Eira do Serrado (800-1000m)
54 Vasco Gil (600m)
55 Curral dos Romeiros (1000m)
56 Funchal
57 Ribeira da Santa Luzia
58 Ribeira de João Gomes
59 Monte
60 Terreiro da Luta (870m)
61 Corujeira (550m)
62 Palheiro Ferreiro
63 Valparaíso (700m)
64 Camacha (700m)
65 Garajau (300m)
66 Caniço (300m)
67 Caniço de Baixo (80m)
68 Porto Novo
69 Gaula (200m)
70 Santa Cruz
71 Achada Grande (1530m)
72 Cabeço das Águas das Becas (1450m)
73 Poiso (1400m)
74 Ribeiro Frio (860m)
74a Jaja da Nogueira
75 Levada da Serra do Faial - Queimada Chã (820m)
76 Levada da Serra do Faial - Lombo da Raiz (820m)
77 Levada da Serra do Faial - Cabeço da Madeira (820m)
78 Levada da Serra do Faial - Curral Velho (800m)
79 Santo da Serra (680m)
80 Portela (650m)
81 Chiqueiro da Queimada (1600m)
82 Achada do Teixeira (1600m)
83 Casa das Queimadas (1600m)
83a between Casa das Queimadas and Santana (500-700m)
84 Ribeiro dos Cedros (900m)
85 Caldeirão Verde/Caldeirão do Inferno (900-1000m)

86 Ribeira de São Jorge (150m)
87 São Jorge
88 Santana
89 Faial
90 Machico
91 Machico - Pico do Facho (300m)
92 Caniçal
93 Ponta de São Lourenço
94 Ponta de São Lourenço - Casa do Sardinha
95 Ilhéu da Cevada

Porto Santo:

1 Porto Santo = Vila Baleira
2 Pico do Castelo
3 Pico do Facho
4 Pico Juliana
5 Camacha
6 Pico da Cabrita
7 Pico Branco
8 Achada
9 Porto dos Frades
10 Zimbralinho
10a Espigão
11 Ponta da Calheta
12 Cabeço da Ponta
13 Ilhéu da Cal = Ilhéu de Baixo
14 Ilhéu de Ferro
15 Ilhéu da Fonte da Areia
16 Ilhéu de Fora
17 Ilhéu das Cenouras
18 Ilhéu de Cima

Deserta Islands:

1 Ilhéu Chão
2 Deserta Grande
3 Bugio

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