BOCAGIANA

Museu Municipal do Funchal

Madeira 26. VII. 1971 No. 27

CONTRIBUTIONS TO THE FLORA OF THE MADEIRA ARCHIPELAGO

With 4 figures

By ALFRED HANSEN *

The following floristic notes from Madeira and the Desertas are due partly to some finds and observations made by the present author during his sojourns on these islands in August-September 1970 and in January 1971, and partly due to plant material placed at the author's disposal by other collectors for determination or verification, viz. T. Bryndum, Copenhagen, O. Hamann, Copenhagen, F. Koppe, Bielefeld, W. Germany and M.-L. Nilsson, Ystad, Sweden, to whom the author wishes to express his appreciation.

1. MADEIRA

PTERIDOPHYTA

EQUISETACEAE

Equisetum telmateia Ehrh. — In a spring at the upper end of the Fajã da Nogueira-Valley, furthermore on a very wet road-side in Ribeira de S. Jorge, and along the road between the Encumeada-Pass and São Vicente, all findings of 1970. According to Romariz (1953), a rather rare plant on Madeira.

ADIANTACEAE

Adiantum hispidulum Swartz—In stone-wall at the parking place near the church of Monte above Funchal 1971. Also collected by F. Koppe,

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Bielefeld, W. Germany, on a ravine-slope between Machico and the Portela-Pass (ca. 350 m.), East-Madeira, March 1970, det. by the author. This fern, a native of Australia, N. Zealand and the Philippines, is new to Madeira and probably an escape from cultivation; known also from the Azores.

SPERMATOPHYTA

CARYOPHYLLACEAE

Spergularia marina (L.) Griseb.—Sea-shore east of Caniçal, S. Lourenço Peninsula, 1970, leg. O. Hamann. A form with unwinged glandular-hairy seeds, and new to the Archipelago; an annual or perennial herb, widespread in Eurasia and North Africa, e. g. in Marocco.

COMPOSITAE

Chrysanthemum lacustre Brot. (*C. maximum* hort.). — Subspontaneous at Balcões, Ribeiro Frio, 1970, probably escaped from cultivation, however this locality is situated a considerable distance from any form of habitation. A native of Portugal.

Lactuca serriola L. — In a recent paper (A. Hansen 1970) the existence of this species on Madeira was much doubted, as all earlier records seem to refer to *L. virosa* L. In 1970 the genuine *L. serriola* was observed in great abundance on road-sides and slopes at the airport of Santa Cruz. Probably a recent introduction, as both the road and the slope were built in connection with the construction of the airport, which was opened in 1964.

CYPERACEAE

Carex extensa Good. — This sedge is probably one of the rarest plants of Madeira, stated by Menezes (1914) as found only in a single locality: Fajã da Areia east of S. Vicente, northcoast. Here it was observed again in 1970, a single specimen on a very wet rock-wall facing the sea on the coast road. (Fig. 1)

Carex tumidicarpa Ands. ssp. ***cedercreutzii*** Fagerström — Within the *Carex oederi*-complex *a plant provided* with different names such as *C. flava* L. var. *intercurrens* Menezes (1911), *C. oederi* Retz. var. *intercurrens* (Menezes) Menezes (1912), and *C. oederi* Retz. (Menezes 1914), has been recorded from Madeira as a rarity. From the Azores the

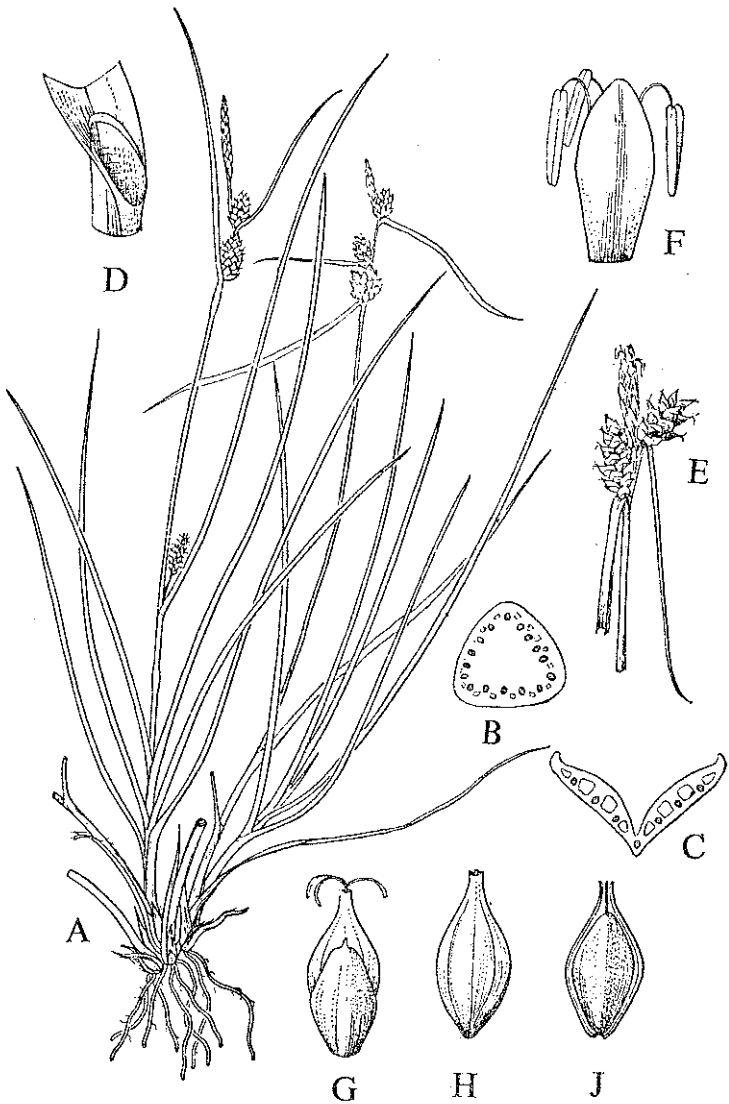

Fig. 1. — *Carex extensa* Good (After Jermy & Tutin: British Sedges 1968).

same plant has been mentioned under the name of *C. serotina* Mérat (Palhinha 1966). Now in a recent paper a Finnish botanist L. Fagerström has referred this plant to a new taxon: *C. tumidicarpa* Ands. ssp. *cedercreutzii* Fagerström ssp. nov., considered a ssp. endemic to the Azores. However, Fagerström has overlooked the fact that two of the localities for this plant mentioned in his paper are actually not located in the Azores, but in Madeira! Thus this plant must be regarded as a ssp. endemic both to the Azores and Madeira. During 1968, 1969 and 1970 the author has collected this ssp. from the following localities on Madeira: Poiso, Poiso-Ribeiro Frio, Paul da Serra and Curral das Freiras.

Cyperus alternifolius L. — Waste places at Funchal harbour and at Ponta da Cruz, SW. of Funchal, in 1971, probably as a garden-escape. A native of Africa, also known as a garden-escape from the Canary Islands.

C. brevifolius (Rottb.) Hassk. (Kyllinga b. Rottb.). Quite recently the author recorded this plant as new to Madeira, found for the first time in 1968 (A. Hansen 1969). In 1971 it was also collected in Ribeira de S. Jorge, so most likely it has a wider distribution in very wet habitats (springs) throughout Madeira.

C. flavescens L. — Road-side in Ribeira de S. Jorge, south of the village of S. Jorge, 1970, and between Ponta do Sol and Tabua (coast-road) 1971. Menezes (1914) only mentions 2 findings of this plant on Madeira. On the Azores (S. Miguel) in 1970 it was also observed as being new to these islands (A. Hansen in press). A wide-spread, cosmopolitan species.

ERICACEAE

Calluna vulgaris (L.) Hall — G. E. Maul, Funchal, has drawn attention to the fact that this plant for several years has been known as a supposed, but fully established garden-escape growing in Santo da Serra, East-Madeira. On September 7th., 1970, we paid a visit together to this locality, and found the heather still growing in a small open Eucalyptus-grove near the church. In this spot it occurs in such abundance that it is being cut to be sold in the Funchal market! On the Azores this heather is a well-known native plant.

Rhododendron mucronatum G. Don — Ravine near Porto da Cruz, NE-Madeira, in about 700 m. altitude, 1970, leg. O. Hamann, probably as a garden-escape. A native of Japan.

EUPHORBIACEAE

Euphorbia nutans Lag. (*E. preslii* Guss.)—Stony river-bed in Ribeira Brava near the town of the same name, 1970. A rare species, introduced but quite naturalized on Madeira, known since Lowe's days. A native of N. America.

GRAMINEAE

Agropyron repens (L.) PB.—Near the mouth of Ribeira do Faial, north coast of Madeira, on road-sides and in cultivated area in Camacha, both collected in 1970. Seems to be a rare grass on Madeira; Menezes (1914) mentions it only from the environs of Funchal.

Agrostis reuteri Boiss.—This grass was mentioned by the author in 1969 as being new to Madeira (A. Hansen 1969), and it was pointed out that the plant had not been found again since Mandon collected it in 1865-66 in the Pico do Arieira-area. In 1970 it was observed along the foot-path running from Pico do Arieira to Pico Ruivo. (Fig. 2)

Dichantium annulatum (Forssk.) Stapf—This grass recently collected in Funchal harbour (Hansen 1969), has in fact a greater distribution on coastal rocks and near-by fields west of the Lido, West-Funchal (mostly on both sides of a former shipyard or factory now in ruins). In 1969 it was further observed in a waste place on the stretch between Santo António and Eira do Serrado, leg. M.-L. Nilsson. Known in Madeira for about 30 years (Grabham 1942). (Fig. 3)

Eleusine tristachya (Lam.) Lam.—The existence on Madeira of this introduced grass, a native of S. America, was stated for the first time by Grabham (1942), who found it in «moist gutters» in Funchal. In 1970 it was collected among paving-stones in the mainroad through Lombo Baixo, south of Faial, not far away from the north-coast. Though known to have grown in Madeira for about 30 years it still seems to be a rare plant here; known also from the Azores.

Lolium parabolicae Sennen ex Sampaio—According to Terrell (1968), this taxon refers to a series of maritime variants within the highly polymorphic species *L. rigidum* Gaud., distributed along the shores of the Atlantic and the Mediterranean, namely in Portugal and Spain, but also known from the Canary Islands (Fuertaventura and Hierro). This grass—should it be regarded as a separate species or as a variety of *L. rigidum*—is known to exist also in Madeira, as Mandon's specimens of *L. rigidum*

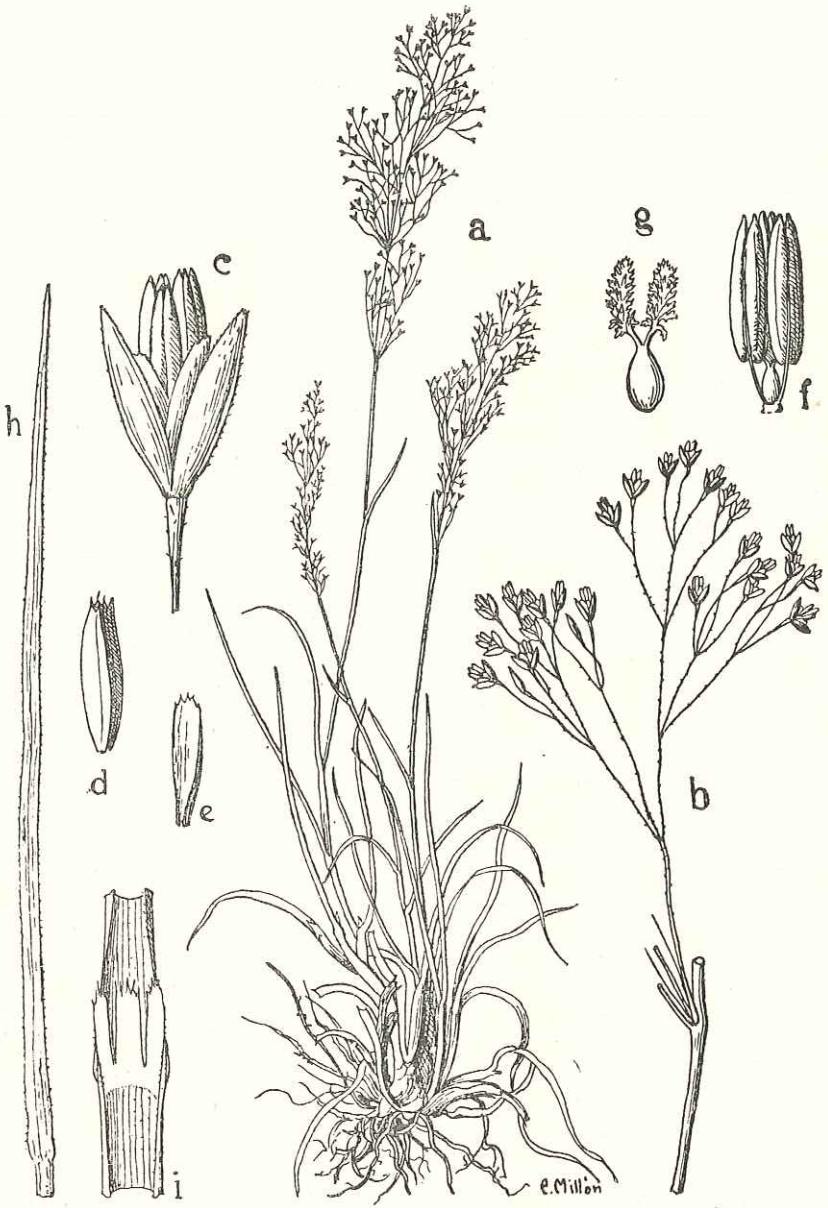

Fig. 2 — *Agrostis reuteri* Boiss. (after *Caballero:* Illustraciones de la flora endemica española, Anal. Jard. Bot. Madrid **2**, 1941).

Fig. 3. — *Dichanthium annulatum* (Forssk.) Stapf **1**, habit, ×2/3; **2**, false raceme, ×1 1/3; **3**, ligule, ×4; **4**, arrangement of spikelets, ×6; **5**, lower glume of sessile spikelet, ×6; **6**, upper glume, ×6; **7**, lower lemma, 6; **8**, upper awned lemma, ×6; **9**, flower, ×6; **10**, grain & cross section, ×10. (After *Bor:* Flora of Iraq, vol. **9**, 1968).

in his exsiccate 1865-66: «In pascuis apricis prope Funchal» actually belong here. *L. rigidum* Gaud. var. *maritimum* (Godr.) Merino is most likely a synonym.

Oryza sativa L.—Subspontaneous in river-bed in Ribeira Brava near the town of the same name, south-coast of Madeira (fruiting specimens). May originally have been cultivated, but Rice has so far never been recorded from Madeira as an escape of cultivation.

Setaria geniculata (Lam.) PB. — Another record of this naturalized grass has been made in Ribeira da Janela, NW. Madeira, leg. M.-L. Nilsson 1969. Hitherto only known from Funchal and Ribeira Brava (A. Hansen 1968).

Sporobolus indicus (L) R. Br. — On road-side near the Santa Cruz-airport 1971. New to Madeira and most likely a recent introduction, as the road in question has been built in connection with the construction of the airport, which was finished in 1964. A cosmopolitan species originating in tropical America; also known as a recent introduction to the Canary Islands (Kunkel 1967). On its distribution in Europe (Portugal, France) see Hubbard (1966) and Jovet & Guédès (1968).

IRIDACEAE

Iris foetidissima L. — Between Santo António and Eira do Serrado, naturalized in a wood, 1969, leg. M.-L. Nilsson, probably as a garden-escape. A native of W. Europe and the Mediterranean region, also known from the Azores and the Canary Islands.

LEGUMINOSAE

Acacia mearnsii de Wild (*A. mollissima* auct.) — This tree from SE Australia and Tasmania, which has been planted in great quantities on Madeira as a forest tree (between ca. 500 and 900 m. altitude) has now become a perfectly naturalized frequently self-sowing plant, in many places forming troublesome and inconvenient roots.

Dolichos lablab L. — Waste place at Funchal port 1971, probably as a garden-escape. It is often seen in the gardens of Madeira; a native from the tropics of the Old World.

Lotus suaveolens Pers. (*L. hispidus* auct , *L. subbiflorus* auct. non Lag.) — As shown recently by Heyn (1970), the plant material hitherto known under the name *L. subbiflorus* Lag., in fact includes 2 different

species: Genuine *L. subbiflorus* Lag. (*L. castellanus* Boiss. & Reut.), endemic to W. and C. Spain, S. Portugal, SW. France and possibly also NW. Africa, and *L. suaveolens* Pers. (*L. hispidus* auct., *L. divaricatus* Soland.), widespread in the Mediterranean region (rarer in its eastern parts), and known also from Madeira and the Azores. Thus 4 annuals of the genus *Lotus* are represented in the flora of Madeira, viz. *L. angustissimus* L., *L. ornithopodioides* L., *L parviflorus* Desf. and *L. suaveolens* Pers.

RUTACEAE

Choysia ternata HBK.—In ravine near Porto da Cruz, NE Madeira (ca. 700 m.), a supposed garden-escape. A native of Mexico, often seen as ornamental plant in the gardens of Madeira.

SOLANACEAE

Datura inoxia Mill.—As shown by Kunkel (1971), the plant material hitherto recorded from Gran Canaria as *D. metel* L. (introduced and naturalized), in fact is identical with *D. inoxia* Mill., and according to the author's own experience on Tenerife the same mistake has been made there too. From Madeira the so-called *D. metel* L. has been stated as being a very rare plant (Lowe 1872, Menezes 1914), but most likely the findings in question are referable to *D. inoxia* as well. (Fig. 4)

Salpichroa origanifolia (Lam.) Baillon (*S. rhomboidea* (Hook.) Miers)—Naturalized in a potato-field near the Botanical Garden, Funchal, 1971, T. Bryndum. An ornamental plant originating in S. America (S. Brazil - S. Argentina), naturalized in some localities of SW. Europe and the West-Mediterranean region, known also on the Azores and recently shown to be established on Tenerife, Canary Islands (A. Hansen 1970).

VIOLACEAE

Viola—A Madeiran Violet generally referred to as *V. silvestris* var. *riviniana* or to *V. riviniana* (Lowe 1872: *V. sylvatica* Fries var. *riviniana* Koch, Menezes 1914: *V. silvestris* Fries var. *riviniana* (Rchb.)) had probably better be considered a separate species with the name of *V. broussonetiana* Roem. & Schult., Syst. V, 371 (with the synonyms *V. cordata* Willd. nom ambig., *V. silvestris* (Lamk.) Rchb. ssp. *cordata* (Willd.) W. Becker, *V. canina* Webb & Berth. non L.). This Violet is known also from the Canary Islands and thus an endemic to both groups of islands.

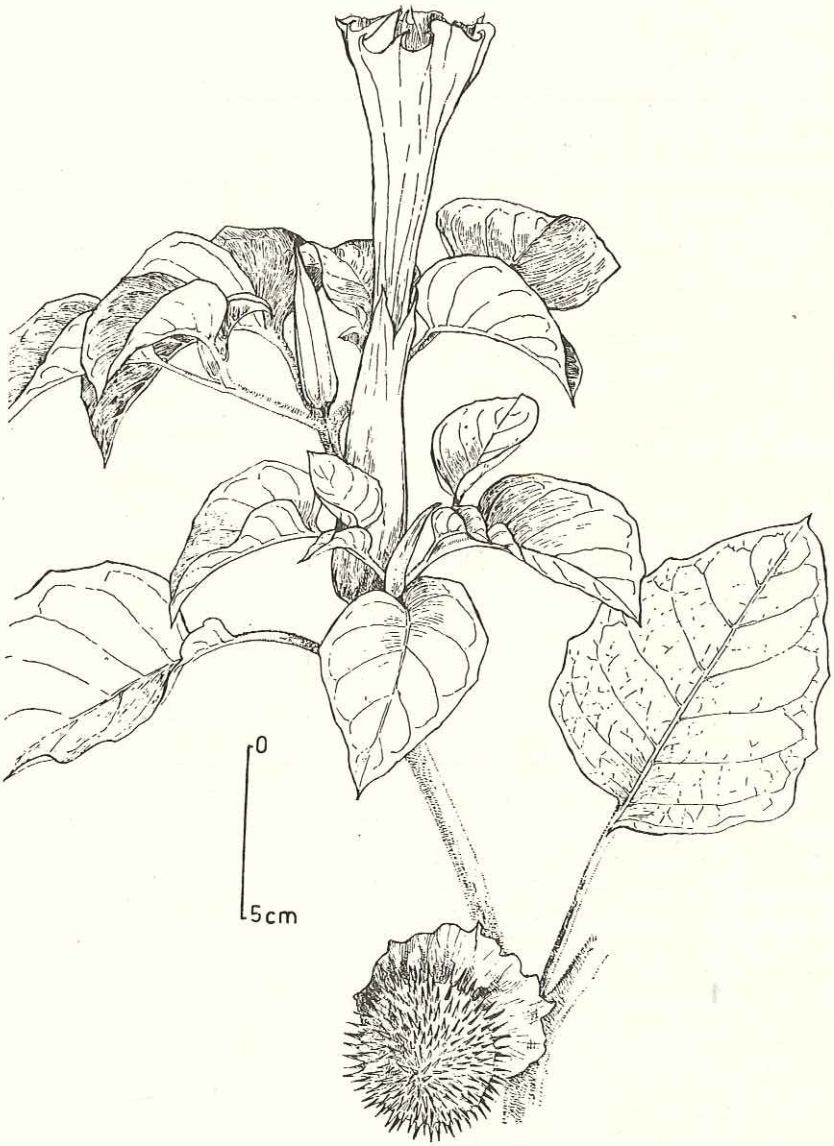

Fig. 4. — *Datura inoxia* Mill. (after *Boulos* & *Nabil El-Hadidi:* Common weeds in Egypt, 1967).

2. DESERTA ISLANDS

During the author's visit to the Ilheu Chão (Flat or Northern Deserta) on May 23rd 1969, and during a visit to Deserta Grande (Middle or Great Deserta) on January 27th 1971, as a member of the Copenhagen University Students' Excursion to Madeira, a number of higher plants were observed and partly collected, among them a number of species new to the group of islands as such, or new to either Chão or to Deserta Grande, which are listed below. The floristic literature on the Desertas is very scanty, and since Menezes's Flora (1914), in which all species at that time known to exist on the islands are listed, only a few new records have so far been published (Menezes 1922).

a. *Plants new to the Desertas* (records from Deserta Grande):

Davallia canariensis (L.) Sm.
Polypodium australe Fée
Parietaria debilis Forst.
— *judaica* L.
Urtica subincisa Benth.
Polygonum maritimum L.
Cerastium fontanum Baumg. ssp. *triviale* (Lk.) Jalas
Spergularia bocconei (Scheele) Asch. & Gr. (probably = the record of *S. rubra* (L.) J. & K. Presl from this island)
Silene nocturna L.
Opuntia ficus-indica L.
Arabidopsis thaliana (L.) Heynh.
Hirschfeldia incana (L.) Lagr.—Foss.
Umbilicus cf. *rupestris* (Salisb.) Dandy
Erodium cicutarium (L.) l' Hérit.
— *malacoides* (L.) l' Hérit.
Musschia aurea (L. f.) DC. (observed there already some years ago by G. E. Maul, Funchal, in litt.)
Eupatorium adenophorum Spreng.*
Cotula australis (Less.) Hook. f.**
Senecio vulgaris L.
Catapodium rigidum (L.) C. E. Hubb.

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* has rencently been named *Ageratina adenophora* (Spreng.) King & Robinson (King & Robinson 1970).

** in a typical way spread by the traffic!

b. *Plants new to the Desertas* (records from Chão, partly published in the Checklist, A. Hansen 1969):

Bassia tomentosa (Lowe) Maire & Weill.
Trifolium arvense L.
Lavatera cretica L.
Avena sterilis L.
Polypogon maritimus Willd.

c. *Plants new to Deserta Grande but known from either Chão or Bugio:*

Asplenium marinum L. (Bugio)
Chenopodium murale L. (Chão)
Lotus argyrodes Murr. (Chão, Bugio)*
Dactylis glomerata L. cf. ssp. *hispanica* (Roth) Nyman (Bugio, Chão)
Polypogon maritimus Willd. (Chão)
Trachynia distachya (L.) Lk. (Chão)

d. *Plants new to Chão but known from either Deserta Grande or Bugio:*

Urtica membranacea Poir. (Deserta Grande)
Rumex bucephalophorus L. (Deserta Grande)
Mercurialis annua L. (Deserta Grande)
Ononis mitissima L. (Bugio, Deserta Grande)
Anagallis arvensis L. (Bugio, Deserta Grande)
Centaurea melitensis L. (Bugio, Deserta Grande)
Leontodon saxatilis Lam. ssp. *rothii* (Ball) Maire (Bugio, Deserta Grande)
Gastridium ventricosum (Gouan) Schinz & Thell. (Bugio)
Lamarckia aurea (L.) Moench (Deserta Grande)
Phalaris paradoxa L. (Deserta Grande).

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* *L. argenteus* (Lowe) Masf. nom. ambig., *L. mandonii* Chevalier (1935, nom. superfl.; if kept as *Pedrosia* the name *P. argenteus* Lowe is valid. *L. argenteus* Webb = *Dorycnium argenteum* Del. = *Lotus argenteus* (Del.) Boiss. = *Lotus polyphyllus* Clarke (Egypt).

LITERATURE

Chevalier, A.:

1935. Les Iles du Cap Vert. Flore de l'Archipel.—*Rev. Bot. Appl.* **15**:733-1090.

Fagerström, L.:

1967. Studien an der Carex-Sektion Extensae. Carex tumidicarpa Ands. ssp. cedercreutzii Fagerström n. ssp.—*Acta Soc. p. Fauna et Flora Fenn.* **79** (3): 3-7.

Grabham, M.:

1942. Madeira. Its flowering plants and ferns. - London (162 p.).

Hansen, A.:

1968. Floristische Beobachtungen auf der Insel Madeira.—*Bocagiana* **15**: 1-11.

1969. Weitere Beiträge zur Flora der Insel Madeira.—*Ibid.* **19**: 1-11.

1969. Checklist of the vascular plants of the Archipelago of Madeira.—*Bol. Mus. Mun. Funchal* **24**: 1-71.

1970. Contributions to the flora of the Canary Islands (especially Tenerife). —*Cuad. Bot. Canar.* **9**: 37-59.

1970. Beiträge zur Flora der Inseln Madeira, Porto Santo und Ilheu Chão (Desertas).—*Bocagiana* **25**: 1-18.

Heyn, C.C.:

1970. Studies in Lotus III. The L. angustissimus group. — *Israel J. Bot.* **19**: 271-292.

Hubbard, C. E.:

1966. On a Sporobolus naturalized in Portugal. — *Agron. Lusit.* **28** (2):17-18.

Jovet, P. & M. Guédès:

1968. Le Sporobolus indicus (L.) R. Br. var. fertilis (Steud.) Jov. et Guéd. naturalisé en France, avec une revue du groupe du Sporobolus indicus dans le monde.— *Bull. Cent. Étud. Rech. Sci. Biarritz* **7** (1): 47-75.

King, R. M. & H. Robinson:

1970. Studies in the Eupatorieae (Compositae) XIX. New combinations in Ageratina. — *Phytologia* **19**: 208-229.

Kunkel, G.:

1967. Plantas vasculares nuevas para la flora de Gran Canaria. — *Cuad. Bot.* **I**: 3-23.

1971. Notas sobre algunas plantas asilvestradas en Gran Canaria — *Cuad. Bot. Canar.* **II**: 1-3.

Lowe, R. Th.:

1872. A manual flora of Madeira etc. Vol. II, part 1. — London 1872.

Menezes, C. A. de:

1911. Diagnose de deux Cyperacées madériennes. — *Bull. Soc. Portug. Sci. Natur.* **V** (2): 40-41.

1912. Les Cyperacées de l'Archipel de Madère — *Ibid.* **VI** (1): 23-28.

1914. Flora do Archipelago da Madeira. — Funchal (282 p.).

1922. Subsidios para o estudo da flora do Archipelago da Madeira. – *Broteria* **20**: 113-119.

Palhinha, R.T.:

1966. Catálogo das plantas vasculares dos Açores. – Lisboa (186 p.)

Romariz. C.:

1953. Flora da Ilha da Madeira. Pteridófitos. – *Rev. Fac. Cienc. Lisboa* 2. Sér. C. **3** (1): 53-112.

Terrell, E. E.:

1968. A taxonomic revision of the genus Lolium. — *U. S. Dep. Agricult. Tech. Bull.* **1392**: 1-65.