

Additions and Corrections to O.Eriksson, A.Hansen & P.Sunding: "Flora of Macaronesia. Checklist of Vascular Plants 1974"

by G. Kunkel *

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Resumen

Adiciones y correcciones considerando la "Checklist de la Flora Macaronésica", por O. Eriksson, A. Hansen y P. Sunding. Se menciona y se discute algunos taxones adicionales, críticos o dudosos, de acuerdo a publicaciones recientes o conocimientos actuales.

The discussed "Checklist", result of a true Scandinavian co-production, was published in 1974 (price: US \$3,—), by the Department of Biology, Section of Ecological Botany, University of Umea; 66 pp. And all of us, botanists, ecologists and phytogeographers, working with or on flora and vegetation of one or all Macaronesian archipelagos, must congratulate the authors; the work as presented is a first and real step towards the realization of the proposed "Flora Macaronésica".

No pioneer-work may stand without critics. However, I hope the authors will not take my paper as such but consider the points given, in order to produce an even more correct and complete second edition, in due time.

I must confess I thought for quite a time whether to write to the authors, or to publish my comments (which mainly refer to the Canary Islands, only). But as it would have been a letter of more than twenty pages and, being an

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editor of a botanical magazine myself, I would, in the meantime, have received numerous requests (manuscripts) from other scientists, for part-additions and corrections, I decided to publish my first recommendations, hoping they will be received as intended.

Seen in general I agree with the authors that species known to be introduced should be marked (with an asterisk or any other symbol), to avoid misleading distribution maps. It might also be convenient to publish hybrid species (as done with hybrid genera) with their name given. Questionable records should be put forward for critical investigation.

As for abbreviations used in this paper I follow the usual headings as given in the "Check-list", viz.

L = Lanzarote
F = Fuerteventura
C = Gran Canaria
T = Tenerife
G = La Gomera
H = Hierro
P = La Palma

As to the main literature cited:

Cuad(ernos de) Bot(ánica) Canar(ia); Las Palmas, 1967 —
Monogr(aphiae) Biol(ogicae) Canar(ienses); Las Palmas 1970 —
Vieraea, published in Santa Cruz de Tenerife, and
Wild Flow(ers) of the Canary Islands, London & Burford 1974.

Proposals for additions and corrections

- p. 1 *Adiantum capillus-veneris* L.
If "var. *trifidum* (Willd.) Beguin." is accepted, this form is also known in the Canary Islands. See G. Benl: Mitt. Bot. Staatssamml. München 5:274 (1964), and in *Nova Hedwigia* 14:31 (1967); G. Kunkel: Cuad. Bot. Canar. 13:28 (1971).
- *Dryopteris maderensis* Alston
This species (or a very similar form?) occurs also in the Canary Islands. Add: C+G. References: Cuad. Bot. 2:37 (1967), and Cuad. Bot. Canar. 13:41 (1971).
- *Polystichum falcatum* (L.f.) Diels
I would refer to as *Cyrtomium falcatum* (L.f.) Presl, or its alternative name *Phanerophlebia falcata* (L. f.) Copel.
- *Asplenium marinum* L.
According to an unpublished record (A. Santos), this species also occurs in Fuerteventura.
- *Asplenium oopteris* L.
Add L as published in *El Museo Canario* 93-96:8 (1965), and in Cuad. Bot. Canar. 14:34 (1971).
- *Asplenium scolopendrium* L.
This is a matter of opinion. The species is generally referred to as *Phyllitis scolopendrium* (L.) Newm.
- *Asplenium trichomanes* L.
and ssp. *quadrivalens* D. E. Meyer emend. Lovis should be summarized and given as a single citation. However we miss any citation concerning ssp. *anceps*, or *Asplenium anceps* Sol. ex Lowe (1830) if recognized. See G. Benl in *Nova Hedwigia* 20:446 (1970).

- *Ceterach aureum* (Cav.) Buch
The citation for Madeira probably refers to var. *aureum*.

- p. 2 *Vandenboschia speciosa* (Willd.) Kunkel
If accepting this name, the authors should also recognize the family-splitting as practiced by Kunkel (see Pichi Sermolli in *Webbia* 25:263; 1970); hence "Trichomanaceae".

- p. 3 *Ophioglossum azoricum* C. Presl
Recently published new record for L: J. Duvigneaud in *Cuad. Bot. Canar.* 22:4 (1974).

- *Polypodium australe* Fée
Add: var. *cambricum* (L.) Kunkel as published in *Ber. Schweiz Bot. Ges.* 76:56 (1966). This is a good and natural variety and not a "cv" as cited by R. Fernández in *Bol. Soc. Brot.* 42:155 (1968).

- *Cheilanthes*
Although accepted by some European taxonomists, it is more convenient to separate *Notholaena* from *Cheilanthes*. Therefore *Cheilanthes catanensis* returns to *Notholaena vellea* (Ait.) Desr., and *Ch. marantae* should be replaced by *N. marantae* (L.) R. Br. For synonyms and subdivisions of the latter see *Cuad. Bot. Canar.* 5:46 (1969).

- p. 5 *Aptenia cordifolia* (L. f.) N. E. Br.
Add L. as recently published by J. Duvigneaud in *Cuad. Bot. Canar.* 22:2 (1974).

- *Carpobrotus edulis* (L.) N. E. Br.
Add T. This species is common in the northern parts of the island.

- *Sesuvium portulacastrum* (L.) L.
Another new record for L: J. Duvigneaud in *Cuad. Bot. Canar.* 22:4 (1974).

- *Achyranthes aspera* L.
Records of this species for Madeira and the Azores, and of its var. *sicula* for the other islands need revision.
- *Amaranthus deflexus* L.
Recently published new record for L: J. Duvigneaud in Cuad. Bot. Canar. 22:2 (1974).
- *Schinus molle* L.
Recently published new record for L: J. Duvigneaud in Cuad. Bot. Canar. 22:4 (1974).
- p. 6 *Bupleurum handiensis* (Bolle)
Unpublished record: In my herbarium I have a specimen from L (Riscos de Famara), sent to me by Dr. Kahne (coll. July 1968); see also D. & Z. Bramwell (Wild Flow. p. 167). Besides this: if accepting *Bupleurum handiensis* as a good species (comb. nov. not yet published), *B. canescens* Schousb. (s. str.) should be omitted in future lists (for our islands).
- *Cryptotaenia elegans* Webb ex Bolle
According to D. & Z. Bramwell (Wild Flow., p. 170) also in Hierro.
- *Ferula lancerottensis* Parl.
The record for T needs revision.
- *Foeniculum vulgare* Miller
Citations for Madeira belong to one or the other subspecies. Furthermore I think it would be wise to delete ssp. *vulgare* at least for C; all material known to me belongs to ssp. *piperitum*. New record for L (as *F. vulgare*): P. Sunding in Cuad. Bot. Canar. 13:19 (1971), and J. Duvigneaud 22:3 (1974).
- *Petroselinum crispum* (Mill.) A. W. Hill
Recently published new record for L: J. Duvigneaud in Cuad. Bot. Canar. 22:4 (1974).
- p. 7 *Scandix pecten-veneris* L.
Citations of the species for the Azores and Madeira

- need comparison with ssp. *pecten-veneris* as cited for the Canaries.
- *Acokanthera oblongifolia* (Hochst.) Codd
An addition (Apocynaceae) to the "Checklist"; the species was cited for C in Cuad. Bot. Canar. 16:39 (1972).
 - *Hedera helix* L.
Its "ssp. canariensis" is generally recognized as *Hedera canariensis* Willd.
 - *Asclepias curassavica* L.
Add L as published in Cuad. Bot. Canar. 18/19:25 (1973).
 - *Gomphocarpus fruticosus* (L.) R. Br.
Recently published new record for L: J. Duvigneaud in Cuad. Bot. Canar. 22:3 (1974).
- p. 9 *Carlina salicifolia* (L. f.) Cav.
Add ssp. *lancerottensis* Kunkel as published in Cuad. Bot. Canar. 20:22 (1974).
- *Centaurea arbutifolia* Svent.
According to H. Metlesics (in litt.) this species occurs also in T. The unpublished record (Bco. Añavingo as given by Metlesics) needs revision.
 - *Chrysanthemum coronarium* L.
Add: var. *discolor* Urv., at least for L, F & C.
- p. 10 *Chrysanthemum hierrense* (Humphries)
A species cited by D. & Z. Bramwell (Wild Flow. p. 213), for H.
- *Chrysanthemum lemsii* (Humphries)
Probably still unpublished species mentioned (for T) by D. & Z. Bramwell (Wild Flow. p. 213).
 - *Chrysanthemum lidii*
A new species for C mentioned by Bramwell & Humphries (as *Argyranthemum lidii*) but not yet

- validly published. However see L. Borgen, *Norw. J. Bot.* 19:152 (1972).
- *Chrysanthemum sventenii* (Humphries & Aldridge)
Another record given by D. & Z. Bramwell (*Wild Flow.*, p. 212), for Hierro.
 - *Chrysanthemum*
Two species of the genus, viz *C. ferulaceum* and *C. ptarmiciflorum*, should be referred to as *Tanacetum*: *T. ferulaceum* (Webb) Sch. Bip., and *T. ptarmiciflorum* (Webb) Sch. Bip.
 - *Cichorium*
I wonder if *Cichorium endevia* L. ssp. *pumilum* (Jacq.) Hegi (Madeira and Canaries), and *C. intybus* L. (Azores and Cape Verde Islands), s. auctt., are really different.
 - *Cupularia viscosa* (L.) Gren. & Godr.
which we fear to be our *Inula viscosa* L. (?!).
- p. 11 *Gonospermum fruticosum* (Buch) Less.
Records from G, H & P may need a critical revision.
- *Ifloga obovata* Bolle
This species is generally considered as conspecific with *I. spicata* (Forssk.) F. W. Schultz (or Sch. Bip. in Webb & Berth.?).
 - *Kleinia aizoides* DC.
This species was found in La Palma (Kunkel 1972); unpublished record: Roadsides above the old airport, covering several square meters.
 - *Lactuca scariola* L.
Generally considered as synonym to *L. serriola* L. but perhaps this opinion, lately, has been changed (?).
 - *Lactuca viminea* J. & C. Presl
Can be confirmed for C: in fields near Ingenio (see *Cuad. Bot. Canar.* 16:43; 1972).

- p. 12 *Launaea glomerata* (Cass.) Hook. f.
as published by Kunkel (Cuad. Bot. Canar. 18/19:
27; 1973) should better be changed into *L. capitata*
(Spreng.) Dandy.
- *Matricaria recutita* L.
According to S. Rauschert (Fol. Geobot. & Phytota-
xon. 9; 1974), the correct name of this species
should read *Chamomilla recutita* (L.) Rauschert,
and *M. matricarioides* (Less.) Porter, be replaced by
Ch. suaveolens (Pursh) Rydb.
- p. 13 *Reichardia tingitana* (L.) Roth
It seems recommendable to revise the nomenclatu-
ral situation; the species had better be referred to as
R. orientalis (L.) Hochr.
- *Senecio angulatus* L. f.
This species is quite frequent (garden escape) in
T: between La Laguna y Puerto de la Cruz. The
species is also commonly cultivated in La Palma
and Lanzarote, and garden escapes are to be ex-
pected.
- *Senecio cineraria* DC.
According to a recent note by Chater (Bot. J. Linn.
Soc. 68:273; 1974) the valid name reads as follows:
Senecio bicolor (Willd.) Tod. ssp. *cineraria* (DC.)
Chater.
- p. 13 *Senecio coronopifolius* Desf.
Recommendable correction: *S. desfontainei* Druce
as applied in oriental floras.
- *Senecio palmensis* (Chr. Sm. ex Nees.) Link
The record for F needs verification.
- *Senecio petasites* DC.
New record for T: near Bajamar and in several
other places between Los Rodeos and Orotava; on
road sides.

- *Senecio salicifolius* Pers.
The record for C needs revision.
- *Senecio webbii* (Sch. Bip.) Christ
Citations for G and H need revision.
- *Sonchus abbreviatus* Link
Not at all a clear species, and a critical revision is strongly recommended.
- *Sonchus asper* (L.) Hill
Recently published addition for L: J. Duvigneaud in Cuad. Bot. Canar. 22:5 (1974).
- p. 14 *Sonchus bourgeaui* Sch. Bip.
According to L. Boulos (Nytt Mag. Bot. 14:7; 1967), *S. imbricatus* Svent. should be considered as *S. bourgeaui* var. *imbricatus* (Svent.) Boulos.
- *Sonchus gummifer* Link
The citation for L may need revision.
- *Sonchus filifolius* Svent.
According to a recent publication (Cuad. Bot. Canar. 22:23; 1974), *Taeckholmia filifolia* (Svent.) Kunkel puts *T. canariensis* Boulos into synonymy.
- *Taeckholmia canariensis* Boulos
see *Sonchus filifolius* Svent.
- *Taeckholmia heterophylla* Boulos
Omitted in the "Checklist". Concerning the distribution of this species see L. Boulos, Bot. Not. 127: 436 (1974).
- *Tolpis lagopoda* Chr. Sm.
According to D. & Z. Bramwell (Wild Flow. p. 222): add P.
- p. 15 *Tripleurospermum maritimum* (L.) Koch
A troublesome case: According to S. Rauschert (Fol. Geobot. & Phytotaxon. 9; 1974) the more correct name for our species is *T. inodorum* (L.) Sch.

- Bip., an epithet based on *Matricaria inodora* L. (1755), nomen illeg. The proper name should read *Matricaria perforata* Mérat.; however new synonyms and, therefore, new changes are to be expected.
- *Impatiens walleriana* Hook. f.
Add: T; roadsides, northern part, and as a garden escape.
 - p. 16 *Echium decaisnei* Webb & Berth.
ssp. *purpurianse* Bramw.: add C (Montaña Almagro); hitherto unpublished record.
 - *Echium wildpretii* Pearss. ex Hook. f.
Well established in two localities in C: Tamadaba. and Cruz de Tejada; see Cuad. Bot. Canar. 16:42·1972.
 - *Heliotropium europaeum* L.
The distribution in the Canary Islands as given seems exaggerated.
 - *Lithospermum microspermum* Boiss.
Recently published new record: L, see J. Duvigneaud (Cuad. Bot. Canar. 22:3; 1974), and adapt to the new name *Mairetis microsperma* (Boiss.) Johnst.
 - *Messerschmidia fruticosa* L. f.
This name has been abandoned in favour of *Heliotropium* (*H. messerschmidoides* O. Ktze.). However in verbal discussion with Dr. Bramwell the author agreed that our complex-species seems wrongly placed in *Heliotropium*, and as *Messerschmidia* is a different matter altogether, a new generic name must be created in order to place our Canarian plant.
 - p. 17 *Boseaceae*
This family was proposed by the author (Monogr. Biol.Canar. 3:31; 1972) but was never validly published because of certain disagreement with colleagues, especially concerning other genera to be placed

within this segregated "family". Being convinced that this genus (*Bosea*) is nearer related to the Anacardiaceae than to (as currently placed) the Amaranthaceae, I wish some specialist would take up this matter for further discussion.

p. 17 *Cakile*

A genus worth revising in Macaronesia: *C.edentula* vs. *C.maritima*.

- *Capsella rubella* Reut.
as cited for C is in need of revision.
- *Crambe galianoi* Bramw.
A new species? — I failed to see any record or a valid publication, so far.
- *Crambe scaberrima* Webb & Christ
I wonder if this species is correctly cited (see D. Bramwell in Cuad. Bot. Canar. 17:22; 1973 = *C.scaberrima* Webb ex Bramwell).
- *Crambe scoparia* Svent.
Mentioned by the authority of D. & Z. Bramwell (Wild Flow. p.130) also for T.
- *Crambe strigosa* L'Hér.
Cited by D. & Z. Bramwell (Wild Flow., p.129) also for G and P.

p. 18 *Erucastrum canariense* Webb & Berth.

Records for some western Canary Islands to be questioned.

- *Iberis odorata* L.
There is a record by Christ (Eng. Bot. Jb. 9:93) for C: Tenteniguada (Despr.).
- *Lobularia intermedia* Webb & Berth.
Add: L (Cuad. Bot. Canar. 16:32; 1972).
- *Malcolmia littorea* (L.) R.Br.
Strange coincidence (?): this species is cited for L

and F, whereas *M.maritima* (L.) R.Br. is given for C and T.

- *Parolinia ornata* Webb
This species is endemic in C (extinct in L + F?); citations for T probably refer to *P.intermedia* Svent. & Bramw.
- *Raphanus raphanistrum* L.
The species is cited for the Canary Islands whereas ssp. *raphanistrum* gives only Azores and Madeiran Islands; a revision seems to be justified. Anyway: add F (Cuad. Bot. Canar. 16:32; 1972).
- *Raphanus sativus* L.
Add: L (Cuad. Bot. Canar. 16:33; 1972).
- p. 19 *Austrocylindropuntia exaltata* (Berg) Backeb.
This species is also common in parts of T and should be included in floristic lists of this island.
- *Hyalocereus* (sic!) *undatus* (Haw.) Britt. & Rose
For this species add: T (northern sector, frequently observed growing from cuttings) and G (abobe Hermigua).
- *Opuntia ficus-barbarica* Berg
The ex-*O.ficus-indica* grows also on F (La Oliva-Villaverde; near to Antigua etc.).
- *Opuntia tomentosa* Salm-Dyck
Add: F (La Mantilla; Villaverde); see Cuad.Bot.Canar. 16:33 (1972).
- *Opuntia vulgaris* Miller
Add: F (zona de La Oliva-Villaverde; common).
- *Cassia bicapsularis* L.
Add: F (Jandía, frequent in parts, i.e. Joroz).
- *Parkinsonia aculeata* L.
Add: T (disturbed roadsides at Santa Cruz).

- p. 20 *Wahlenbergia lobelioides* (L.f.) A.DC.
According to A. Hansen (in litt.) this species should be called *W. nutabunda* A.DC. as cited in Monogr. Biol. Canar. 3:71; 1972.
- *Lonicera*
Two years ago I collected a wild-growing specimen of *Lonicera* in T: Vueltas de Taganana; roadside in forest zone. This specimen was lacking flowers and remained unnamed but the genus should be considered for the islands.
- *Sambucus palmensis* Link
Delete C.
- *Bufoia teneriffae*
If accepting this taxon as a species it should read *B.teneriffae* Christ, or — if treated as a subspecies: *B.paniculata* Dub. ssp. *teneriffae* (Christ) Kunkel (see Cuad.Bot.Canar. 14/15: 54; 1972). Anyway: one of the two species as given for the Canary Islands has to be “discarded” from the “Checklist”.
- p. 21 *Herniaria canariensis* Chaudhri
Revisions made comparing material of “*H.canariensis*” and *H.fontanesii* Gay, and taking still another taxon (*H.hartungii* Parl.) into consideration, at least I would declare *H.canariensis* as “nomen superfluum”.
- *Paronchia argentea* Lam.
A proposal to delete this taxon from our list as it was, obviously, mistaken for the plant now known as *P.capitata* ssp. *canariensis*. For cross-checking see O. Burchar, Bibl. Bot. 98:105 (foot-note).
- *Paronychia chlorothyrsa* Murb., s.lat.
If accepting *P.capitata* (L.) Lam. ssp. *canariensis* (Chaudhri) Sunding as valid (Monogr. Biol. Canar. 3:32; 1972) and existing in C, *P.chlorothyrsa* should be omitted in future lists.

- p. 21 *Paronychia gomerensis* (Burch.) Svent. & Bramwell
 Addition: C (previously misidentified and mentioned as “*Polycarpaea smithii*” Link). The species was found in the Baranco de Guayadeque.
- *Polycarpaea latifolia* Poir.
 Accepted as a species (or on subspecific level as in the “Checklist”), this plant also occurs on G as given by D. & Z. Bramwell (Wild Flow. p.124).
 - *Polycarpaea smithii* Link
 According to F. Kämmer (Cuad. Bot. Canar. 16:48; 1974) also in H. A previously published record for C (Cuad. Bot. Canar. 18:28; 1973), accordingly to H. Metlesics (in litt.) refers to *Paronychia gomerensis*.
- p. 22 *Silene pogonocalyx* (Svent.) Bramw.
 This name appeared in D. & Z. Bramwell (Wild Flow., p.123) for P but seems not validly published yet.
- *Silene vulgaris* (Moench) Garcke
 Citations for Madeira need classification (subspecific rank as given for the other archipelagos).
 - *Arthrocnemum*
 I miss any reference to *A. perenne* (Mill.) Moss, for L, as published by P. Sunding in Cuad. Bot. Canar. 13:16 (1971).
- p. 23 *Atriplex* cf. *hastata*
 This taxon has been published in Cuad. Bot. Canar. 18/19:28 (1973) for L and was obviously an addition to the Canary flora.
- *Bassia tomentosa* (Lowe) Maire & Weill.
 Generally considered as *Chenolea tomentosa* (Lowe) Maire in Jahand. & Maire.
 - *Beta webbiana* Moq.
 Whether agreeing or not on rank or validity of this name: it has been omitted. This species is common

in T (i.e. Puerto de la Cruz, towards the cliffs of Martiánez).

- p. 23 *Chenopodium giganteum* D. Don
This species was published by A. Hansen (Cuad. Bot. Canar. 13:2; 1971) for T; I fail to find any record for C (as given in the "Checklist").
- *Kochia scoparia* (L.) Schrad.
This species was mentioned in Cuad. Bot. Canar. 16:43 (1972) for C, and (Cuad. Bot. Canar. 21:15; 1974) for F.
- *Salsola*
There seems to be a new record for the "Checklist": the recently published *S. tetrandra* Forssk. (see J. Duvigneaud in Cuad. Bot. Canar. 22:4; 1974), found in L.
- *Spinacia spinosa* Moench
This name mentioned by G. Kunkel (Cuad. Bot. Canar. 13:13; 1971) as *S. oleracea* L. var. *spinosa* (Moench) Peterm. should be omitted in future lists. For the plants found the name *Sclerophylax spinescens* Miers. should be applied.
- *Traganum moquini* Webb ex Moq.
According to D. & Z. Bramwell (Wild Flow., p.120) this species grows also in the south of T.
- p. 23 *Cistus symphytifolius* Lam.
According to D. & Z. Bramwell (Wild Flow., p. 164) also in G.
- *Helianthemum canariense* Pers.
Probably also in H, suspicion which needs investigation.
- *Helianthemum salicifolium* (L.) Mill.
Citations for C need revision. It is not at all sure that this species occurs in Macaronesia.

- p. 24 *Neochamaelea pulverulenta* (Vent.) Erdtm.
This species (as *Cneorum pulverulentum*) is cited by D. & Z. Bramwell (Wild Flow., p. 158) for P.
- *Convolvulus canariensis* L.
Add. H, as cited by D. & Z. Bramwell (Wild Flow., p. 181)
- *Convolvulus caput-medusae* Lowe
This species is also mentioned for L (without locality), by D. & Z. Bramwell (Wild Flow., p. 180).
- *Convolvulus fruticosus* Desr.
Delete C (as given in Monogr. Biol. Canar. 3:60; 1972). The record originally given was corrected as *C. perraudieri* Coss.
- *Cuscuta approximata* Bab.
with its ssp. *episonchum* (Webb & Berth.) Feinbr. is most common on L and F, covering innumerable specimens of *Launaea arborescens*.
- p. 25 *Legendrea corymbosa* (L.) Van Oostr.
var. *mollissima* (Webb & Berth.) Van Oostr. was corrected by W. T. Stearn (Cuad. Bot. Canar. 21:5-12; 1974) into *Turbina corymbosa* (L.) Raf. forma *mollissima* (Webb & Berth.) Stearn, and identified as a very casual introduced weed not found again since its discovery over a 120 years ago.
- *Aeonium arboreum* (L.) Webb & Berth.
The record for the Canary Islands refers to a recently introduced, little established species.
- *Aeonium ciliatum* (Willd.) Webb & Berth.
I believe it would be wise to delete L and C from the current list.
- *Aeonium manriqueorum* Bolle
The record given for H needs revision.
- p. 26 *Aeonium spathulatum* (Hornem.) Praeger
The records cited for this species and its var. *spathu-*

- latum* should be more concise. Besides this, the species is recorded by D. & Z. Bramwell (Wild Flow., p. 144) also for G.
- p. 26 *Aeonium urbicum* (Chr. Sm. ex Buch) Webb & Berth., s. str.
It is recommended to delete C.
- *X Aeoniogreenovia lambi* Voggenreiter
An intergeneric hybrid as published by V. Voggenreiter (Diss. Bot. 26:324; 1974), for T.
- *Aichryson pachycaulon* Bolle
If accepted as a “good” species, according to D. & Z. Bramwell (Wild Flow., p. 139) T has to be added.
- *Aichryson parlatorei* Bolle
This arid rock form of *A. punctatum* has additional citations by D. & Z. Bramwell (Wild Flow., p. 139) for G, H and P.
- *Aichryson porphyrogennetos* Bolle
Records as given for T to be questioned.
- *Greenovia diplocycla* Webb ex Bolle
According to D. & Z. Bramwell (Wild Flow., p. 145) also in H.
- p. 27 *Monanthes laxiflora* var. *microbotrys*
This form should be recognized as *M. microbotrys* Bolle & Webb ex Bolle, as pointed out by Kunkel Cuad. Bot. Canar. 22:25; 1974); add: C.
- *Sedum dendroideum* Moq. & Sesse ex DC.
Add: T (frequent in the northern part of the islands, and at roadsides including around Bailadero).
- p. 29 *Euphorbia peploides* Gouan.
According to a recently published record (J. Duvigneaud, Cuad. Bot. Canar. 22:3; 1974) in L.
- *Euphorbia regis-jubae* Webb & Berth.
This species needs a thorough revision and, if not re-

cognized on specific level, be treated as *E. obtusifolia* Poir. ssp. *regis-jubae* (Webb & Berth.) Maire. As a species or subspecies, the taxon should be deleted for the eastern Canary Islands.

Besides this I miss *Euphorbia anachoreta* as described by E. R. Sventenius for the Salvages, but this taxon might be (?) identical with *E. obtusifolia* var. *desfoliata* Mnzs., a form unknown to me and mentioned in the discussed "Checklist".

p. 29 *Mercurialis perennis* L.

I am not too sure that this species occurs in F as stated.

— *Adenocarpus ombriosus* Ceb. & Ort.

Although cited by D. & Z. Bramwell (Wild Flow., p. 152) for H, the taxon still needs proper investigation; it might be only a subspecies of *A. foliolosus*.

p. 30 *Chamaecytisus*

I wonder if the cited *Chamaecytisus proliferus* var. *palmensis* (Christ) and *Ch. palmensis* (Christ) Bramw. could be identical? Anyway, D. & Z. Bramwell (Wild Flow., p. 155) cite only the latter, and as *Ch. palmensis* (Christ) Hutch., surely also not quite correct.

— *Cicer arietinum* L.

Add L as recently published by J. Duvigneaud in Cuad. Bot. Canar. 22:2; 1974.

— *Cytisus hillebrandi* (Christ)

read *Teline hillebrandi* (Christ) Kunkel, Cuad. Bot. Canar. 22:24; 1974.

p. 31 *Lotus* spp.

See the recently proposed, reestablished genus *Heinekenia* as published in Cuad. Bot. Canar. 22:7-10; 1974.

- *Lotus glinoides* Delarb.
A taxon unknown to me, at least as far as Gran Canaria is concerned.
- p. 32 *Ononis*
The records of *O. dentata* Sol. ex Lowe and others, from C, need revision.
- *Retama*
Retama monosperma and *R. raetam*, at least in the Canary Islands, should be treated as one single species.
- p. 33 *Teline linifolia* (L.) Webb & Berth.
This complex needs some sorting out. The true *T. linifolia* was recently (Cuad. Bot. Canar. 22:26; 1974) recorded for C, and the so-called ssp. *rosmarinifolia* sensu Gibbs & Dingwall had better be taken as a good species: *T. rosmarinifolia* Webb & Berth. The species of the western complex I would like to leave for revision by a specialist who knows the plants.
- p. 34 *Vicia aphylla* Chr. Sm. ex Link
should be treated as a synonym of *V. cirrhosa* Chr. Sm. ex Webb & Berth.
- *Vicia chaetocalyx* Webb & Berth.
is considered as endemic to C; citations for G and H need confirmation.
- *Frankenia laevis* var. *capitata*
Its occurrence on G is suspected and almost confirmed by D. & Z. Bramwell (Wild Flow., p. 165).
- p. 35 *Geranium robertianum* L.
I miss this entry. However, if our material is to be referred to as *G. purpureum* Vill., add: L (Cuad. Bot. Canar. 16:35; 1972).
- *Pelargonium*
Some of the species mentioned are surely semi-wild in the western Canary Islands (?!).

- *Globularia*
Add: *G. ascanii* Bramwell & Kunkel as recently published in Cuad. Bot. Canar. 22:15: 1974), for C.
- p. 36 *Hypericum elatum* Ait.
I believe it would be a great mistake to introduce this name for our *H. grandifolium* Choisy.
- *Hypericum reflexum* L.f.
Referring to var. *myrtifolium* Bornm. (if accepted) add: C (Barranco de Siberio).
- *Bystropogon*
There are at least three species of this genus in C but my material sent to Zürich is not named yet. The genus, I believe, is undergoing a systematic revision.
- *Lavandula foliosa* Christ
I always wondered what kind of plant this might be.
- p. 37 *Lavandula minutolii* Bolle
The citation for L and F seems erroneous.
- *Lavandula pinnata* L. f.
It would be convenient to decide which of the two varieties known is growing on Madeira. Anyway, this species is not known in C.
- *Leucophaë*
Add the two new taxa as published in Vieraea 3 (1974) and discussed in Cuad. Bot. Canar. 22:27 (1974).
- *Leucophaë massoniana* var. *pumila*
See Cuad. Bot. Canar. 22:27 (1974): *L. pumila* (Christ) Kunkel.
- p. 38 *Micromeria bourgaeana* Webb ex Bolle
This species is mentioned by D. & Z. Bramwell (Wild Flow., p. 189) for F, which may mean deleting *M. varia* for this particular island (and Lanzarote?).

- *Micromeria glomerata* Pérez
for T as published in Vieraea 3 (1974) is omitted in the present "Checklist". As understood *Micromeria* will be revised soon and changes or more novelties are to be expected.
- *Micromeria teneriffae* Benth.
Its occurrence on C. is questionable.
- *Micromeria* spp.
D. & Z. Bramwell (Wild Flow., p. 189) describe furthermore *M. herphyllimorpha* Webb (T, H, P), and *M. julianoides* Webb & Berth. (T, P).
- *Nepeta teydea* Webb & Berth.
According to D. & Z. Bramwell (Wild Flow., p. 196) also in P.
- *Prunella vulgaris* L.
This species is also found in T (grassy and/or weedy slopes of the northern sector, i. e. Bajamar and surroundings).
- *Salvia broussonetii* Benth.
The record for L seems suspicious.
- *Salvia coccinea* L.
I am not very sure any more about this species; records as cited may refer to *S. pseudococcinea* Jacq. (p. 39), or viceversa.
- p. 39 *Salvia leucantha* Cav.
This species is to be included for T, G and P, as frequently growing on roadsides.
- *Teucrium spinosum* L.
Recommended to be deleted for C.
- *Apollonias ceballosi* Svent.
Questionable taxon; maybe a subspecies or variety of the common *A. barbujana* (Cav.) Bornm.
- *Linum usitatissimum* L.
This species is frequent in C (northern sector; slopes between 250 and 700 m.).

- p. 40 *Acacia cyanophylla* Lindl.
Add: T and P (introduced and self-seeding).
- *Acacia saligna* (Lab.) Wendl.
Add: T (northern slopes, escaping cultivation).
- p. 41 *Myoporum laetum* G. Forst.
Add: L (around gardens) and T (roadsides, northern sector).
- p. 42 *Olea europaea* ssp. *silvestris*
Add: C (i. e. Monte Tafira).
- *Phillyrea latifolia* L.
New entry: Canaries, L; see Cuad. Bot. Canar. 18/19: 29 (1973).
- p. 43 *Argemone*
The two taxa mentioned may refer to one single species (?). It is really hard to distinguish them, at least on specific level.
- *Fumaria*
The many taxa mentioned are in need of a critical revision, at least when the Canary Islands are concerned.
- *Fumaria coccinea* Lowe
Mentioned by D. & Z. Bramwell (Wild Flow., p. 128) for T, L and F, and questioned for C, G and P.
- *Fumaria praetermissa* Pugsl.
Given by D. & Z. Bramwell (Wild Flow., p. 128) also for F and C; records to be investigated.
- p. 44 *Plantago aschersonii* Bolle
A critical taxon and — still — in need of new investigation. In spite of highly learned opinions, to me it remains a rather doubtful taxon, especially as the very much related *P. coronopus* is recorded from the Azores, from Madeira and the NW-African coast.

- p. 44 *Plantago lanceolata* L.
This species was mentioned for C in Cuad. Bot. 2:27 (1967).
Plantago lusitanica L.
This species occurs in C (Cuad. Bot. Canar. 22:27; 1974) and is also to be expected in T. On the other hand, *P. malato-belizii* Lawalrée as published for Madeira, is in need of a critical revision.
- p. 46 *Rumex simpliciflorus* Murb.
var. *rhodophysa* Ball; this variety is generally known as belonging to *R. vesicarius* L. (see Monogr. Biol. Canar. 3:28; 1972).
- *Ranunculus aquatilis* L.
Probably not in C.
- p. 47 *Ranunculus trilobus* Desf. var.
Probably not in C; confirmed of this group, for C, however is *R. trichophyllus* Chaix.
- *Resedella subulata* (Del.) Webb & Berth.
This species, generally, is referred to as *Oligomeris linifolia* (Vahl) Macbr.
- *Eriobotrya japonica* (Thunb.) Lindl.
Add: T (frequently around houses, in the northern part; distribution by seeds which easily germinate).
- *Prunus lusitanica* L.
Its ssp. *hixa* (Willd.) Franco (add!) is considered as *Laurocerasus lusitanica* (L.) Roem. ssp. *hixa* (Willd.) Kunkel, if found convenient (see Cuad. Bot. Canar. 14/15:74; 1972). According to D. & Z. Bramwell (Wild Flow., p. 147) also on H and P.
- *Bencomia sphaerocarpa* Svent.
According to D. & Z. Bramwell (Wild Flow., p. 146), with a (still unpublished) ssp. *sventenii*, also in P.
- p. 48 *Sanguisorba* s. lat.
As a matter of fact and because of the obvious differences shown by the late E. R. Sventenius, Cana-

rian botanists prefer *Marcetella*, *Dendriopoterium*, and *Sanguisorba* s. str.

- p. 48 *Phyllis viscosa* Webb ex Christ
D. & Z. Bramwell (Wild Flow., p. 179) mention this species for P, without localities.
- *Rubia fruticosa* Ait.
It has to be decided which subspecies occurs in Madeira.
- *Rubia melanocarpa* (Bornm.) Svent.
Not at all sure if this taxon deserves specific recognition (see subspecies *melanocarpa* [Bornm.] Bramw. as dealt with by V. Voggenreiter, Cuad. Bot. Canar. 18/19:33-37; 1973. In any case: add C.
- *Rubia peregrina* L.
If this name refers to our *R. angustifolia* L., the authors are correct in their distribution key except: add G as mentioned by D. & Z. Bramwell (Wild Flow., p. 178).
- p. 49 *Salix canariensis* Chr. Sm. ex Link
According to D. & Z. Bramwell (Wild Flow., p.116) also in H.
- *Sideroxylon marmulano* Banks & Sol.
Still unpublished record (A. Santos) but confirmed for C; add also G as mentioned by D. & Z. Bramwell (Wild Flow., p. 171).
- *Campylanthus salsoloides* var. *leucantha*
This variety was originally published (E. R. Svent., Ind. Sem. 1968: 47) for G. It was, later, also found in C.
- p. 50 *Kickxia elatine* (L.) Dum.
as given for C might have been (?) mistaken for *K. commutata*.
- *Scrophularia langeana* Bolle
This citation, for C, is in need of revision.

- p. 50 *Scrophularia scorodonia* L.
This species may not occur in C, and I doubt its existence in any other Canary Islands.
- *Verbascum creticum* (L.) Cav.
This is the first record known to me, for C; I never observed this species in the island.
- p. 51 *Lycium*
The two species mentioned should be united as *L. intricatum* Boiss., except localities for *L. europaeum* are published in the near future.
- *Nicotiana tabacum* L.
If occurring in C it must be very sporadically; however: add L.
- p. 52 *Tamarix gallica* L.
The occurrence of this species in Madeira is questioned.
- p. 53 *Parietaria*
Citations for *P. mauritanica* and *P. punctata* might be better united as *P. judaica* L., and a locality in L is to be added, as recently published by J. Duvigneaud in Cuad. Bot. Canar. 22:4; 1974.
- 53/54 *Fagonia* L.
The four citations in the "Checklist" are in need of a critical revision as *Fagonia albiflora* A. Chev., from Sal (Cape Verde Islands) became *F. sinaica* Boiss. var. *albiflora* (A. Chev.) Hadidi (Mitt. Bot. München 11:392; 1974); all material cited for the Canary Islands seems to belong to this taxon, whereas the existence of *F. cretica* in the islands is questionable.
- p. 54 *Agave* spp.
The distribution of wild growing species of this genus, in the western Canary Islands, is to be investigated.

- p. 54 *Furcraea*
 This genus occurs also in the Canary Islands, and wild growing species are frequently observed in gardens and neighbouring zones. However I expect our plants belong to *F. selloa* C. Koch but this needs further investigation.
- *Sansevieria trifasciata* Prain
 Besides a recommendable correction of the name as given in the "Checklist", add: L, F, T, G and P.
 - *Monstera deliciosa* Liebm.
 Add: T (northern part, around country houses and occasionally going wild).
 - *Zantedeschia aethiopica* (L.) Spreng.
 Add: F, C, G and P. This species easily escapes cultivation and plants in bushland near settlements are not uncommon.
 - *Canna indica* L.
 Add: T. However it is advisable to check all records because a second species might also be involved.
- p. 55 *Tradescantia/Commelina*
 The records as given for the islands are in need of a critical revision.
- *Tradescantia blossfeldiana* Mildbr.
 Occasionally escapes as published (for C) in Cuad. Bot. Canar. 16:45; 1974.
 - *Carex canariensis* Kuek.
 Add G and P as given by D. & Z. Bramwell (Wild Flow., p. 237).
 - *Cyperus alternifolius* L.
 Add T and P; in some moist ravines below settlements.
- p. 56 *Cyperus kalli* (Forssk.) Murb.
 Add: F and C (this species is common in the southern part - Maspalomas - of Gran Canaria). The addition

for C (to the "Checklist") has already been given on a loose sheet.

- p. 56 *Cyperus longus* L.
I miss the entry for the Canary Islands (C).
- *Cyperus teneriffae* Poir.
The record for C remains questionable.
- *Schoenoplectus maritimus* (L.) Lye
The citation for F is little convincing and needs verification.
- p. 57 *Allium trifoliatum* Cyr.
As said in Monogr. Biol. Canar. 2:55 (1971), this species is better recognized as *A. subhirsutum* L., and its ssp. *obtusitepalum* placed accordingly.
- *Aloe arborescens* Miller
Add: T and P, and records for L, F, G and H are to be expected. This cultivated species easily escapes cultivation.
- *Aloe vera* (L.) Burm. f.
or *A. barbadensis* Mill.; add: T and C (Canary Islands). The species is mentioned for C in Monogr. Biol. Canar. 3:23 (1972), and was recently also cited for L (J. Duvigneaud in Cuad. Bot. Canar. 22:1; 1974).
- p. 58 *Androcymbium psammophilum* Svent.
Add L as published by P. Sunding (1971) and J. Duvigneaud (1974) in Cuad. Bot. Canar.; see also D. & Z. Bramwell (Wild Flow., p. 230).
- *Asparagus arborescens* Willd.
According to D. & Z. Bramwell (Wild Flow., p. 231) also in G.
- *Asparagus pastorianus* Webb & Berth.
According to D. & Z. Bramwell (Wild. Flow., p. 231) also in G.

- p. 58 *Asparagus plocamoides* Webb ex Svent.
A suspected record ("Checklist", for P) apparently has been confirmed; see D. & Z. Bramwell (Wild. Flow., p. 231).
- *Asparagus nesiotetes* Svent. emend. Kunkel
Add: Salvages, as originally cited by E. R. Sventenius, Ind. Sem. Hort. Acclim. Pl. Araut. 1968:56.
- *Asparagus setaceus* (Kth.) Jessop
Add: T and P (frequently escaping from patios and gardens).
- *Gennaria diphylla* (Link) Parl.
According to D. & Z. Bramwell (Wild Flow., p. 238) also in G.
- *Neotinea intacta* (Link) Rchb. f.
Add: G, as given by D. & Z. Bramwell (Wild Flow., p. 238).
- p. 59 *Aira caryophyllea* L.
It remains to be decided in which subspecies to place the Canarian material.
- *Aristida adscensionis* L.
The Canarian material is better placed in *A. coerulea* Desf. as published in Monogr. Biol. Canar. 3:18; 1972.
- *Avena canariensis* Baum, Rajk. & Samp.
The species is correctly cited for F. Records as given by D. & Z. Bramwell (Wild Flow., p. 235) for L and T might have to be considered, and the species is to be expected also in C.
- *Avena occidentalis* Dur.
D. & Z. Bramwell (Wild Flow., p. 236) also cite this species from Fuerteventura.
- p. 60 *Brachypodium silvaticum* (Huds.) PB.
Add: C (common on Gran Canaria); see Monogr. Biol. Canar. 3:16; 1972.

- *Coix lacryma-jobi* L.
This species might (a long time ago) have been recorded from L and C but there are no recent collections any more.
- p. 60 *Dactylis smithii* Link
Add L as recently published by J. Duvigneaud in Cuad. Bot. Canar. 22:2; 1974. For P see D. & Z. Bramwell (Wild Flow., p. 236).
- p. 61 *Digitaria sanguinalis* auct., non (L.) Scop.
It might be wise to include the Canarian records in *D. ciliaris* (Retz) Koel.
- *Eremopogon foveolatus* (Del.) Stapf
The existence of this species in C remains questionable. Besides this, authority of the name as applied apparently goes to (Desf.) Stapf.
- *Festuca*
The "Checklist" gives *F. agustini* Lindinger var. *bornmuelleri* (Hack.) A. Hansen for C. T and H, whereas D. & Z. Bramwell (Wild Flow., p.235) cite *F. bornmuelleri* Hack., for T and P.
- p. 62 *Hordeum murinum* L.
ssp. *leporinum* add L (J. Duvigneaud in Cuad. Bot. Canar. 22:3; 1974), and revise authorship.
- *Hordeum vulgare* L.
If to be included, add: L (J. Duvigneaud in Cuad. Bot. Canar. 22:3; 1974).
- *Lagurus ovatus* L.
Record for C is questionable.
- *Lolium canariense* Steud.
According to D. & Z. Bramwell (Wild Flow., p.235) add: F.
- *Lolium subulatum* Vis.
as given for C sounds not too convincing.

- *Panicum repens* L.
Add L as recently published in Cuad. Bot. Canar. 21:14 (1974).
 - *Pennisetum purpureum* Schum.
According to J. Duvigneaud (Cuad. Bot. Canar. 22:4; 1974) also in L.
- p. 63 *Phalaris* spp.
The Canarian records need a critical revision. However, *Phalaris paradoxa* L has to be added to L (J.Duvigneaud in Cuad. Bot. Canar. 22:4; 1974). It might also be convenient to check the Madeiran records of *P.tuberosa* which should be identical with *P.aquatica* L.
- *Phragmites australis* (Cav.) Trin.
Add: C (Maspalomas, Temisa etc.), and L as published in Cuad. Bot. Canar. 21:14 (1974).
 - *Poa trivialis* L.
as given for L is to be questioned.
 - *Schismus arabicus* Nees.
to be added to the "Checklist", for C, as published by Conert & Türpe in Abh. Senckenb. Naturf. Ges. 532:53; 1974.
 - *Setaria adhaerens* (Forssk. Chiov.
If this name is valid (for *S.verticillata*), and besides the additions (for C, T and G) as given on a loose sheet, add: F.
 - *Stenotaphrum secundatum* (Walt.) O.Ktze.
According to J. Duvigneaud (Cuad. Bot. Canar. 22:5; 1974) add: L.
 - *Stipagrostis ciliata* (Desf.) DeWinter
Add F. The species is rairly frequent in Jandía, growing on arid slopes.
- p. 64 *Triplachne nitens* (Guss.) Link
A very old record, and questionable.

- *Zea mays* L.
If included in this “Checklist”, add: L, T, G and P.
- *Potamogeton*
The three species as mentioned for T. need some revision.
- *Smilax aspera* L.
The citations for the Canary Islands should be placed in one or the other subspecies.

R e s e ñ a

GERHARD BENL: *Vererbung*. Kurze Einführung in die Grundlagen der Genetik. Lehrmeister-Bücherei Nr. 590; Albrecht Philler Verlag (Stiftsallee 40; D-495 Minden); 2.^a ed. Minden 1974; 207 pp. — DM 9,00.

Un pequeño *Compendio de la Genética*, pero “pequeño” solo en el tamaño del libro como publicado. Como ya dicho en Cuad. Bot. Canar. 6:26 (acerca de la primera edición), se trata de una “Introducción a la Genética”, es decir a citología y citogenética y sus bases fundamentales, al “mendelismo” o las leyes de la hereditad y su aplicación práctica, y a modificaciones y mutaciones y su importancia en la evolución de los seres vivos. El libro ya cuenta con su segunda edición, revisada y aumentada.

Es una obra práctica, ilustrada y que explica, en términos comprensibles y a base de ejemplos a la mano, lo que importa cuando investigando esta disciplina elemental. Deseamos a esta obra nuevas ediciones (aumentadas) y su posible traducción en otros idiomas.

G. K.

Reseña

VOLKER VOGGENREITER: *Geobotanische. Untersuchungen an der natürlichen Vegetation der Kanareninsel Tenerife (Anhang: Vergleiche mit La Palma und Gran Canaria) als Grundlage für den Naturschutz.* Dissertationes Botanicae Band 26, 718 pp., Verlag J. Cramer, D-3301 Lehre; DM 120,00

Esta tesis doctoral (como hemos anunciado en el último número de "Cuadernos") se dedica a investigaciones geobotánicas en Tenerife, como base para la protección de la naturaleza. Una obra voluminosa, bien documentada, con numerosas ilustraciones, y publicada "sin el menor desgaste de papel". Quizás un poco brusca en cuanto a algunas declaraciones y manifestaciones (factores que desacreditan la obra en varios círculos insulares y que tampoco ayudan a mejorar una situación dada), pero indudablemente un *opus magnus* considerando profundidad y utilidad del estudio. De todos modos (como no encuentro interés propio amenazado): mis felicitaciones al autor; no tengo duda que, en un futuro próximo, el autor nos sorprenderá con nuevos estudios igualmente digestivos. Sin embargo, sí me permiten intermediar: es deseable que cualquier programa científico y de estudio, en el futuro y "en casa de otros", contará con plena conformidad de aquellos "otros". Tenemos que presentar más que solamente demostrar lo negativo. Porque somos, todos, humanos.

Fuera de esta introducción necesaria: la parte técnica del estudio es admirable. Me gusta. Porque me ahorra diccionarios y consultas de muchas otras obras, por parte hasta localmente no disponibles. Con bastante exactitud se presenta la distribución de las especies, sobre todo de crasuláceas cuya ecología es tratada ampliamente. Y hablando de crasuláceas: se presenta hasta un híbrido intergenérico: *X Aeonio-greenovia*, con su descripción y la de su única especie conocida: *X Aeonio-greenovia lumbi* Voggenreiter (*Aeonium spathulatum* X *Greenovia aurea*). Tenemos, además, datos climatológicos, geológicos y muchos otros datos útiles, prácticamente una descripción fisiográfica de la isla. Los textos son redactados en alemán, con traducciones de los de cuadros, de figuras, del resumen y de ciertos extractos que al autor parecen de importancia.

G. K.