

HELIANTHEMUM THOLIFORME, A NEW SPECIES OF CISTACEAE FROM GRAN CANARIA.

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RESUMEN

Se describe por primera vez *Helianthemum tholiforme* sp.nov. una especie nueva de Cistaceae de la isla de Gran Canaria. Esta rara especie se halla en el Barranco de Guayadeque (900-1300 m.s.m.) en la zona sureste de la isla. Se comenta sobre la ecología y distribución de *H. tholiforme* y se presenta un mapa de distribución y un dibujo de la planta.

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INTRODUCTION

Helianthemum tholiforme sp. nov. (Sectio *Helianthemum*).

Species haec ab *H. teneriffae* Cosson stipulis petiolis minoribus, gemmis parvioribus, pedicellis brevioribus differt; a *H. bystropogophyllo* Svent. habitibus confertioribus, foliis margine integris, seminibus grandioribus, inflorescentiis parvis densis, recedit.

Small dome-shaped shrub up to 35 cm. Stems densely hairy with white patent to deflexed hairs. Leaves 2.0-3.5 cm long x 1.0-1.8 cm broad, broadly lanceolate to ovate; upper surface pubescent, the lower densely villous; apex obtuse; petiole 0.8-1.0 cm. long. Stipules very small, 2-3 mm. long, narrowly triangular or lanceolate.

Inflorescence dense, up to 20-flowered; pedicels short, usually equalling or shorter than the inner sepals. Buds conical, 0.8 cm long; outer sepals linear, villous; inner sepals ovate, the ribs green

or brownish, densely fasciculate-hairy, the surface between the ribs whitish or pale yellow, subglabrous. Flowers about 1 cm across. Petals yellow usually with a darker orange-brown spot at the base. Capsule oblong, 4-5 mm, finely pubescent. Seeds black, 2 mm long, slightly flattened, rugose. Figure 1.

Flowering period: March to May; Fruiting period: May to July.

Holotype: Gran Canaria, Barranco de Guayadeque, rocky slopes below cliffs 1000 m. April 19th 1976, D. Bellamy *et al.*, Herbarium of Royal Botanic Gardens Kew (K). *Isotypes*: Herbarium of Jardín Botánico Viera y Clavijo (TAF) and British Museum (BM).



Fig. 1 *Helianthemum tholiforme* sp. nov.

Other collections: Gran Canaria, Barranco de Guayadeque, North-facing cliffs and rocky slopes between 900 and 1300 m. February 11th 1976, D. Bramwell, J. Ortega, B. Navarro (TAF, BM).

TAXONOMY

Helianthemum tholiforme is a very rare, yellow-flowered, dwarf shrub known at present only from a single locality on the island of Gran Canaria in the Canarian Archipelago. The new species belongs to the section *Helianthemum* (*Euhelianthemum* Dunal emend. Willk.) and is closely related to two other endemic Canarian species. Of these *H. teneriffae* Cosson is found only at Ladera de Guimar in the South of the island of Tenerife and *H. bystropogophyllum* Svent. in montane pine forests on the West side of Gran Canaria.

H. tholiforme is easily distinguishable from *H. bystropogophyllum* which is a much taller plant with a much more lax habit, smaller seeds and has narrower leaves with erose-crenate margins with fasciculate hairs on the projections, the stipules are also much larger. From *H. teneriffae* it differs principally in the smaller, minute stipules, which in the Tenerife species are as long as the petiole, the leaf shape and large seeds.

Three other perennial *Helianthemum* species, *H. broussonetii* Dunal (Sect. *Polystachyum* Willk.), the polymorphic *H. canariense* (Jacq.) Pers. and the very rare *H. thymiphyllum* Svent. (both Sect. *Eriocarpum* Dunal), also occur as native or endemic species in the Canary Islands but are not closely related to and are very easily distinguishable from the *H. tholiforme* group.

KEY TO THE PERENNIAL HELIANTHEMUM SPECIES IN THE CANARY ISLANDS.

1. Dwarf shrubs 25-70 cm, most leaves at least 1.8 cm long, flowers about 1.0 cm across.
2. Leaves shortly and very densely silvery pubescent, petals without dark spot at base*H. broussonetii*
2. Leaves villous or tomentose, petals with dark spot at base.
3. Stipules more or less equal to the petiole *H. teneriffae*
3. Stipules less than half the length of petiole.
4. Leaf-margins erose-crenate with fasciculate hairs on the projections*H. bystropogophyllum*
4. Leaf-margins entire, without fasciculate hairs. *H. tholiforme*

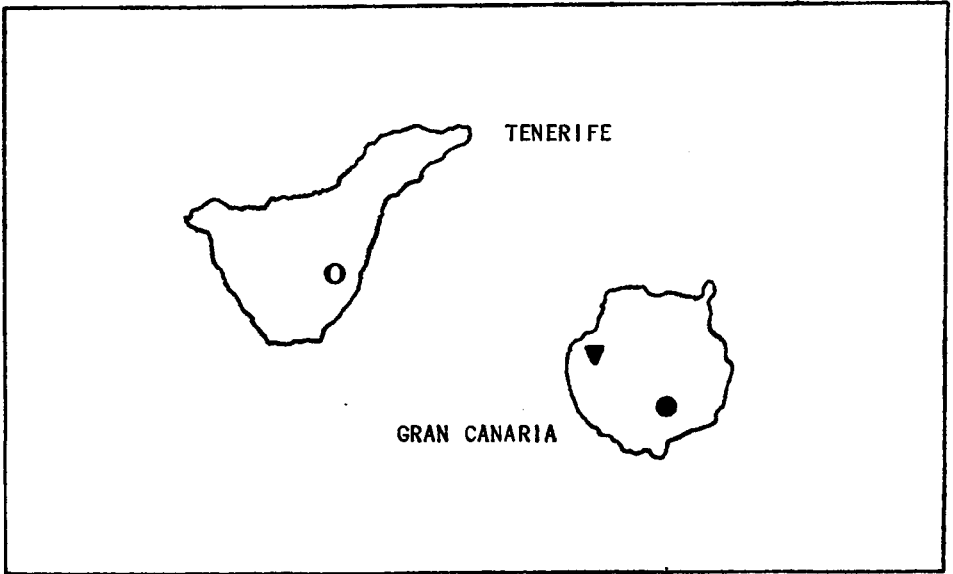


Fig. 2 Distribution of ○ *H. teneriffae*, △ *H. bystropogophyllum* and ● *H. tholiforme*.

- 1. Very small shrublets normally less than 20 cm. leaves usually less than 1 cm long, flowers less than 0.8 cm. across.
- 5. Leaves very densely silvery-pubescent, ovate... *H. canariense*
- 5. Leaves glabrous or very sparsely pubescent, oblanceolate to oblong or obovate *H. thymiphyllum*

ECOLOGY

H. tholiforme has, so far, been found only at a single station in the Barranco de Guayadeque on the island of Gran Canaria (Fig. 2). The locality is well known to botanists as several other local endemic species, *Marcetella moquiniana* (Rosaceae), *Kickxia pendula* (Scrophulariaceae) and *Kunkeliella canariensis* (Santalaceae) etc., are to be found in the lower accessible parts. The upper regions and high cliffs are much more difficult to explore and it is not surprising that there are new taxa still to be discovered in the area.

The Guayadeque area is of volcanic origin and consists of Post-Miocene olvine-bearing basalts with columnar jointings (Hausen, 1962). The area has a moderate Winter rainfall and extremely hot, dry Summers when many species, including *H. tholiforme*, shed all their leaves.

	1	2	3	4
<i>Helianthemum tholiforme</i>	+	+	+	+
<i>Chamaecytisus proliferus</i>	+	—	+	—
<i>Teline microphylla</i>	—	+	+	—
<i>Adenocarpus foliolosus</i>	+	+	—	+
<i>Echium callithyrsum</i>	+	—	—	+
<i>Argyranthemum adauctum</i>	+	+	+	+
<i>Senecio webbii</i>	+	+	—	—
<i>S. vulgaris</i>	+	+	+	—
<i>Carlina salicifolia</i>	+	—	—	+
<i>Silene cf. nocteolens</i>	+	—	—	+
<i>Silene vulgaris</i>	+	+	—	+
<i>Buffonia teneriffae</i>	+	—	—	—
<i>Avena alba</i>	+	+	+	+
<i>Briza maxima</i>	+	—	+	—
<i>Aeonium undulatum</i>	+	+	+	+
<i>A. simsii</i>	+	+	—	+
<i>A. manriqueorum</i>	+	—	—	—
<i>Greenovia aurea</i>	+	+	+	+
<i>Moanthes brachycaulon</i>	+	—	—	—
<i>Todaroa montana</i>	+	—	—	+
<i>Ferula linkii</i>	—	+	—	—
<i>Bupleurum salicifolium</i>	+	—	—	—
<i>Salvia canariensis</i>	—	+	—	—
<i>Sideritis dasygnaphala</i>	—	—	—	+
<i>Micromeria benthamii</i>	+	+	+	+
<i>Tolpis lagopoda</i>	+	—	—	+
<i>Sonchus platylepis</i>	—	—	+	+
<i>S. leptcephalus</i>	+	—	—	+
<i>Lobularia intermedia</i>	+	+	—	+
<i>Descurainia preauxiana</i>	+	—	—	+

Principal associated species in *H. tholiforme* communities in Barranco de Guayadeque, Gran Canaria.

1 & 4 cliffs, 2& 3 N — NE slopes.

This species is found between 900 and 1300 m above sea-level on steep, North facing slopes and cliffs in a transition zone between the *Euphorbia*-dominated communities of the lower zone and the higher altitude, montane pine forests. It is highly probable that the small *H. tholiforme* colony discovered originates from the pine forest regions of the ridges above Guayadeque.

The plant community in which *H. tholiforme* occurs is dominated by *Adenocarpus foliolosus*, *Argyranthemum adauctum*, *Echium callithyrsum*, *Senecio webbii*, *Greenovia aurea* etc. A list of associated species is given in table 1. The community belongs to the phytosociological alliance *Cytision canariensis* Sunding (Sunding, 1972).

SUMMARY

A new species of Cistaceae, *Helianthemum tholiforme*, from the island of Gran Canaria is described for the first time. This rare species is found in the South - East part of Gran Canaria in the Barranco de Guayadeque between 900 and 1300 m.

H. tholiforme differs from other, related, Canarian species such as *H. bystropogophyllum* and *H. teneriffae* by its minute stipules, condensed inflorescences and large seeds.

An account of its relationships, ecology and distribution is given and the species is illustrated.

REFERENCES

- BRAMWELL, D. & Z. I., 1974: *Wild Flowers of the Canary Islands*. Stanley Thornes (Publishers) L.D. Burford, 261 & X pp.
- COSSON, E., 1856: Notes sur quelques plantes des Iles Canaries. *Bull. Soc. Bot. Fr.* 3: 56-59.
- HAUSEN, H., 1962: New contributions to the geology of Gran Canaria. *Soc. Sci. Fenn. Comm. Phys. - Math.* 27: 1 - 278.
- GROSSER, W., 1903: Cistaceae in Engler H.G.A., *Das Pflanzenreich, Regni Vegetabilis Conspectus*, 14 (IV 193) 1 - 161.
- SUNDING, P., 1972: The Vegetation of Gran Canaria. *Skr. Norske. Vidensk. Akad. Mat. - Naturv.*, N.S. 29, 186 & LIII pp.
- SVENTENIUS, E. R. S., 1960: *Additamentum ad Floram Canariensem* 1. Matriti, 95 pp.