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CONTRIBUTIONS TO THE FLORA OF THE ARCHIPELAGO OF MADEIRA

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With 2 figures

RESUMO. No presente trabalho é fornecida uma lista de plantas, a maioria novos assinalamentos, vistas e colhidas pelo autor na Madeira, em Setembro - Outubro de 1980, Setembro de 1983 e Agosto de 1986, bem como por outros colectores. São fornecidos detalhes da sua ocorrência na ilha e são debatidas algumas questões de natureza taxonómica.

The following floristic notes from Madeira refer partly to some finds and observations made by the present author during his visits to this island in Sept. - Oct. 1980, Sept. 1983 and August 1986, and partly to plant material placed at the author's disposal by other collectors for determination or verification, viz. L. Franquinho and A. da Costa, R. Vieira, P. Rocha da Silva, and G. E. Maul, all of Funchal, R. M. Payne, England, G. Gottschlich, BRD., F. Skovgård, Copenhagen, C. Guth and K. Tiedemann, BRD., to whom the author wishes to express his appreciation. Some of the new plant records have been entered already in A. Hansen & P. Sunding: Flora of Macaronesia, Checklist of vascular Plants, 3. edit., Jan. 1985, but details on their occurrence in Madeira have not been given before.

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Fig. 1. — *Gomphrena celosioides* Mart. (From M. Henderson & J. G. Anderson: Common weeds in South Africa, 1966).

Amaranthaceae

Amaranthus muricatus (Moq.) Gillies — Câmara de Lobos, in waste place, Sept. 1983. Mentioned from the same locality for the first time by Duvigneaud & Lambinon (1976), observed in Aug. 1975. Once in Madeira this plant will probably spread further. A native of Argentina and Chile, S. America, and known as an alien in Europe since 1908. Not mentioned from Madeira by Cavaco (1976).

Amaranthus palmeri S. Wats. — Funchal harbour, in waste place, Oct. 1978. An annual plant from the southwestern states of USA and known in several countries in Europe since 1921, introduced with for instance cotton and milocorn *(Sorghum halepense).*

Gomphrena celosioides Mart., fig. 1 — Collected by the author in one single street only in Funchal in Sept. 1983, but observed there by Sr. L. Franquinho for the first time earlier in the same year; it occurs there among the pavement-stones and along the road-sides; in 1986 it was still present there and had spread further into a neighbouring street. A perennial weed from tropical S. America but at present a semi-cosmopolitan weed. In the street of Funchal it is growing together with another member of the Amaranthaceae, viz. *Alternanthera caracasana* HBK., which plant is at present far more widely spread in the towns and villages of Madeira.

Apiaceae

Anthriscus caucalis MB. — Among some duplicates of Madeira-plants received in herb. C. in 1985 in exchange from the British Museum (Natural History) and collected by J. R. Press and M. J. Short, there was a specimen of the so-called *Torilis nodosa* collected at Pico Ferreiro, Encumeada, in about 1300 m on April 2nd 1984 (no. 559). It turned out to be identical with another umbelliferous plant: *Anthriscus caucalis* found in Madeira for the first time in 1969 between Pico do Areeiro and Pico Ruivo by the author (Hansen 1979). An annual plant widespread in Europe, NW Africa and in W Asia; in 1945 it was found also in the Canary Islands: Tenerife, Barranco Castro, in about 600 m, leg. E. Sventenius (Santos Guerra 1979). Its muricate and adhesive fruits are possibly transported to the Macaronesian Islands by birds or by tourists!

Araceae

Arisarum vulgare Targ.-Tozz. — Along a watercourse near Funchal, in ca. 150 m, growing in profusion Dec. 1970, leg. L. Franquinho. New to Madeira. A perennial plant widespread in the Mediterranean area; known also from the 4 eastern islands among the Canaries and from 6 islands among the Azores.

Asteraceae

Ageratina riparia (Regel) King & Robins. — Observed in 1983 along the rivulet of Ribeiro Frio near its mouth at Faial, northcoast. This alien from Mexico had previously only been known from the surroundings of Funchal and from Santo da Serra; in 1986 it was also observed at Camacha, Madeira-east, close to the entrance of the new levada-tunnel.

Artemisia verlotiorum Lamotte — Well established near the Botanical Garden in Funchal 1981, leg. R. Vieira. An alien new to Madeira and a perennial plant form SW China, Asia, and at present known as an established weed in some countries of W and C Europe; introduced also in NW Africa and in S. America.

Lactuca virosa L. (*L. patersonii* Menezes) (Hansen 1970) seems to have been mentioned from Madeira already in 1868 (Cosson 1868) collected by G. Mandon 1865/1866.

Launaea arborescens (Batt.) Murb. — Found on rocks at Baía de Abra, Ponta de São Lourenço, Madeira-East, in August 1979, leg. P. Rocha da Silva, Funchal. New to Madeira, and in Macaronesia known to exist in all Canary Islands except Hierro, and in the Isle of Boavista among the Cape Verde Islands; also in NW Africa and in SE Spain.

Senecio glastifolius L. f. — Subspontaneous in the zone of Camacha and surroundings, Madeira-east, in 1985, leg. R. Vieira, Funchal. A perennial garden-plant originating in South Africa.

Balsaminaceae

Impatiens balsamina L. — Naturalized in river-bed at Faial, northcoast, in Sept. 1983, leg. A. Hansen. An annual garden-plant originating in S and SE Asia.

Berberidaceae

Epimedium pinnatum Fisch. — Observed along the levada from Ribeiro Frio to Portela on May 12th. 1980, by R. M. Payne, England, and collected at the same levada in 1986 by L. Franquinho, Funchal. A perennial, almost woody plant from Caucasus and certainly well established in the said locality.

Campanulaceae

Musschia. — Of this genus endemic to Madeira 2 species have been described: *M. aurea* (L. f.) Dumort. (Comment. Bot, p. 28, 1822, Tournay; described already by Linné fil. as *Campanula aurea,* in Supplem. p. 141, 1781), and *M. wollastoni* Lowe (Hook. J. Bot. 8, p. 298, 1856). The genus-

name was given by Dumortier in order to commemorate Jean Henri Mussche, director of the botanical garden in Gent, Belgium, about 1810-20. — In fact a third taxon within this genus exists, viz. *M. pallescens* S. O. Lindberg 1867, but this name seems to have been completely forgotten since then (not even mentioned in "Index Kewensis"), and perhaps it is just good luck, as this taxon most likely represents only a mere colour-variant or form of *M. wollastoni* ! S. O. Lindberg was a Swedish botanist living 1835--1889 and working as a professor of botany in Helsingfors, Finland, from 1865 until his death; above all best known as a prominent bryologist. His descriptions of *M. pallescens* is found in a paper entitled "Beskrifning af en ny art af Musschea" (a description of a new species of *Musschea* — note that he used the spelling *Musschea,* which in fact ought to be the correct way of "latinizing" Mussche!). His paper was printed in "Öfversigt af Finska Vetenskaps-Societetens Förhandlingar" 10, p. 2-3+pl., 1867-1868, Helsingfors, issued in 1868, but it had already been read for the "Society" on September 23rd 1867. — After a long and careful latin diagnosis Lindberg tells us, that he had received his plant-material from Booth's Garden (probably somewhere in the British Isles) in 1863 under the name of *M. wollastoni,* but his plant seemed to differ from *M. wollastoni* in the following characters: Planta robustior et rachi inflorescentiae villosa, floribus pendulis, majoribus et brevioribus, calycis glabri sepalis latioribus et minus acutis, corolla aureo-fulva, antheris oblongis etc. As his basis of comparison he had apparently only a picture by Lemaire in "Flore des Serres" 13, p. 159, 1860, the delineation of which according to his own statement was not very successful! — Without doubt *M. wollastoni* is a variable plant as to the colour of stems, leaves and flowers, probably depending on whether growing in shady places or in full sunshines. One can study this variation in the Forest Station-Garden in Ribeiro Frio, Madeira, with a number of the endemic Madeira-plants cultivated under natural conditions (in the wild *M. wollastoni* is a very rare and threatened plant today). — In this connexion it is interesting to see what Lowe says about *M. wollastoni* in his Flora of Madeira (1868, p. 577): "The beautiful figure of it in Curtis Botanical Magazine, p. 5606, with pale greenish-yellow flowers, recalls the poet's warning 'Nimium ne credo colori' in the case of cultivated plants". According to Lowe (1856) *M. wollastoni* was found for the first time in Madeira in 1847, but already in 1856 it was in cultivation in England. — The correct citation of *M. wollastoni* could be: *Musschea wollastoni* Lowe (incl. *M. pallescens* S. O. Lindberg).

Caryophyllaceae

Chaetonychia cymosa (L.) Sweet *(Illecebrum cymosum* L., *Paronychia cymosa* (L.) DC. in Poiret). — According to a herbarium-sheet in Herb. C. (Copenhagen) this plant has once been collected in Madeira by a Danish botanist, J. Rathke, who visited the island in 1798-1799 during his stay in the mainland of Portugal. There is so far no knowledge of later finds,

but this plant may very well still be present in Madeira. Recently it has been discovered also in the Canary Islands: Gran Canaria (Kunkel 1967). — For ages *Chaetonychia cymosa* seems to have been much confused with *Paronychia echinulata* Chater or better *P. echinata* Lam. *(Illecebrum cymosum* auct. non L.) which plant is present also in Madeira and found there in recent years. Yet its resemblance to *C. cymosa* is only superficial, and there is no real affinity between the two. *C. cymosa* is a west-mediterranean species distributed in Portugal, Spain, South-France, Menorca, Corsica, and Sardinia and in NW Africa.

Fabaceae

Psoralea americana L. — In waste place (former Banana-plantation), Funchal-West, near Gorgulho and Lidosol-hotels. A rare plant in Madeira in recent times, but known from the western outskirts of Funchal for many years.

Fumariaceae

Fumaria montana Schmidt. — The Swedish botanist M. Lidén (1986) mentions this plant (originally described from Santo Antão, Cape Verde Islands) as an endemic to Macaronesia (incl. *F. praeternissa* Pugsley, described originally from Lanzarote, Canary Islands) and gives only a single record from Madeira itself, another one from Ilhéu Chão and a third one from the Salvage Islands. The following records from Madeira in the years 1971-77 can now be added here: Curral das Freiras (1971), Serra de Água near the Vinhaticos-resthouse (1976), Queimadas (1976) and Portela (1977), all material deposited with herb. C.

Hemionitidaceae

Pityrogramma calomelanos (L.) Link (var. *aureoflava* (Hook.) Weatherby). — A supposed garden-escape in Câmara de Lobos, April 1980, leg. G. Gottschlich. It is the first find in Madeira of this very handsome fern, known also from the Azores (S. Miguel, Faial and possibly Terceira); a native of Central and South America, but introduced in many tropical and subtropical regions of the world.

Lamiaceae

Ocimum micranthum Willd. — Reported as a garden-escape in Funchal-North in 1973 (Hansen 1974), and in 1981 it was collected as a garden-escape in a banana-plantation SW of hotel Gorgulho, Funchal-West, leg. F. Skovgård. Its local name is "Planta de Anis" because of its Anise-like aroma, and it is sometimes cultivated as a pot plant for medical purposes.

Plectranthus fruticosus l'Hérit. — This plant was mentioned as a garden-escape in Madeira (Santana) for the first time in 1976 (Hansen

1978). In 1986 it was observed in another place: Camacha, Madeira-East, with several well-grown specimens completely naturalized along a small stream. A native of South Africa.

Liliaceae

Asparagus setaceus (Kunth) Jessop (*A. plumosus* Baker). — Funchal, a garden escape in Estrada Monumental, 1980, leg. the author. An evergreen climber with few terminal flowers and black berries, and a native of South Africa. Mentioned as a garden escape at Arco da Calheta, southcoast of Madeira, already by C. Simon (1983). Recently named *Protasparagus plumosus* (Baker) Oberm. (Obermeyer 1983).

Malvaceae

Malvastrum coromandelianum (L.) Garcke. — The existence of this plant in Madeira was published by the present author (Hansen 1970) based on older and recent material erroneously referred to *Sida acuta* Burm. f. (*S. carpinifolia* L. f.). However the Swiss botanist B. Hochreutiner had mentioned this taxon from Madeira already in 1902 in his paper "Malvaceae nova vel minus cognitae", Ann. Cons. & Jard. Bot. Genève 1902, p. 33).

Ophioglossaceae

Botrychinum lunaria (L.) Sw. — Two German students, Christiana Guth and Karin Tiedemann, working in Madeira for a university-degree at the university of Tübingen, BRD., in 1983 found this plant in a laurel-forest along the levada to the west of Encumeada (in ca. 1000 m., very scarce). It has been mentioned in the "Diplomarbeit" by C. Guth (1985, p. 132), and their material was sent to the author for confirmation. It is new to Madeira, and from Macaronesia it was previously known only from the Island of Pico, Azores, 1929 (Tutin & Warburg 1932).

Oxalidaceae

Oxalis exilis A. Cunn. — A weed on lawns in a Funchal street (Levada dos Barreiros), mixed with *Paspalum dilatatum*, July 1985, leg. G. E. Maul. Much like *O. corniculata* but smaller in all its parts, with filiform, creeping stems and inflorescence usually 1-flowered. A native of South-Asia, and known as an established garden-weed for instance in the British Isles.

Poaceae

Agrostis stolonifera L. — Scanty along water-course near the sea at Faial, north-coast of Madeira, Sept. 1983; a rare, introduced grass in Madeira. Menezes in his Madeira-Flora (1914) mentions *A. stolonifera* L. as a very common plant in Madeira; however this taxon sensu Menezes is

identical with *Polypogon viridis* (Gouan) Breistr. (*P. semiverticillatus* (Forssk.) Hyl., *Agrostis verticillata* Vill.). Menezes mentions also *Agrostis alba* L. = *A. stolonifera* L.

Eleusine indica (L.) Gaertn. — Besides *E. indica* ssp. *indica another* ssp., ssp. *africana* (Kennedy-O'Byrne) S. M. Phillips, fig. 2, is seen in Madeira, present at the following localities: Waste place in Funchal, 1967, leg. A. Hansen, det. V. Dalgård, waste place in Ribeira dos Socorridos, W of Funchal, 1983, leg. A. Hansen, det. V. Dalgård and from roadside, Funchal-West, 1986, leg. A. Hansen. Ssp. *africana* differs from ssp. *indica* in having longer lemma, surface of grains shallow-ridged and uniformly granular against obliquely striate in ssp. *indica,* and ligule a definite ciliate fringe against a truncate barely ciliolate membrane in ssp. *indica.* According to Phillips (1972) ssp. *africana* has hitherto only been known from Africa, while ssp. *indica* occurs throughout the tropics and subtropics all over the world. Both ssp. are established aliens in Madeira.

Eleusine tristachya (Lam.) Lam. — This introduced grass having existed in Madeira for at least about 50 years has been mentioned with new records by the present author twice (Hansen 1971, 1973). In 1986 it was found again abundantly in a new locality: Lombada W of Funchal, growing along roadsides.

Eragrostis tenuifolia (A. Rich.) Hochst. ex Steudel. — Collected in waste place in Funchal in November 1982 by the English botanist R. M. Payne: an alien new to Madeira. and a perennial plant distributed in highlands throughout tropical Africa, but recorded also from India, Australia and South America. In Europe known as a supposed wool-alien in England.

Helictotrichon sulcatum (J. Gay) Henr. or *Avenochloa sulcata* (J. Gay) J. Holub according to Kerguélen (1979) should finally be named *Avenula lodunensis* (Delarbre) Kerguélen (*Avena l.* Delarbre) described 1835 from Département de la Vienne, France. As a matter of form it has further been called *Avenula marginata* (Lowe) J. Holub, evt. as ssp. *sulcata* (J. Gay ex Boiss.) Franco.

Notodanthonia tenuior (Steudel) S. T. Blake mentioned as an alien new to Madeira in Hansen (1974) has now been referred to the genus *Danthonia* as *D. tenuior* (Steudel) Court. Once before it was included in the genus *Danthonia* as *D. purpurascens* J. Vickery. The name *Rytidosperma t.* (Steudel) A. Hansen & Sunding has also been used.

Primulaceae

Pelletiera wildpretii Valdés. — B. Valdés (1980) described this tiny plant as new to science and endemic to Macaronesia, found only in the Canary Islands (Tenerife, Gran Canaria, Fuerteventura, Hierro) and in the Salvage Islands (Selvagem Grande). Earlier it had been much confused

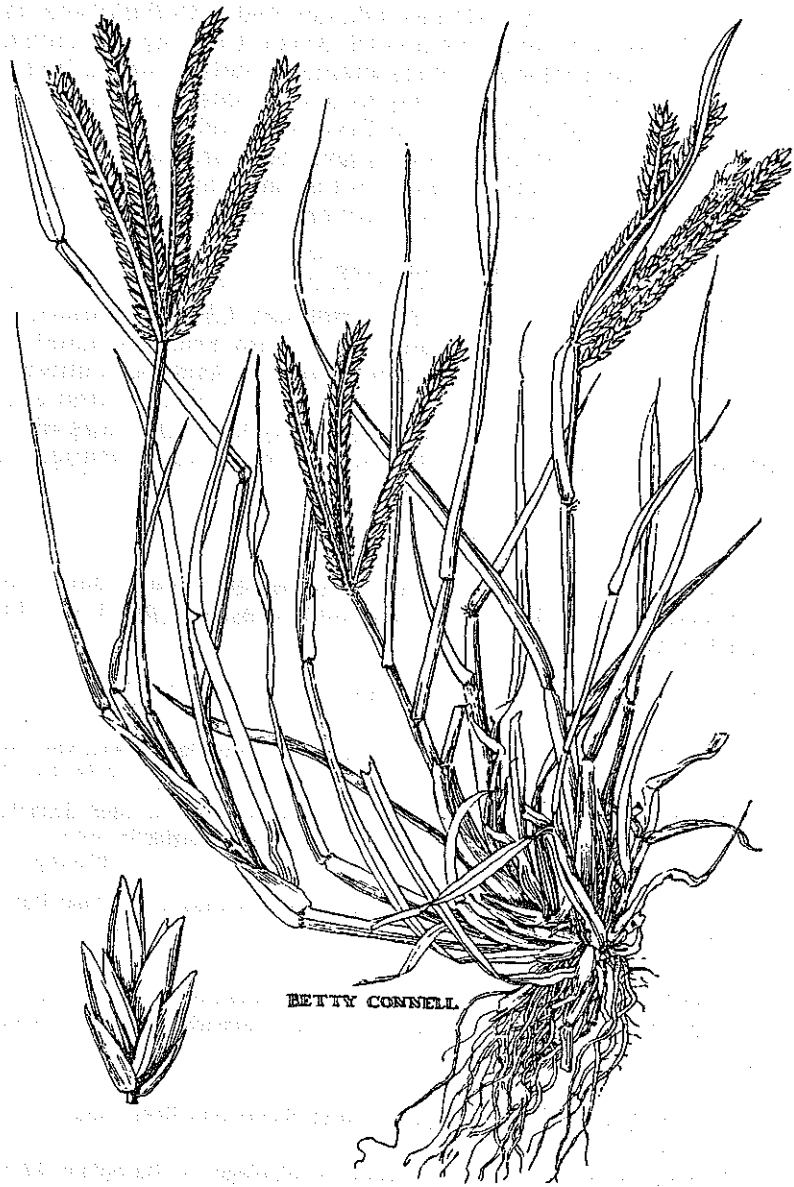

Fig. 2. — *Eleusine indica* (L.) Gaertn. ssp. *africana* (Kennedy-O'Byrne) Phillips (from M. Henderson & J. G. Anderson: Common weeds in South Africa, 1966).

with *Asterolinum* or *Lysimachia linum-stellatum*, another member of the Primulaceae, also present in the Canary Islands, and with *Pelletiera serpyllifolia*, a strictly South American species (S. Brasil, Uruguay, Argentina and Chile). From the Salvage Islands Valdés mentions only a single find made by E. Sventenius in 1953, but according to some material in herb. MADS, Funchal, it had been found on Selvagem Grande already in 1939 by C. Barreto, and again in 1954 by M. de Nóbrega, and the statement by R. T. Lowe (1869) of so-called *Asterolinum-stellatum* in the Salvage Islands (finds from the 1860ies) most likely also refer to *Pelletiera wildpretii*.

Saxifragaceae

Saxifraga stolonifera Meerb. (*S. sarmentosa* L.) — Naturalized in a ravine above the Forest Reserve Station in Ribeiro Frio, collected in August 1986 by the author. A perennial herb from East Asia, but cultivated as a garden- or pot-plant in many other parts of the world and often escaped and naturalized. In the Azores (at Fogo Lake, São Miguel) it was observed in 1984, and in Macaronesia it is further known from Gran Canaria, Canary Islands.

Scrophulariaceae

Parentucellia viscosa (L.) Caruel. — Along the levada between Portela and Machico, May 1986, leg. L. Franquinho. A rare plant in Madeira and not seen for many years.

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