

NOTAS COROLÓGICO-TAXONÓMICAS DE LA FLORA MACARONÉSICA (N^{OS} 143-147)

VICIA CHAETOCALYX WEBB & BERTHEL. ON GRAN CANARIA – A CANARIAN ENDEMIC PLANT REDISCOVERED

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SUMMARY

Vicia chaetocalyx was already described by Webb & Berthelot in the middle of the 19th century but no record has been published since then. In 2001 a population of *Vicia chaetocalyx* was discovered near Valleseco, southwest of Teror (Gran Canaria, Canary Islands). The differences to *Vicia lutea* consist of a purple spotted keel of the flowers and longer bristle-like calyx-teeth. Both features are shown for the collected specimen and the holotype at the Webb herbarium (longest calyx-teeth 8.1 mm vs. 4.7 mm in *V. lutea*). A hitherto unpublished specimen of *Vicia chaetocalyx* from Tenerife near La Laguna is mentioned. Although *Vicia chaetocalyx* does not occur in threatened natural habitats it is endangered due to its rarity (CR B1 + 3c D according to the criteria of the IUCN).

RESUMEN

Vicia chaetocalyx fue descubierta y descrita por Webb & Berthelot en el siglo XIX, pero desde entonces no había vuelto a ser observada. Una población de este taxón fue descubierta en el año 2001 cerca de Valleseco, al suroeste de Teror (Gran Canaria, Islas Canarias). Esta especie se diferencia de *Vicia lutea* en la forma de las flores que tienen una quilla con una mancha purpúrea y dientes cerdosos en el cáliz. Estas dos características son observadas tanto en los ejemplares del holotipo en el Herbario Webb como en el material de Valleseco. La longitud máxima de los dientes del cáliz es de 8,1 mm para *Vicia chaetocalyx* y de 4,2 mm para *Vicia lutea* (material de Alemania y de Tenerife). La existencia de un espécimen de *Vicia chaetocalyx* en Tenerife, cerca de La Laguna, no ha sido publicada hasta ahora y resulta nueva para esta isla. La valoración del grado de amenaza, según los criterios de la UICN, lleva a considerarla como en estado crítico (CR B1+3c D).

INTRODUCTION

Philipp Baker Webb and Sabin Berthelot were undoubtedly the pioneers of the ongoing intensive botanical investigation of the Canarian Archipel ago. They already cited over thousand of about 2000 species listed in an actual overview (IZQUIERDO *et al.*, 2001).

But still more than 20 species were newly discovered or rediscovered in the last 25 years, for example recently *Parolinia glabriuscula* Montelongo & Bramwell as a new endemic plant of Gran Canaria (MONTELONGO, BRAMWELL & FERNÁNDEZ-PALACIOS, 2003).

For Gran Canaria more than 1300 taxa are listed, about 100 of them are considered to be endemic on the island and further 166 are Canarian endemics (WELSS & LINDACHER, 1994). Plant species restricted to a limited growth area and a limited number of populations possess a higher potential risk of extinction. 68 species of the third largest island are seriously endangered (VV-AA., 2000). Ten of them Kunkel already estimated extinct (KUNKEL, 1993). There are two species which were already described by WEBB & BERTHELOT (1842) and have not been found since ever on the island: *Normania nava* (Webb & Berthel.) Franc. Ort. & Lester and *Vicia chaetocalyx* Webb & Berthel. Whereas single plants of *Normania nava* were found twice in the last 25 years in Tenerife (FRANCISCO-ORTEGA *et al.*, 1993) no data are available for *Vicia chaetocalyx* since the publication of Webb and Berthelot.

CHOROLOGY AND COMMENTS

143. *Vicia chaetocalyx* Webb & Berthelot, *Phyt. Canar. II*: 106. 1842

In february 2001 on a trip to the north of Gran Canaria I discovered some plants of putative *Vicia lutea* L. between Lanzarote (Valleseco) and Cruz de Tejada, southwest of Teror. Later determination of a collected sample beard the surprising result of *Vicia chaetocalyx*: a species not recorded for over 150 years (Fig. 1 A).

1. Ecology

Since I didn't realize the importance of the finding at once no exact data of the locality and its ecological situation are available. The following plants were noticed growing together with *Vicia chaetocalyx*: *Lathyrus sphaericus* Retz., *Vicia hirsuta* (L.) Gray, *Trifolium arvense* L. and *Andryala integrifolia* L.

The surrounding shrubby vegetation was dominated by *Adenocarpus foliolosus* (Ait.) DC. *Vicia chaetocalyx* itself grew on a grassy country-lane and adjacent slope. The occurrence belonged to the *Tuberarietea guttatae* (Br.-Bl. 1952) Rivas Goday & Rivas-Martínez 1963 (Therophytic grasslands in mediterranean climate). Ecologically, *Vicia chaetocalyx* seemed not to behave differently from other annual species, especially *Vicia lutea* L. or *Lathyrus sphaericus* Retz.



Figure 1. *Vicia chaetocalyx*. A. Specimen of *Vicia chaetocalyx* from Valleseco at about 1300 m above sea level (leg. 02-27-2001). B. Holotype at the *Herbarium Webbianum* (FI-W).



Figure 2. *Vicia chaetocalyx*. Flower with purple spotted keel (parts of one wing are removed)



Figure 3. *Vicia chaetocalyx*. A. legume and calyx of a collected plant near Valleseco on 02-27-2001. B. legume from the holotype near Telde.

2. Taxonomy

Vicia chaetocalyx was described by Webb and Berthelot in the “Phytographia Canariensis, part of the Histoire naturelle des Iles Canaries” published between 1836 and 1850. The holotype is included in the Webb-Herbarium at Florence (FI-W No. 049892) (Fig. 1 B). Even these Authors noticed the close relationship of *Vicia chaetocalyx* to *Vicia lutea* but argued for a species rank. Since the work of Webb & Berthelot is not readily available the notice added to the latin description should be cited: “*Flos hujus speciei luteus carina macula atropurpurea notata. Valde affinis est V. luteae quacum eam ultrò conjungere voluissemus, sed prohibeant laciniae calycinae, quibus ad V. pimpinelloidem Maur. accedit, laciniae autem magis setaceae*”

“Yellow flower with remarkable purple spotted keel. It is very close to *Vicia lutea* into which we wanted to include it but the laciniae of the calyx precluded it. It approximates *V. pimpinelloides* Mauri (= *V. sativa* L.) with more setaceous teeth of the calyx”.

The purple keel of the pale-yellow flowers is indeed one obvious distinguishing mark (Fig. 2). Taxonomically more important are the differences in the form of the calyx. The bristle-like setaceous calyx-teeth in both the holotype and the material from Valleseco are the naming feature of the plant (fig. 3A, 3B, 4A). (χαίτη, chaeta = bristle.) Mean values for the longest calyx-tooth are 8.1 mm for *Vicia chaetocalyx* and 4.7 mm for *Vicia lutea*, respectively. The ratio of longest calyx-tooth to calyx-tube was almost 2 in the former and about 1 in *Vicia lutea* for material from Tenerife and Germany. The differences between *V. chaetocalyx* and *V. lutea* are given in table 1 and fig. 4B.

The pod is described as hirsute by Webb and Berthelot („ovario hirsuto“). Our specimen shows 5 to 8 white mostly tuberculated hairs per mm² analogous to *Vicia lutea* L. subsp. *lutea* var. *hirsuta* (Balb ex Lam. & DC.) Loisel. (fig. 4A).

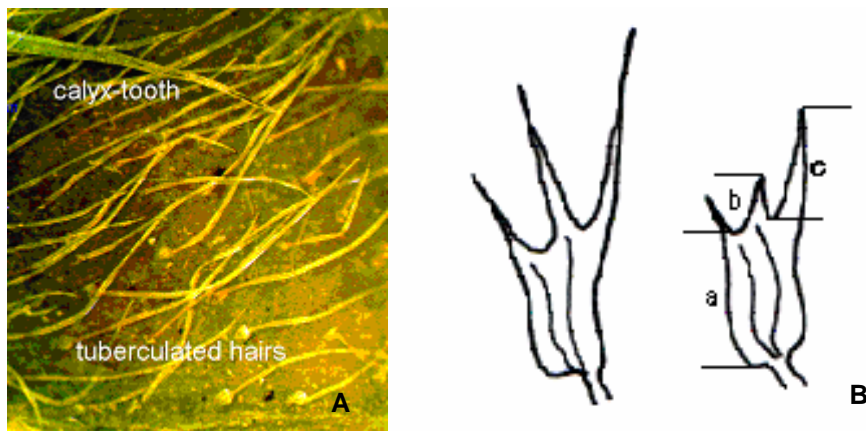


Figure 4. A: *Vicia chaetocalyx*. Tuberculated hairs of the legume. A bristle-like tooth of the calyx is noticeable (magnification 50 x). B: Scheme of the calices of *Vicia chaetocalyx* (left) and *Vicia lutea* (right).

3. Distribution

For the distribution of *Vicia chaetocalyx* Webb and Berthelot only state „in vervactis prope oppidum Canariae Telde“, i.e. in fields ploughed in spring close to Telde. In the literature the occurrence of *Vicia chaetocalyx* is indicated with Gran Canaria, “Telde region near the coast” (BRAMWELL & BRAMWELL, 2001) or even more specific „probably eastern slopes above Telde, 300 to 500 m“ (KUNKEL, 1977). The indication of the altitude is only presumptive. Due to the geographical situation the historic distribution was to be at slopes with eastern exposition. The new locality is situated 18 kilometers in the west of Telde.

	<i>Vicia chaetocalyx</i>	<i>Vicia lutea</i>
leaves		
pairs of leaflets	6-7	(3)7-10
form of leaflets	± oblong-obovate	± oblong-acute
flowers		
number of flowers	1	1-2(3)
keel	pale yellow with purple spot	yellow
calyx		
calyx-tube (a)	4.2 mm	4.6 mm
calyx-teeth	setiform	acute
mid calyx-teeth (b)	7.2 mm	5.0 mm
lower calyx-tooth (c)	obviously longer than calyx-tube	length equals calyx-tube
	8.1 mm	4.7 mm
ratio longest calyx-tooth to calyx-tube (c:a)	≈ 2	≈ 1

Table 1.- Diagnostic features of *Vicia chaetocalyx* and *Vicia lutea*. The letters a,b,c refer to Fig. 4B.

Interestingly, the consecutive number of the Webb Herbarium consists of a second specimen of *Vicia chaetocalyx* collected in fields close to La Laguna („in campis ad urbem Laguna“). This represents an unpublished finding of the species at Tenerife close to La Laguna (pers. communication J.R. Acebes). Phytogeographically it is quite possible since other endemic plants, e.g. *Crambe scoparia* Svent., *Convolvulus perraudieri* Coss. or *Sonchus acaulis* Dum.-Cours. occur at both Gran Canaria and Tenerife. According to distribution and rarity it corresponds to the above mentioned *Normania nava*. Only quite different are the ecological demands. *Normania nava* occurs or occurred at native sites in the laurel forest and *Vicia chaetocalyx* prefers anthropogenic localities. But to regard *V. chaetocalyx* as an apophyte is speculative. In the mediterranean region there are

enough possibilities for *Vicia* species to arise or survive in therophyte plant communities.

4. Status and vulnerability

It is rather improbable that an accidental finding of *Vicia chaetocalyx* during an one-week holiday trip could be the only evidence for the existence of a Canarian endemic species not found for more than 150 years. Maybe due to its relatedness to *Vicia lutea* it was misinterpreted and taken for an uninteresting weed and neither observed nor collected. Perhaps the occurrence of the species in fields and other anthropogenic vegetation leads to disregard of it. Extensive work should be done

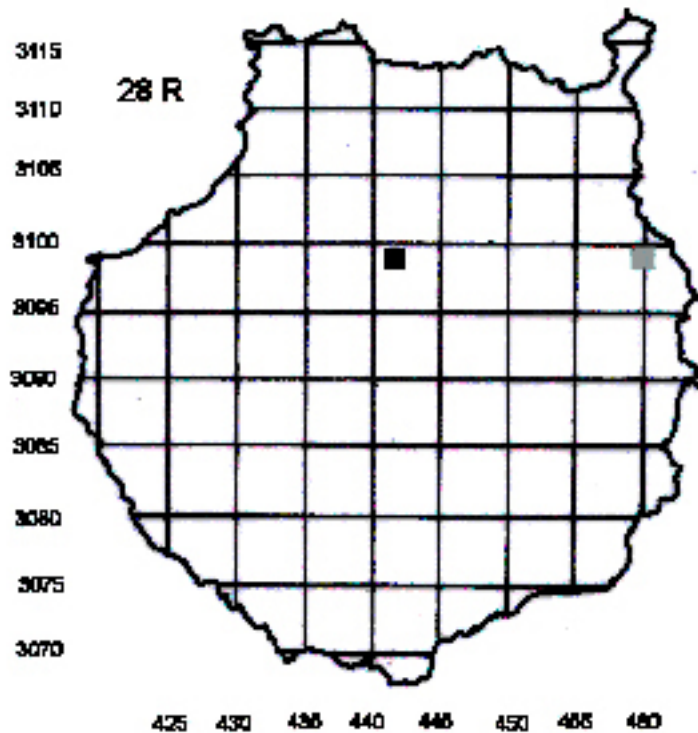


Figure 5. *Vicia chaetocalyx* (Gran Canaria). Map of actual ■ and historical distribution ■

to find more specimens of *Vicia chaetocalyx* in some herbarium or even better in the wilderness. The List of Canarian wild flowers includes it as an endemic plant of Gran Canaria (IZQUIERDO *et al.*, 2001). But in the new Spanish Red List no sufficient data are available for valuation of the risk (VV-AA., 2000). At the moment there is only known one single population. According to the criteria of the IUCN it should be tentatively valued as CR B1+3c D.

It would be desirable to increase the knowledge of *Vicia chaetocalyx* for a more substantial judgement of taxonomy, distribution and threat of this vetch. In any case due to its rarity it deserves observation and strong protection.

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