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Contributions to the Flora of the Canary Islands (especially Tenerife)

by Alfred Hansen *

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Resumen

Contribución a la flora canaria, sobre todo la de Tenerife: Descripción de 2 nuevas especies, probablemente endémicas en Tenerife, **Arrhenatherum calderae** y **Carex calderae.** Siete otras especies se menciona como adiciones (con claves y discusiones).

Summary:

2 new species, most likely both Canarian endemics, are described from Tenerife: **Arrhenatherum calderae** and **Carex calderae.** New taxa to the flora of the islands are: **Ageratum houstonianum** Mill., **Conyza floribunda** HBK., **Gnaphalium pensylvanicum** Willd., **Mentha x piperita** L., **Pelargonium quercifolium** (L.f.) l'Hérit. ex Aiton, **Rhynchosia caribaea** (Jacq.) DC. and **Solanum gracile** Otto, either introduced, naturalized plants or established garden-escapes. Furthermore some notes on the genus **Veronica** have been given.

COMPOSITAE:

Ageratum houstonianum Mill. — Subspontaneous in Barranco Martianez, Puerto de la Cruz, Tenerife, 1971, probably as a garden-escape. A native of Central America, and obviously new to the Canary Islands.

Conyza. — Besides the 2 well-known species of this genus: *C. bonariensis* (L.) Cronq. (syn.: Erigeron b. L., E. crispus Pourr.) and *C. canadensis* (L.) Cronq. (syn.: Erigeron c. L.) a third originally introduced but now widely esta-

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blished species, *C. floribunda* HBK. (Erigeron f. [HBK.] Sch. Bip.) is present on the Canary Islands, at least on Gran Canaria and Tenerife, where it seems to be a rather common weed occuring mostly along roads, in arable fields and in waste places. *C. naudini* described from S. France with unknown origin by Bonnet (1878) is most likely a synonym of this species; it was published by Kunkel (1968) as a plant new to the Canary Islands found on Gran Canaria. *C. floribunda* is a native of the temperate regions of South America, and as an introduced plant hitherto known the West-mediterranean area (N. Africa, Italy, S. France, Spain and Portugal), Madeira, Canary Islands, S. Africa and possibly elsewhere, but perhaps often confused with *C. bonariensis*.

The main differences between the three *Conyza*-species have been illustrated in table 1.

Tab. 1

Species	Height	Lateral branches	Leaf-surfaces	Heads, diam.	Involucral bracts	Achene	Pappus	Disc
Conyza bonariensis	up to 1.20 m	Several, overtopping main-stem	appressed-pubescent, lowermost with sharply dentate margins	ca. 6 mm	shortly pubescent	1.5 mm	ca. 5 mm	± smooth
Conyza canadensis	up to 1 m	few, not overtopping main-stem	almost glabrous, lowermost with rigidly and shortly ciliate margins	ca. 3 mm	glabrous	1-1.5 mm	ca. 3 mm	with network of upright edges
Conyza floribunda	up to 2 m	few, not overtopping the main-stem	appressed-pubescent, lowermost with sharply dentate margins	ca. 4 mm	shortly pubescent	1 mm	3-4 mm	with network of upright edges

Gnaphalium pensylvanicum Willd.—As shown by Grierson (1971) the type-specimen of *Gnaphalium indicum* L. is identical with a specimen of the South African plant *Heli-*

chrysum expansum Less., which therefore becomes *H. indicum* (L.) Grierson. Under the name *G. indicum* in the world herbarias usually at least 3 different *Gnaphalium*-species are hidden, viz. *G. pensylvanicum* Willd., *G. polycaulon* Pers. and *G. spicatum* Lamk., all natives of America. In 1968 and 1970 Lid published some finds of so-called *G. indicum* L. from the Canary Islands considering the plant as "obviously new to the isles". By courtesy of the Botanical Museum, Oslo University, where all Lid's collections from the Canary Islands are kept, I have had the opportunity of seeing this material, which all now has to be referred to the species *G. pensylvanicum* Willd. (G. spathulatum Lamk., G. peregrinum Fernald, G. purpureum auct. non L.), a native of the warmer parts of North America and of South America as far south as the centre of Argentina. It also occurs commonly as an alien in several warmer countries of the world, see also Drury (1971).

Lid's Canarian localities are the following: Hierro, Punta Grande in El Golfo 1957; La Palma, Cumbre Nueva 1954, Caldereta and Polvorin, Barranco Puta 1954 and 1957, Punta de los Guinchos 1954; Tenerife: NE. of Guimar 1954, Vina Grande near Garachico 1969 and Puerto de la Cruz 1969. In the Copenhagen-Herbarium there is a sheet of *G. pensylvanicum* collected in P. de la Cruz, Tenerife 1963, leg. J. Lange. The plant may have a wider distribution on the islands than known at present, thus Kunkel (1971) mentions "G. indicum" as very common in parts of Gran Canaria. *G. pensylvanicum* is an annual and may be confused also with the common *G. luteo-album* L., an annual as well; it is also known from Madeira, at least since 1830 (Hansen 1972).

CYPERACEAE:

Carex calderae A. Hansen **sp. nov.** (sectio Paniculatae).

Rhizoma caespites densos amplos formans. Culmi 30-100 cm. alti, stricti, fructiferi tamen arcuato-extensi vel decumbentes, triquetri, angulis supra modo scabris, ad bases vaginis magnis aphyllis atrobrunneis cincti. Folia culmo breviora, 3-4 mm lata, plana, pallide viridia, rigida. Panicula elongata, 4-10 cm longa in ambitu oblongo-lanceolata, ± laxa, bracteata. Spiculae numerosae, superiores simplices, inferiores compositae, androgynae, infra feminae, supra masculae, 5-8 mm longae; bracteae triangulae nervis mediis excurrentibus, pallidae, marginatae, 4-7 mm longae. Squamae ovatae, fuscide stramineae, membranaceae, 3-4 mm longae, 1-1.5 mm latae. Utriculi 3-3½ mm longi, 1-1.25 mm lati, ovati, glabri, nitidi laete castanei, dorso convexi ventre plani, utrinque ner-

vosi, basi spongiosa rotundata breviter stipitati, supra in rostrum 1-1.5 mm longum marginatum, ciliato-serratum antice fissum attenuatum. Stigmata 2, 2-3 mm longae. Antherae flavae, 2.5-3 mm. Nux compresso, rhombico-ovata, sepiacea, glabra, stipitata, 1.5 mm longa, 1 mm lata.

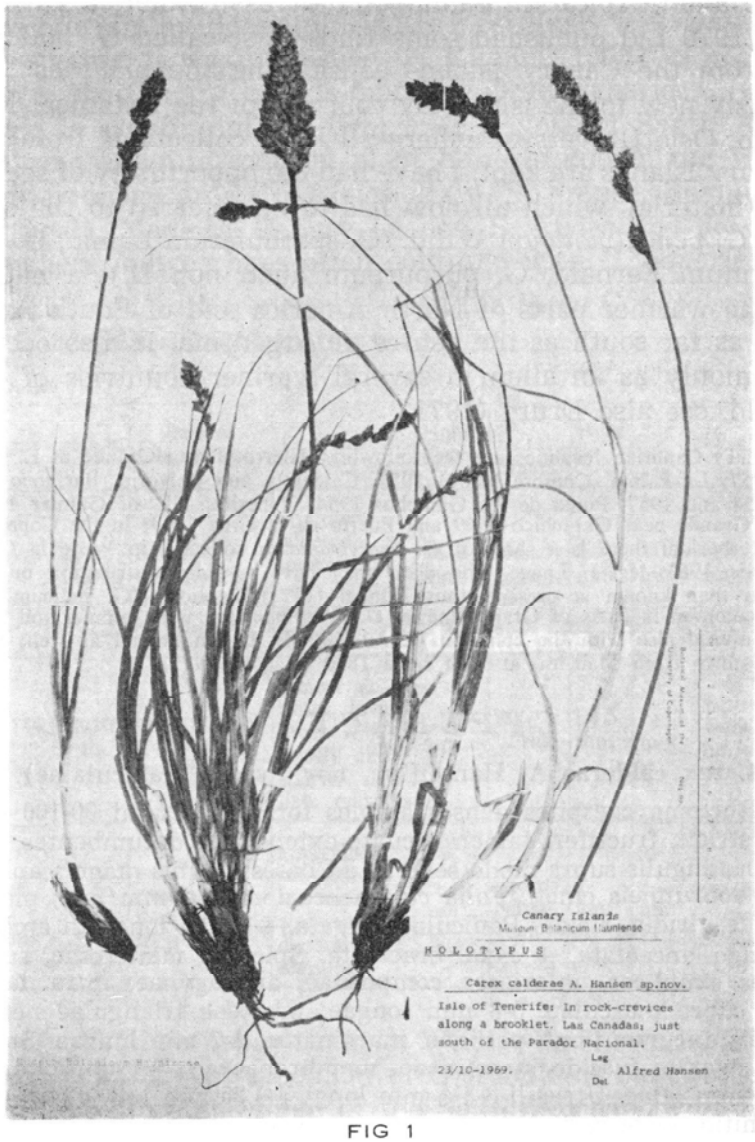

FIG 1

Typus: Canary Islands, Isle of Tenerife: Las Cañadas. Material collected on October 23., 1969. Holotypus deposited in the herbarium of the Botanical Museum, Copenhagen (Herb. C.). The epithet "calderae" has been chosen from "Caldera", a Spanish word for a kettle-shaped volcanic crater.

Habitat: Abundant in rock-crevices along a brooklet running from Montaña de Guajara to the eastern end of the Llano de Ucanca-plain (where it disappears from the surface), just south of the "Parador Nacional".

Distribution: Probably endemic to the Isle of Tenerife.

Affinities: Close to *C. paniculata* L. (with 2 ssp.: ssp. *paniculata* and ssp. *lusitanica* [Schkuhr] Maire), but deviating in some essential characters. Thus it does not form the very voluminous, dense and high tussocks of *C.paniculata;* its stems are rough only below the inflorescence, leaves shorter, and the whole plant of a light-green appearance against the dark-green *C. paniculata* with its brown inflorescences. Its utricles are longer and narrower (3-3½ x 1-1.25 mm against 2.5-3 x 1.5-2 mm in *C. paniculata*). Furthermore its inflorescences are more compact, the spikelets more numerous and bear more flowers.

This new taxon may be identical with the record of so-called *C. paniculata* L. from Chasña, Tenerife, by Webb & Berthelot (1846-47), who say about its occurrence and habitat: "Hanc speciem defloratum post pagum Chasnum, ad fontem Traste de Doña Beatriz sub monte Sombrevillo, in regione Teydensi Teneriffae, extra circum montium cyclicorum, legimus mense Decembe anno 1829; eadem intra circum ipsum laete florentem, sub pylis Guaxarae, ad fontem Montis pumicei El Monton de Trigo dicti, die 20 Maii 1846 legit Bourgeaeus. Obs! Forma canariensis robusta, in tabula Schkuhriana bene depicta est, sed spica in planta nostra densior et squamae insigniter scariosae". Durand & Schinz (1894) mention Bourgeau (no. 1175, 1176, 1024) and Perraudiere, and Kükenthal (1909) Serillo and Hillebrand as collectors of so-called *C. paniculata* in the Canary Islands, while Lid (1968) assumes that records of this plant most likely have to be referred to *C. canariensis;* Bornmüller (1903) says the same about the collections by Bourgeau and Perraudiere. A recent record of this species has been published by Kunkel (1970) from Gran Canaria, but unfortunately — in spite of several attempts in trying to procure it — I have not been able to see or study any material at all of so-called *C. paniculata* from the Canary Islands.

From the Cape Verde Islands so-called *Carex paniculata* L. has been recorded by Chevalier 1935 (Sao Antao: Cova a Bordeiros 1934, no. 45586; Covao 1934, no. 45462). I have had this material on loan from Paris, but as it is in an old, withered stage carrying no utricles and seeds it is very difficult to identify. In my opinion it is not at all identical with *C. paniculata,* but most likely represents either a West-african species or an undescribed species endemic to these islands.

In the Canary Islands the genus *Carex* occurs only in the 5 western islands: Gran Canaria, Tenerife, Gomera, La Palma and Hierro, and the following taxa have been recorded by different authors and compiled by Lems (1960):

C. canariensis Kük.
C. divisa Huds.
C. divulsa Good.
C. muricata L.
C. paniculata L.
C. perraudieriana J. Gay ex Bornmüller.
C. polyphylla Kar. & Kir.
C. teretiuscula Good.
C. vulpina.

However the following taxa or species seem to be dubious plants for the islands:

C. diandra (C. teretiuscula)
C. muricata (most likely = C. pairae F. Schultz).
C. paniculata (most likely = C. calderae).
C. polyphylla (most likely = C. divulsa Stokes ssp. divulsa).
C. vulpina (most likely = C. otrubae Podp.).

and thus — with the addition of *C. distachya* Link published by Kunkel (1970) and the above described *C. calderae* the genus Carex now present in the islands comprises the species:

C. calderae A. Hansen (endem.).
C. canariensis Kük. (endem.).
C. distachya Link.
C. divulsa Stokes ssp. divulsa.
C. otrubae Podp.
C. pairae F. Schultz.
C. perraudieriana J. Gay ex Bornmüller (endem.).

GERANIACEAE:

Pelargonium quercifolium (L. f.) l'Hérit. ex Aiton. — Tenerife: Subspontaneous along roadside in the Taoro Park-area above Puerto de la Cruz. A native of S. Africa and new to the Canary Islands. From the islands some other Pelargoniums have been recorded as established garden-escapes, viz. *P. x hybridum* (L.) l'Hérit. ex Aiton (P. inquinans x zonale), *P. inquinans* (L.) l'Hérit. ex Aiton and *P. peltatum* (L.) l'Hérit. ex Aiton (Lems 1960, Kunkel 1970, 1971). For determination of Pelargoniums see Moore (1955) with a good key.

GRAMINEAE:

Arrhenatherum calderae A. Hansen **sp. nov.**

Gramen perenne, dense caespitosum. Culmi erecti robusti, usque ad 1 m longi, cum 3-4 nodis. Foliorum laminae usque ad 20 cm longae, 3-4 mm latae, lineari-acuminatae, planae, glaucae, supra gla-

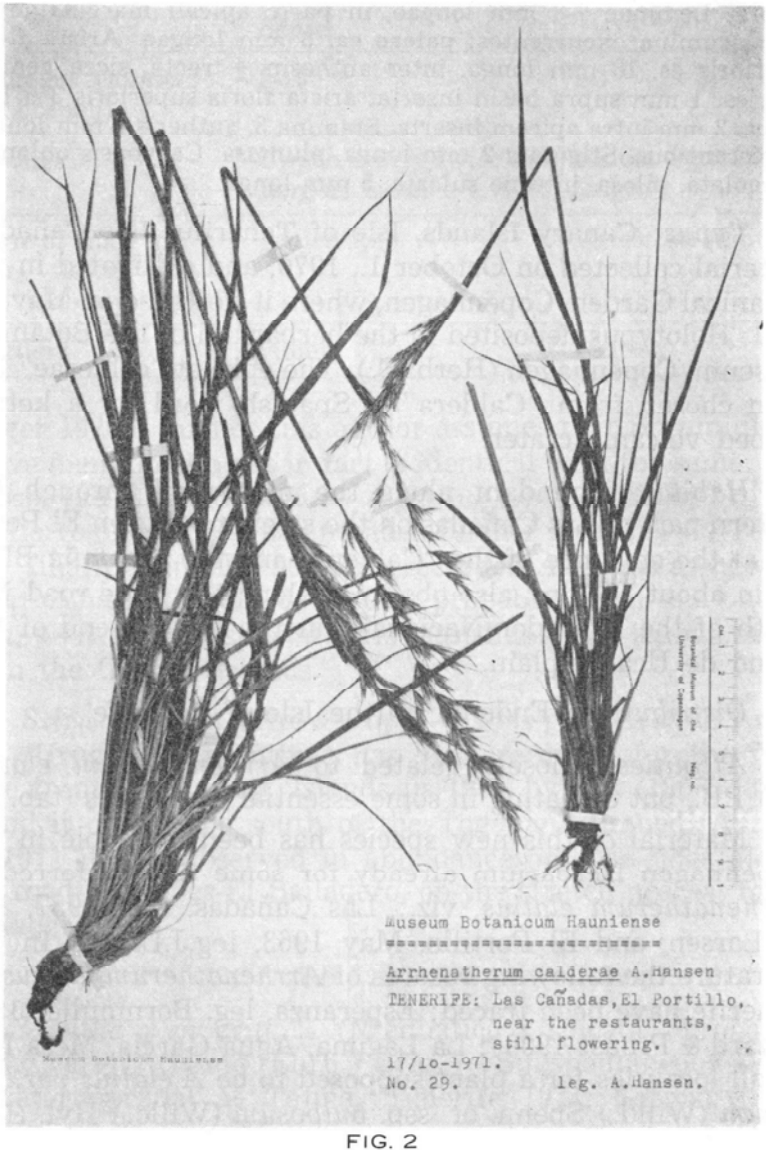

FIG. 2

brae, subtus et margine scaberulae; ligula 3-4 mm longa, obtusa, denticulata vel truncata. Panicula erecta, ovato-lanceolata, laxa, 8-9 cm longa, post anthesin angusta, congesta. Spiculae lanceolatae, 8-10 mm longae, 2-florae; flos inferior masculus, superior hermaphoditus. Glumae inaequales, inferior 6½ mm longa (excl. arista), 1-nervis, superior 8½ mm longa, 3-nervis, utraque basi membranacea, glabra. Lemmae 7-8 mm longae, in parte apicali marginatae, in bina acumina excurrentes; paleae ca. 5 mm longae. Arista floris inferioris ca. 18 mm longa, inter anthesin ± recta, sicca geniculata, ca. 1 mm supra basin inserta; arista floris superioris 3½ longa, ca. 2 mm infra apicem inserta. Stamina 3, antheris 4 mm longis, flavescentibus. Stigmata 2 mm longa, plumosa. Caryopsis oblongo-lanceolata, pilosa, interne sulcata, 5 mm longa.

Typus: Canary Islands, Isle of Tenerife: Las Cañadas, Material collected on October 1., 1970, and cultivated in the Botanical Garden, Copenhagen, where it flowered on May 21; 1971. Holotypus deposited in the herbarium of the Botanical Museum, Copenhagen (Herb. C.). The epithet "calderae" has been chosen from "Caldera", a Spanish word for a kettle-shaped volcanic crater.

Habitat: Abundant along the main-road through the eastern part of Las Cañadas on the stretch between El Portillo, at the entrance of the "Caldera" and the Montaña Blanca, in about 2000 m; also observed along the same road just south of the "Parador Nacional", at the eastern end of the Llano de Ucanca-plain.

Distribution: Endemic to the Isle of Tenerife.

Affinities: Closely related to *Arrhenatherum elatius* (L.) PB., but deviating in some essential characters (tab. 2).

Material of this new species has been available in the Copenhagen Herbarium already for some time, referred to *Arrhenatherum elatius*, viz.: Las Cañadas, 11/5-1957, leg. K. Larsen, and El Portillo, May 1963, leg.J.Lange. In the literature the following records of *Arrhenatherum elatius* on Tenerife have been traced: Esperanza, leg. Bornmüller 1903 (Pitard & Proust 1909); La Laguna, Agua García, Mesa Mola, all localities for a plant supposed to be *A.elatius var.bulbosum* (Willd.) Spenn. or ssp. *bulbosum* (Willd.) Hyl. (Lin-

Tab. 2

Characters	A. elatius (ssp. elatius)	A. calderae
Growth form	loosely tufted	densely tufted
Panicle	10-30 cm, loose-rather dense	8-17 cm, loose
Spikelets (number pr. branch)	2-10	1-3
Glumes	Upper nearly twice as long as lower	almost equal in length
Awn of male (lower) flower (in full bloom)	geniculate	almost straight
Anthers	violet	whitish

dinger 1926); further this author assumes that Bornmüller's above mentioned plant in fact is identical with the same var. or ssp. Lid (1968) mentions *A.elatius* ssp. *bulbosum* as new to Hierro and La Palma and adds further localities on Tenerife; finally Kunkel (1969) has recorded *A.elatius* as new to Gran Canaria (Madre de Agua), probably again ssp. *bulbosum*. — *A.elatius* ssp. *elatius* is most likely not known at all from the Canary Islands.

Stipa neesiana Trin. & Rupr. — This grass from S.America (Uruguay, Argentina) has been recorded for the first time from the Canary Islands in 1964 by Lid (1968), who found it on a slope south of the Taganana tunned, Anaga. In 1971 it was observed in abundance on road-sides along the road Mercedes-El Bailadero, on the stretch nearest to El Bailadero.

LABIATAE:

Mentha x piperita L. (M.aquatica x spicata), probably in the variety *citrata* (Ehrh.) Briq. — Subspontaneous along a watering-canal at Tejina, Tenerife 1971. Seems to be new to the Canary Islands.

LEGUMINOSAE:

Rhynchosia caribaea (Jacq.) DC. — Tenerife: A climber in other vegetation (shrubs) in Carretera Botanico near the "Bar Botanico", Puerto de la Cruz, 1971. A perennial with slender, pubescent stems, leaves ternate and leaflets broadly rhomboid or deltoid, the lateral ones oblique, sparsely pubescent or subglabrous above, pubescent on nerves and veins and dotted over with raised, golden glands below.

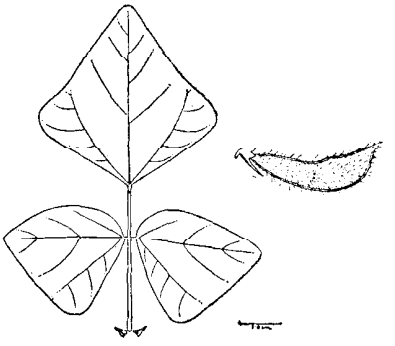

Fig. 3. Rhynchosia caribaea (after Meikle 1951)

Stipules small deltoid-subulate. Inflorescence lax, branched or not, calyx-teeth unequal, basal teeth subulate, others broadly deltoid. Petals 1-2 cm, yellow striped with purple. Ovary densely white-pilose, ripe pod up to 4 cm, with long, silky hairs, see fig. Though named "caribaea" this plant has nothing to do with the Caribbean area, see Meikle (1951), but is a native of S. and SW. Africa. 2 *Rhynchosia*-species, viz. *R.memnoria* DC. and *R.minima* DC. have been recorded as natives of the southernmost Macaronesian groups of islands, the Cape Verde Islands (Chevalier 1935).

SCROPHULARIACEAE:

Veronica. — The taxonomical status of a Canarian *Veronica*-species of the section *Beccabunga* has been evaluated in different ways by different authors: As *V.anagallis* L. var. *anagalliformis* Bor. (Pitard & Proust 1908, Knoche

1923), as *V.anagallis* L. + var. *anagalloides* Guss. (Lindinger 1926), as *V.anagallis* L. (Lems 1969) and finally as *V. anagalloides* Guss. (Lid 1968). It has been recorded from Gran Canaria, Tenerife, Gomera and La Palma. On the basis of some material from Gran Canaria (Barranco de Azuaje, Barranco de Angostura, both leg. Gelert 1897) and from Tenerife (Barranco del Infierno, Adeje and El Bailadero, 1969 and 1971, leg. A. Hansen) it seems to me most appropriate to refer this plant to the taxon *V.anagallis-aquatica* L., a very variable, perennial species with almost cosmopolitan distribution (yet native and introduced occurences are not always easy to separate). In my opinion the annual *V.anagalloides* Guss. can be left out of consideration.

The existence of a further 2 *Veronica*-species on the Canary Islands seem somewhat dubious, viz. *V.acinifolia* L. and *V.agrestis* L. *V.acinifolia* has been recorded from Hierro by Pitard & Proust (1908) as then recently found, and it bas been added, that the discovery of this plant (a native of S., C. and W. Europe) is not at all surprising at is has been known to exist on Madeira for many years! This record from Madeira most likely dates back to Hooker & Hooker (1849), but since then it has never been mentioned again from this island by other authors. Most likely a mistake has been made. — As to the records of *V.agrestis* L. from the Canary Islands they are most likely all referable to *V.polita* Fr., as these two species — though easily separable — have been mixed together by many authors, especially in the mediterranean area.

SOLANACEAE:

Solanum gracile Otto (S. ottonis Hyl.) — Tenerife: Waste place in Puerto de la Cruz (NW-part of the city) 1971. A plant much like *S.nigrum*, but the cymes are umbellate and peduncles strongly deflexed in fruit, berries dull purple. A native of S. America, naturalized elsewhere, f.inst. i SW. Europe. New to the Canary Islands.

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