

SCIENTIFIC EXPEDITION TO THE SALVAGE ISLANDS
JULY 1963

IX.

LIST OF HIGHER PLANTS AND CRYPTOGAMS
KNOWN FROM THE SALVAGE ISLANDS

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The botanical exploration of the Salvage Islands can be summarized briefly as follows: — In 1869 R.T. Lowe published the first paper on the flora of these desolate islands: — «Florulae Salvagicae Tentamen», in which he listed some collections made during the years 1860-1868, mainly on the Selvagem Grande, by C. Cabral de Noronha. The list comprises 64 species of higher plants and 5 species of lichens. Lowe himself never was able to land and collect plants on the islands, though on his journeys he several times passed near by them.

Not until 55 years later the next contribution to the flora was published by Menezes in 1924 «Subsidios para o conhecimento da flora das Ilhas Selvagens» based upon collections made by A. Clode in 1918 and by A. C. de Noronha in 1922. Vahl (1904 & 1905) actually mentions some species from the islands, but they are all taken from the list by Lowe. Menezes could only add 5 new species not listed by Lowe and the first moss-species found in the islands.

In 1934 a French botanist, A. Chevalier, visited Funchal, and in the herbarium belonging to the Funchal Seminary he found a number of the above mentioned collections from the Salvage Islands made by Noronha in 1922. Chevalier apparently did not know about the existence of the list already published by Menezes based on the same collections, and consequently published a new list in a French Journal (1934). In this

1) Caminho da Casa Branca, Caminho Velho da Ajuda 7, Funchal, Madeira

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paper he says no works on the flora of these islands existed at all! His list comprises 17 species, and among them *Euphorbia regis-jubae* is new to the flora, unless it is identical with *E. obtusifolia* var. *desfoliata* described and published by Menezes.

In 1953 and 1954 M. de Nóbrega visited Selvagem Grande, and in 1955 he published a new contribution to the flora. His list comprises 30 species of higher plants, and among them 5 species are new to the flora. He also mentions 8 species of mosses.

During the years 1958 (July), 1959 (February and September), 1961 (end of October) and 1963 (July) one of us (Pickering) collected plants on the islands, the main bulk of which consists of the material collected during the Scientific Expedition to the Salvage Islands, July 1963 (see Pickering and Maul, 1964). As a result of these visits 6 further species of higher plants, together with some cryptogams new to the islands are to be added and are included in the following list. Also A. Zino and G. E. Maul collected some plant material during a visit to the islands in 1957.

Rabbits are common on the Selvagem Grande only. Goats were introduced but are now extinct. From a phytogeographical point of view these islands clearly belong to the Canaries.

Material collected by Pickering was sent to the Herbarium Royal Botanic Gardens, Kew.

Acknowledgements

My (Pickering) visits to the islands would not have been possible without the kindness of Senhor Passos Gouveia, former Managing Director of the Empresa Baleeira do Arquipélago da Madeira, and the Portuguese Navy. The «Patrulha Porto Santo» under the command of (at that time Tenente) Santos took me to the islands in February, a somewhat risky business. My grateful thanks are also due to the Director, Royal Botanic Gardens, Kew, the Director, University Botanic Gardens Cambridge, and North Carolina State University.

Abbreviations used in the following list:

SG = Selvagem Grande, SP = Selvagem Pequena (= Pitão Grande or Ilheu Grande), IF = Ilheu de Fora (= Ilheu Pequeno or Pitão Pequeno).

L = Lowe 1869 (author of list), M = Menezes 1924 (author of list),
N = Nóbrega 1955 (collector and author of list), P = Pickering 1958-1963
(collector)

P T E R I D O P H Y T A

ASPLENIACEAE

1. *Asplenium marinum* L. — SG (L)

HYPOLEPIDACEAE

2. *Pteridium aquilinum* (L.) Kuhn — SG (L)

S P E R M A T O P H Y T A

AIZOACEAE

3. *Aizoon canariense* L. — SG (listed by all authors)
4. *Mesembryanthemum crystallinum* L. — SG, SP, IF (listed by all
authors)
5. — *nodiflorum* L. — SG, SP, IF (listed by all
authors)

ASCLEPIADACEAE

6. *Periploca laevigata* Ait. — SG (L, M, N)

BORAGINACEAE

7. *Echium lycopsis* L. in Grufb. — SG (L). (*E. plantagineum* L.)

CAMPANULACEAE

8. *Wahlenbergia nutabunda* DC. — SG (N). (*W. lobelioides* DC.)

CARYOPHYLLACEAE

9. *Arenaria serpyllifolia* L. (var. *glutinosa* Koch) — SG (N, P)
10. *Herniaria cinerea* DC. — SG (N, P). (*H. hirsuta* L. var. *c.* (DC.)
Lor. & Barr.)
11. *Polycarpon tetraphyllum* L. — SG (L, P)
12. *Silene gallica* L. — SG (L)
13. — *maritima* With. — SG (L)
14. *Spergularia fallax* Lowe — SG (listed by all authors)

CHENOPODIACEAE

15. *Bassia tomentosa* (Lowe) Maire & Weill. — SG, SP, IF (L, M, P).
(*Chenolea lanata* (Mass.) Moq.)
16. *Beta patellaris* Moq. — ? SP, IF (P)
17. — *procumbens* Chr. Sm. — SG, SP, IF (listed by all authors)
18. *Chenopodium murale* L. — SG (listed by all authors)
19. *Suaeda vera* J. F. Gmel. — SG, SP, IF (listed by all authors). (S.
fruticosa auct.)

COMPOSITAE

20. *Bidens pilosa* L. — SG, SP (L, P)
21. *Centaurea melitensis* L. — SG (L, N)
22. — *salmantica* L. — SG (L). (*Microlonchus salmanticus* (L.)
DC.)
23. *Chrysanthemum cf. carinatum* Schousb. * — SP (P)
24. — *coronarium* L. — SG, SP (P)
25. — *segetum* L. — SG (L)
26. *Crepis divaricata* (Lowe) F. Schultz — SG (L)
27. *Phagnalon saxatile* (L.) DC. — SG (L, P)
28. *Schizogyne sericea* (L. f.) Sch. Bip. — SG (L, N, P)
29. *Senecio incrassatus* Lowe * — SG (L, N, P)
30. *Sonchus asper* (L.) Gars. — SG (L, N)

CRASSULACEAE

31. *Crassula tillaea* Lester-Garland — SG (N). (*Tillaea muscosa* L.)
32. *Monanthes brachycaulon* (W. & B.) Lowe ** — SG, SP (P, L, M)
33. *Umbilicus horizontalis* (Guss.) DC. — (SG (L). (called *U. pendulinus*
DC by Lowe = *U. rupestris* (Salisb.) Dandy, but most likely *U.*
horizontalis, see Sunding 1968)

CRUCIFERAE

34. *Coronopus didymus* (L.) Sm. — SG (L)
35. *Erysimum scoparium* (Willd.) Wettst. — SG (P). (*Cheiranthus s.*
Willd.)
36. *Lobularia intermedia* W. & B. — SG, SP (listed by all authors)
37. *Sisymbrium officinale* (L.) Scop. — SG (L)

* In cultivation in University Botanic Garden, Cambridge, England

** *Forma* according to C. Townsend *in litt.*

CUSCUTACEAE

- 38.
- Cuscuta epithymum*
- Murr. in L. — SG (N)

EUPHORBIACEAE

39. *Euphorbia obtusifolia* Poir. var. *desfoliata* Mnzs. * — IF (M, P)
 40. — *regis-jubae* W. & B. (evt. = precedent species). — SG
 (Chevalier 1934)
 41. *Mercurialis annua* L. — SG (L, M)
 42. *Ricinus communis* L. — SG (L)

FRANKENIACEAE

- 43.
- Frankenia laevis*
- L. — SG, SP (L, P)

GRAMINEAE

44. *Agropyron junceiforme* (A. & D. Löve) A. & D. Löve — SP, IF (P)
 45. *Cynosurus echinatus* L. — SG (L)
 46. *Gastridium ventricosum* (Gouan) Sch. & Thell. — SG (L)
 47. *Holcus lanatus* L. — SG (L)
 48. *Hordeum murinum* L. — SG (L)
 49. *Lolium perenne* L. — SG, SP, IF (L, M)
 50. — *temulentum* L. — SG (L)
 51. *Melica ciliata* L. ssp. *magnolii* (Gren. & Godr.) Husn. — SG (L)
 52. *Vulpia bromoides* (L.) S. F. Gray — SG (L)

LEGUMINOSAE

53. *Lotus glaucus* Ait. (incl. *L. paivae* (Lowe) Lowe). ** — SG, SP, IF
 (listed by all authors)
 54. — *salvagensis* Murr. — SP (collected by O. Grant 1895, published by Murray 1897)

LILIACEAE

55. *Asparagus acutifolius* L. *** — SP (P)
 56. — *scoparius* Lowe — SG (L)
 57. *Scilla latifolia* Willd. *** — SG, SP, IF (L, M, P, called *S. haemorrhoidalis* Webb by Lowe and Menezes. Salvage form sweet scented)

* A large apterous beetle (*Deucalion oceanicus* Woll.) endemic to Ilhéu de Fora is found in association with it.

** In cultivation in University Botanic Garden, Cambridge, England.

*** In cultivation in Royal Botanic Gardens Kew, England

MALVACEAE

58. *Malva parviflora* L. — SG (L)

OROBANCHACEAE

59. *Cistanche phelipaea* (L.) Cout. — SG, SP, IF (L, M, P). (*C. lutea* (Desf.) Hoffmsg. & Lk.)

OXALIDACEAE

60. *Oxalis corniculata* L. — SG (L)

PAPAVERACEAE

61. *Fumaria muralis* Sond. — SG (L)

PLANTAGINACEAE

62. *Plantago afra* L. — SP (L). («*P. psyllium* L »)
63. — *coronopus* L. — SG, SP (M, N, P)

PLUMBAGINACEAE

64. *Limonium pectinatum* (Ait.) Ktze. — SG, SP, IF (listed by all authors)

POLYGONACEAE

65. *Emex spinosus* (L.) Campd. — SG (L)
66. *Rumex pulcher* L. ssp. *divaricatus* (L.) Murb. — SG (L)

PRIMULACEAE

67. *Anagallis arvensis* L. — SG (L, N)
68. *Asterolinum stellatum* (L.) Hoffmsg. & Lk. — SG (L, N)

RANUNCULACEAE

69. *Nigella damascena* L. — SG (L)

RUBIACEAE

70. *Galium aparine* L. — SG (L)
71. *Rubia fruticosa* L. — SG (L, N)
72. *Sherardia arvensis* L. — SG (L)

SCROPHULARIACEAE

73. *Kickxia spuria* (L.) Dum. — SG (L)
74. *Scrophularia arguta* Soland. — SG (L, N, P)

SOLANACEAE

75. *Nicotiana glauca* Grah. — SG (M, N, P). (Probably introduced for fuel)
 76. — *tabacum* L. * — SG (L, N, P)
 77. *Solanum lycopersicum* L. — SG (listed by all authors)
 78. — *nigrum* L. — SG (L)

UMBELLIFERAE

79. *Ammi majus* L. — SG (L)
 80. *Astydamia canariensis* (Spr.) DC. ** — SG, SP, IF (listed by all authors)
 81. *Melanoselinum edulis* (Lowe) Drude — SG (L). (*Monizia e.* Lowe)

URTICACEAE

82. *Urtica dubia* Forssk. — SG (L, N). (*U. membranacea* Poir.)

ZYGOPHYLLACEAE

83. *Fagonia cretica* L. — SP (M, P). (According to Chevalier 1934 also recorded from SG by Lowe)
 84. *Zygophyllum fontanesii* Webb — SP, IF (M, P)

As can be seen from this list a number of species have not been recorded since Lowe's days.

BRYOPHYTA

(All collected on SG and published by Nóbrega. *Tortula muralis* already mentioned by Menezes)

1. *Bryum caespiticium* Hedw.
2. — *canariense* Brid.
3. *Desmatodon convolutus* (Brid.) Grout (*Tortula atrovirens* (Sm.) Lindb.)
4. *Fissidens incurvus* Roehl.
5. *Pottia lanceolata* (Hedw.) C. Muell.
6. *Riccia sorocarpa* Bisch

* Probably introduced by fishermen. Seed of this species was sent to North Carolina University to the good offices of J. Gilmour, Director of the University Botanic Garden Cambridge, England. It proved to be Turkish Leaf.

** In cultivation in University Botanic Garden Cambridge, England.

7. *Tortella flavovirens* (Brush) Broth.
8. *Tortula muralis* Hedw. var. *aestiva* Hedw.

L I C H E N E S

(All collected on SG. Lowe mentions 5 species, Menezes 3 species, and Pickering (1958) collected 13 species determined by A. E. Wade and C. N. Tavares. Three further species were recorded by J. Poelt and C. N. Tavares)

1. *Buellia canescens* (Dicks.) De Not.
2. — *subcanescens* R. G. Werner
3. *Caloplaca* sp.
4. *Enterographa insulana* C. Tav.
5. *Lecanora albescens* (Hoffm.) Flk.
6. — *sulphurella* Hepp
7. *Parmelia perlata* (Huds.) Ach.
8. *Pertusaria* sp.
9. *Ramalina bourgeana* (Mat.) Nyl. (*R. scopulorum* by Lowe and Menezes)
10. *Rocella canariensis* Darb. em. Vain.
11. — *fuciformis* (L.) DC. (*Nemalia* f. by Menezes).
12. — *phycopsis* (Ach.) Ach. (*R. fucoides* (Dicks.) Vain.)
13. — *tinctoria* DC. (*Nemaria rocella* by Menezes)
14. — *tuberculata* Vain. em C. Lav. var. *vicentina* Vain.
15. *Xanthoria parietina* (L.) Th. Fr. (*Parmelia p.* by Lowe)
16. *Lecanora lisbonensis* Samp. (Tavares 1958)
17. *Thelopsis isiaca* Stzbg. (Tavares 1964)
18. *Xanthoria resendei* Poelt & Tavares (*X. subelegans* (Nyl.) Poelt & Tavares). (Poelt & Tavares 1969)

A L G A E

(Lowe listed 6 species, further Pickering collected 2 species)

1. *Codium adherens* (Cabr.) Ag.
2. *Cystoseira abies-marina* (Turn.) C. Ag.
3. ? *Galaxaura flagelliformis* (Kjellm.) em. Börgs. (*G. lapidescens* Picc.)
4. *G. oblongata* (Ell. & Soland.) Lamx.

5. *Liagora complanata* Ag.
6. *Pleurocapsa minor* (Hansg.) em. Geitler — SG (P)
7. *Sargassum bacciferum* (Turn.) C. Ag.
8. *Zonaria tournefortii* (Lamx.) Montagne (*Z. flava* (Clem.) Ag.)

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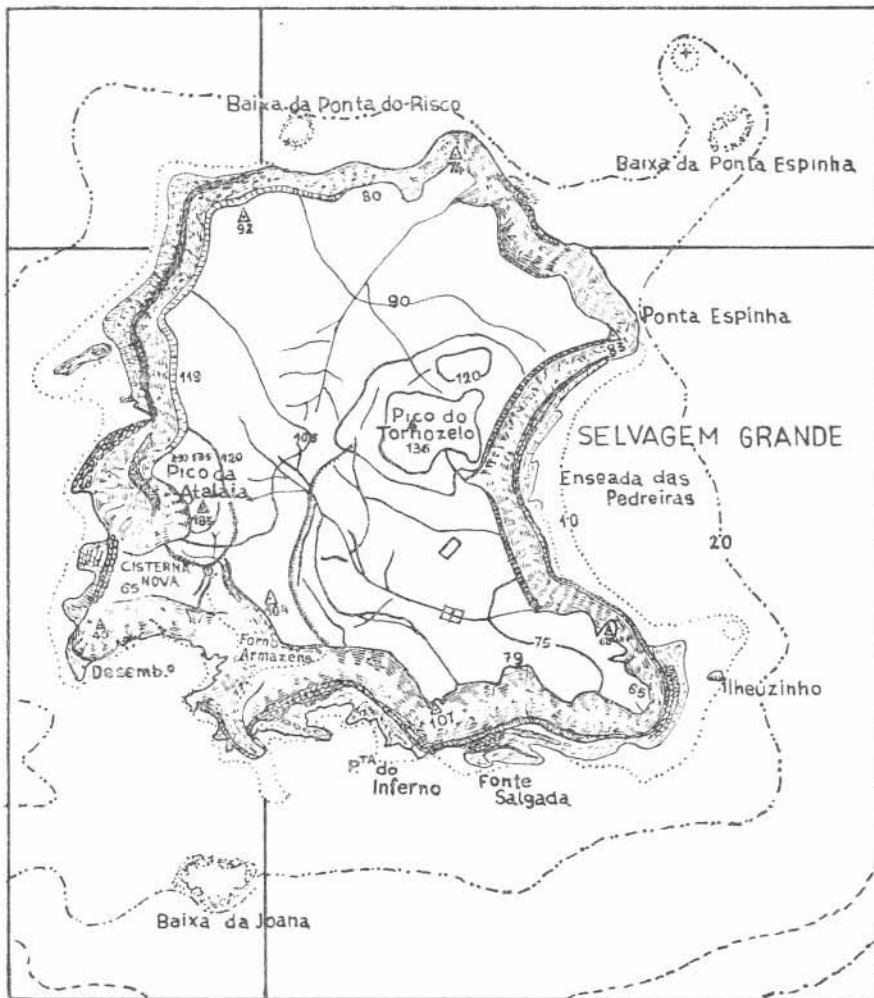
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MADEIRA







LIST OF BUTTERFLIES FOUND IN MADEIRA

PIERIDAE

1. Pieris brassicae wollastoni Butler LARGE WHITE
2. " rapae L. SMALL WHITE
3. Colias croceus Geoffrey CLOUDED YELLOW
4. Gonepteryx cleopatra maderensis Felder

DANAIDAE

5. Danaus plexippus L. MILKWEED or MONARCH [migrant]

NYMPHALIDAE

6. Argynnis lathonia L. "FRITILLARY"
7. ^{assorta} Vanessa cardui L. PAINTED LADY
8. " atalanta L. RED ADMIRAL
9. " indica Herbst
_{*limicola* **}

SATYRIDAE

10. Pararge xiphia Fabricius *
11. Hippargia semele maderensis Baker GRAYLING
_{*aristis* **}

LYCAENIDAE

12. Lycaena phlaeas phlaeoides Staudinger SMALL COPPER
13. Lampides boeticus L. LONG-TAILED BLUE

Hypolimnys missipus L. ♂ (migrant, 1 MMF 1902)
_{*Vanessa virginiensis* **}

✓ * Pararge aegeria L. 1st record Oct. 1976. Commonly seen soon after.

** See Behning, 1977. Die Tagfalter Madagascars. Entom. Zeitschr., 87. Jahrg., No. 16. Also see letter to Behning of 20.9.77.