

Solanum lidii, a new species of the section Nycterium from the Canary Islands

By

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Solanum lidii Sunding, nov.spec.

Planta fruticosa, ad 0.7 m alta; rami erecti, robusti, ad 2.5 cm diametro; cortex cineraceus; rami veterrimi glabri, rami juveniles stellati-tomentosi, spinosi. Folia alternata, petiolata; petiolus 15-20 (-25) mm longus, dense stellato-tomentosus; lamina oblonga vel oblongo-lanceolata, ca. 50 mm (35—60 mm) longa, ca. 18 mm (16—28 mm) lata, utrinque dense stellato-tomentosa; folia ad marginem integra, \pm undulata; nervi pinnati, subtus prominentes. Inflorescentia lateralia, 6—8-floris; pedunculus 10—15 mm longus, pedicelli 12—15 mm longi. Calyx ca. 20 mm diametro, fructifer non amplificatus, vix zygomorphicus, dense stellato-tomentosus; dimidio quinque-divisus, lobi lanceolato-lineares. Corolla stellata, 20—25 mm diametro, zygomorpha, $\frac{2}{3}$ — $\frac{3}{4}$ quinque-divisa, violacea, glabra praeter nervos cum paucis pilis stellatis; externa viridis, dense stellato-tomentosa. Stamina 5, inaequales; filamenta aequales, ca. 1.5 mm longa; antherae inaequales, quattuor aequales, ca. 5 mm longae, rectae, quinta anthera ca. 12 mm longa, versus centrum floris arcuata. Antherae omnis luteae, elongatae, apice attenuatae et biporosae. Ovarium subglobosum, glabrum. Stylus 17—18 mm longus, arcuatus. Bacc a globosa, 8—10 mm diametro, glabra, nitida, color immatura flavovirens, matura aurantiaca.

Canary Islands: *Gran Canaria*: Lomo de la Cruz, about 1.5 km east of Temisas, 650 m. 31 March 1966, P. Sunding. Holotypus in the herbarium of the Botanical Museum, Oslo.

The species is named in honour of Johannes Lid, First Curator Emeritus at the Botanical Museum, University of Oslo, who during the last decade has been eagerly working with the Canarian flora and has made a lot of interesting discoveries.

Other collections of the species in the herbarium of the Botanical Museum, Oslo:

Gran Canaria: Bco. Temisa, 650 m. 1 March 1965, Johannes Lid.

Gran Canaria: Ca. 1.5 km east of Temisas, 650 m. 1 March 1965, A.-M. & P. Sunding.

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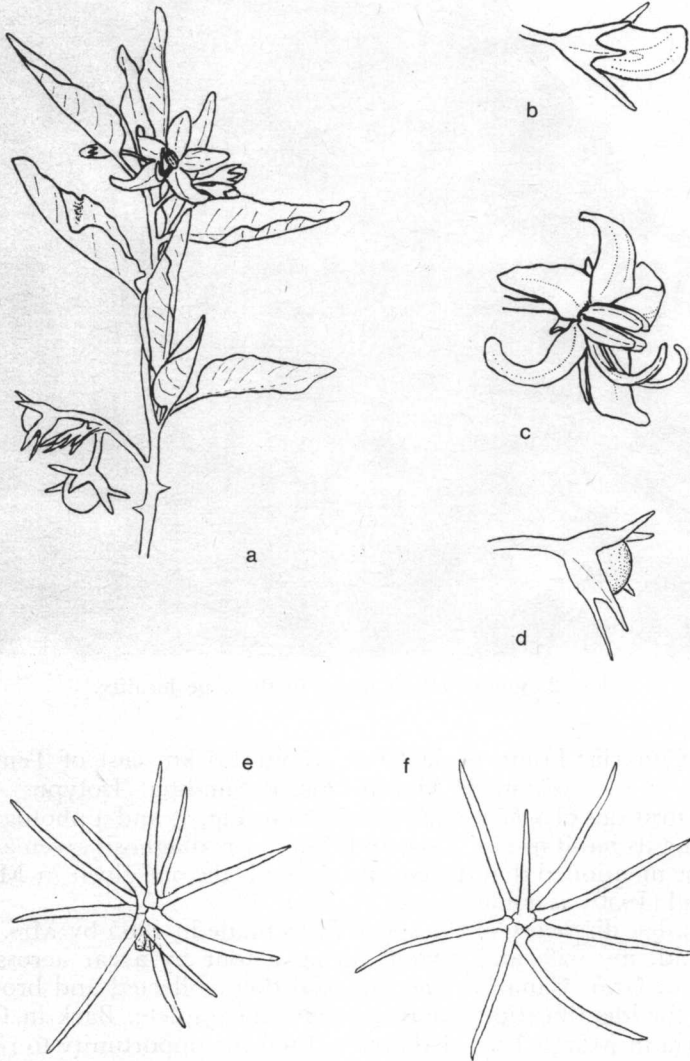


Fig. 1. *Solanum lidii* nov. spec. a. flowering and fruiting branch (0.5 ×); b. flower bud (1.5 ×); c. flower (1.5 ×); d. fruit (1 ×); e. and f. stellate hairs from lower surface of a leaf (125 ×).

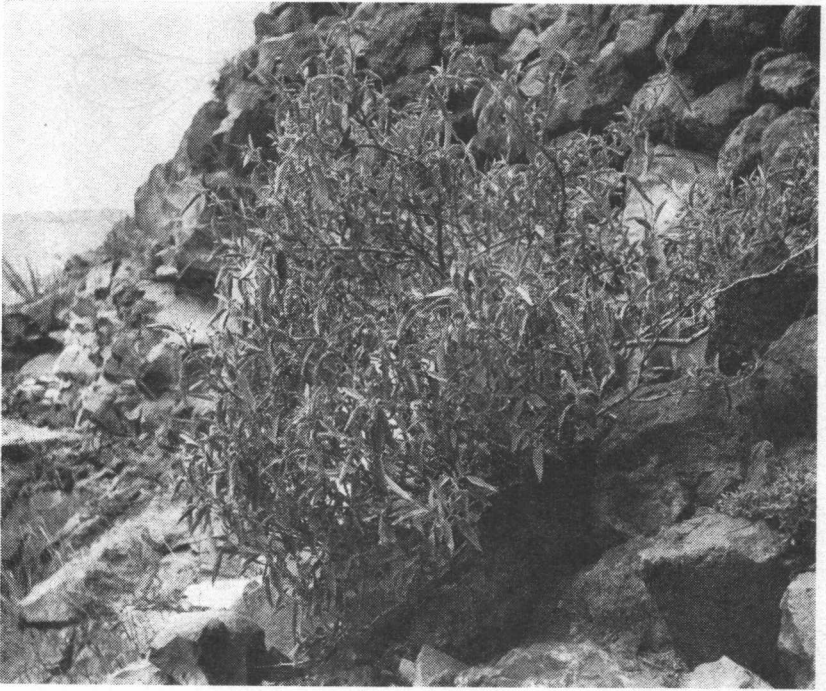


Fig. 2. *Solanum lidii* shrub in the type locality.

Gran Canaria: Lomo de la Cruz, about 1.5 km east of Temisas, 650 m. 31 March 1966, P. Sunding. (Isotypus).

Illustrations of *Solanum lidii* are given in Fig. 1, and a photograph showing its habit in Fig. 2. In addition to the diagnosis given above may be mentioned that the corolla colour is the one given in Maerz & Paul (1950) as colour no. G 11, Plate 43.

The first discovery of the species was made in 1965 by Mrs. and Mr. Lid, my wife and myself during a tour by a car across the island of Gran Canaria. The material then collected and brought home for identification was sparse and incomplete. Back in Gran Canaria in March 1966, I therefore used the opportunity to revisit the locality, this time together with my friend Günther Kunkel. Due to the later time of year and the early winter rain in Gran Canaria this year, the *Solanum* shrubs were then flowering and fruiting, allowing a more thorough examination of the plant and its ecology.

Classification

The genus *Solanum* probably comprises more than 1,500 species (perhaps even more than 2,000 species, cf. Seithe 1962, p. 262), mainly distributed in South America and Australia. The latest monographic treatment of the entire genus is more than one hundred years old (Dunal 1852), comprising approximately only 900 species. The genus is, however, extremely variable, including species of the most differing life forms, leaf sizes, flower types, hairiness, etc. This great variability makes a further subdivision into natural subgenera and sections — often regarded as separate genera — possible. Recently Seithe (1962) discussed the *Solanum* classification in view of the hair types found within the genus, and Sander (1963) discussed the genus in its wide sense from a chemotaxonomic point of view. On the base of the hair types, together with the criteria given by Dunal (1852) and in the works of Bitter (see references in Seithe), Seithe (1963, pp. 282 f.) gives a classification scheme of the genus. *Solanum lidii* clearly falls into the subgenus *Stellatipilum* and into the small section *Nycterium* (Dunal) Bitter. It is almost completely covered by stellate hairs, has the somewhat zygomorphic flower, one anther more than twice the length of the other four, the shape and opening mechanism of the anthers, etc. (Dunal 1852, p. 331; Wettstein 1895, p. 24; Bitter 1923, p. 307; Seithe 1962, p. 299).

One of the other two endemic *Solanum* species of the Canary Islands, *S. vespertilio* Ait., also belongs to the section *Nycterium* (syn. *Nycterium cordifolium* Vent.), and is the type species of this section (Seithe 1962). In many respects *S. lidii* is similar to that species, but their different habit (cf. Fig. 2, and Burchard 1929, Plate 57), corolla colour, leaf shape, etc., clearly separates them.

Whereas *S. lidii* obviously prefers an extreme and dry habitat (see discussion of the ecology of the species below), *S. vespertilio* is a species of the moist and shady habitats of the barrancos of Gran Canaria and Tenerife, in the former only found on the north coast (Webb & Berthelot 1836-50, Pitard & Proust 1908). Here it obviously must be quite rare and is not refound by Burchard (1929), Lems (1960), or by Lid (1967b). The *S. lidii* locality is situated at an altitude of 650 meters, whereas *S. vespertilio* according to Ceballos & Ortuño (1951) is confined to altitudes between 0 and 400 meters.

Ecology

The *S. lidii* locality on Lomo de la Cruz is situated on a dry and rocky, south and west facing slope. Over an area of approximately 400 m², 18 individuals of the species were counted. The bedrock of

this area is a light basaltic rock type, sometimes a little porous. With a hand lens large quantities of small olivine crystals can be seen embedded in the groundmass. Hausen examined more thoroughly the rocks in the area between Aguimes and Santa Lucia (1963, p. 94) and classified the rock in the *Solanum lidii* locality (Hausen's photograph, Fig. 7, p. 94, is taken directly towards the hillside where the *Solanum* locality is situated) as Post-Miocene ultrabasic basaltic lavas and tuffs, mainly *picrite* and its corresponding effusive rock *limburgite*.

The soil reaction was measured (electrometrically) in two places within the locality and found to be 7.1 and 7.2.

The plant community into which *Solanum lidii* enters (the *syndrium* in the sense of Lid 1964, and 1967a) is obvious from the vegetation analyses given in Table 1.

Table 1. Vegetation analyses of four stands from the type locality of *Solanum lidii*, analysed 31 March 1966.
Cover and abundance according to the scale of Braun-Blanquet.

Reference number	2708	2709	2710	2711
Area analysed, m ²	50	10	10	50
Slope, degrees	30	20—40	5	15—20
Exposure	W	SW	S	S
pH	-	7.1	7.2	-
<i>Solanum lidii</i> nov.spec.	1	1	2	2
<i>Allagopappus dichotomus</i> Cass.	2	1	1	1
<i>Lavandula minutolii</i> Bolle	2	-	1	2
<i>Campylanthus salsoloides</i> Roth	1	-	2	1
<i>Hyparrhenia hirta</i> (L.) Stapf	2	-	1	1
<i>Artemisia canariensis</i> Less.	1	1	1	-
<i>Euphorbia regis-jubae</i> W. et B.	-	1	1	1
<i>Forskaolea angustifolia</i> Retz.	1	+	-	1
<i>Kleinia neriifolia</i> Haw.	1	1	-	-
<i>Micromeria varia</i> Benth.	-	1	1	-
<i>Opuntia ficus-indica</i> (L.) Mill.	1	-	1	-
<i>Oryzopsis coerulescens</i> (Desf.) Richt.	1	1	-	-
<i>Psoralea bituminosa</i> L.	1	+	-	-
<i>Agave americana</i> L.	-	-	-	1
<i>Cenchrus ciliaris</i> L.	-	-	-	-
<i>Linaria spartioides</i> Brouss. ex Buch	1	-	-	-
<i>Lobularia intermedia</i> W. et B.	-	-	1	-
<i>Messerschmidia fruticosa</i> L. var. <i>angustifolia</i> (Lam.) W. et B.	-	-	1	-
<i>Odontospermum stenophyllum</i> (Link) Sch. Bip. ex W. et B.	-	-	-	1
<i>Phagnalon purpurascens</i> Sch. Bip.	1	-	-	-
<i>Salvia canariensis</i> L. var. <i>candidissima</i> Bolle	1	-	-	-
<i>Launaea spinosa</i> (Forsk.) Sch. Bip.	-	+	-	-
Number of species	14	11	11	9

The (somewhat inhomogenous) vegetation is related to the *Euphorbia canariensis*-*Aeonium percarneum* community common in Gran Canaria in the region between 300 and 7-800 metres above the sea, in part also having something in common with the *Odontospermum stenophyllum*-*Ononis angustissima* var. *ulicina* community so typical of the areas between Santa Lucia and Temisas (cf. Sunding, in preparation).

SUMMARY

Solanum lidii nov. spec. of the section *Nycterium* is described from the Canary Islands, from the central parts of the island of Gran Canaria. It is a shrubby member of the genus with bluish violet flowers, and most of the plant is densely stellate-tomentose. Comparison is made between the species and its (perhaps) nearest relative, the other species of the section *Nycterium* endemic to the archipelago, *S. vespertilio*. The ecology and phyto-sociological behavior of *S. lidii* is described.

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