

CYCLAMEN × WELLENSIEKII*
(*C. LIBANOTICUM* × *C. CYPRIUM*)
HYBR. NOV.

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SUMMARY

Cyclamen × *wellensiekii*, a new hybrid of garden origin between *C. libanoticum* and *C. cyprium* is described. A survey is given of the most important literature concerning the genus *Cyclamen*.

The genus *Cyclamen* L., according to recent opinions, comprises c. 20 species and a few subspecies. The group as a whole has a predominantly Mediterranean distribution. Within the Primulaceae the genus is easily distinguished by its characteristic flower and tuber. Closest related genus is *Dodecatheon* L. with a chiefly North-American distribution and differing from *Cyclamen* in having several flowers on a stem and lacking the tuberous roots.

Since Linnaeus nearly one hundred of *Cyclamen* species have been described. The first monographic study of the group has been written by HILDEBRAND (1898). He studied living specimens and described several new taxa, some of which are still recognized today. SCHWARTZ (1938, 1955, 1964) contributed a great deal to the stabilization of nomenclature in *Cyclamen*. In Schwartz' last publication Lepper accounted for a chapter on chromosome morphology. Important work on taxonomy, nomenclature as well as chromosome investigation has also been carried out by DOORENBOS (1950), DE HAAN & DOORENBOS (1951) and LEGRO (1959). Recently an interesting survey of a wide variety of data on the genus, including comprehensive cultural instructions has been given by SAUNDERS (1973). Extensive research in the field of *C. persicum* and its cultivars has been done by WELLENSIEK and his co-workers (e.g. 1959, 1961, 1973). While the morphological variation within the genus can be qualified as rather slight, important differences exist between the chromosome-numbers of the species. The following numbers have been stated (numbers of species for which they are established in brackets): 20 (2), 22 (1), 30 (5), 34 (4), 48 (1), 68 (1), 84 (1 partially), 96 (1), 136 (1 partially), and 162 (1 partially). Extensive crossing experiments between species, carried out by Legro and Schwartz hardly resulted in hybrids even when species with the same chromosome-number were used.

* Named after Professor Dr. Ir. S. J. Wellensiek of the Horticultural Laboratory, the Agricultural University, Wageningen, The Netherlands, who studied for several years hybridization in *Cyclamen* species and cultivars.

At this moment only four hybrids are known (beside the present one). *C. × atkinsii* Moore, a cross between *C. persicum* Miller ($2n = 48$) and *C. coum* Miller ($2n = 30$), made nearly a century ago, is rather doubtful. Hildebrand mentioned a hybrid between *C. neapolitanum* Tenore and *C. africanum* Boissier et Reuter (both with chromosome-number $2n = 34$), afterwards described by Schwartz as *C. × hildebrandii*. Legro as well as Schwartz made a successful cross between *C. balearicum* Willkomm and *C. repandum* Sibthorp et Smith (both with chromosome-number $2n = 20$). Saunders reported a hybrid between *C. creticum* (Dörfler) Hildebrand ($2n = 22$) and *C. repandum*, which has been made in Kew.

Since 1960 the author has taken a keen interest in the genus *Cyclamen*. Gradually a nearly complete collection of species was built up. Crossing experiments were carried out during several years with *C. libanoticum* Hildebrand and *C. cypricum* Kotschy among others. Both species generally are considered to be closely related because of their morphological similarity. De Haan and Doorenbos established the chromosome-number $2n = 30$ for both. Lepper (in Schwarz) found a great deal of resemblance between the two species in chromosome-size and -morphology as well. Their natural habitats do not lie too far apart: *C. libanoticum* grows in only a few places in the Lebanon Mts., while *C. cypricum* is an endemic on the island of Cyprus. The first species flowers in spring, the second in autumn. This probably is the reason why they never have been crossed before. In January 1966 the author had some early flowering specimens of *C. libanoticum* and a few late flowers of *C. cypricum*. Pollen of the latter was brought on some stigmas of the former, after which these flowers were protected against further pollination. Seeds of this cross pollination were sown as soon as they had ripened, in July. In December 1969 the seedling flowered for the first time and turned out to be a hybrid. Since they have flowered regularly each year and proved to be quite uniform in characters, which are for the greater part intermediate between the two parents. Some of these characters are given in table 1.

***Cyclamen × wellensiekii* (*C. libanoticum* × *C. cypricum*) hybr. nov. Fig. 1.**

Hybrida haec hortensis e *Cyclamine libanotico* et *C. cyprio* genita. A primo floribus autumnalibus et hiemalibus parvioribus, corollis auriculatis, a secundo floribus maioribus, corollis roseis diversa.

Tubera circularia, complanata, usque ad 4 cm diametro, fusca, suberoso-corticata, infra fasciculo centrali radicefera. *Folia* ante flores provenientia; petioli adscendentes, partibus reptantibus subterraneis, usque ad 10 cm longi, bruneifloccosi; laminae subrotundatae vel cordiformes, c. 50 mm longae, c. 48 mm latae, supra a centro ad marginem primum zona cordiformi atroviridi, deinde zona plus minusve argentea, tum zona viridi-argentea marmorata coloratae, infra uniformiter rubrae, margine irregulariter dentatae vel subintegrae. *Flores* autumnales et hiemales, odorati; pedunculi usque ad 12 cm longi, bruneifloccosi. *Calicis lobi* lanceolati, apice acuto vel acuminato, c. 6 mm longi, basi

Table 1. Some of the most important characters of *Cyclamen libanoticum*, *C. cyprium* and their hybrid, *C. × wellensiekii*.

character	<i>C. libanoticum</i>	<i>C. × wellensiekii</i> (<i>C. libanoticum</i> × <i>C. cyprium</i>)	<i>C. cyprium</i>
tuber diameter	up to c. 3 cm	up to c. 4 cm (in 7 years)	up to c. 8 cm
flowering-time	February-April	November-February	September-December
calyx lobes, nervation	3-5 partially branched nerves	1-3 nearly unbranched nerves (sometimes middle one slightly branched)	1 unbranched nerve
corolla, colour (apart from basal blotch)	dark pink	light pink	white
corolla, auricles	absent	present	clearly present
corolla, tube, diameter at top	c. 10 mm	c. 7 mm	c. 6 mm
corolla, lobe twist	not twisted	somewhat twisted	strongly twisted
corolla, lobe size	c. 25 × 13 mm	c. 18 × 8 mm	20 × 6 mm
corolla, lobe, basal width	c. 7 mm	c. 4 mm	c. 3 mm
corolla, form basal blotch on outside of lobe	more or less T-shaped	more or less V-shaped	V-shaped or double V-shaped
corolla, form blotch on inside of tube (on each 1/5 part corresponding with a lobe)	three teeth, the middle one of which is longer than the other two	three teeth, the middle one of which is only slightly longer than the other two	three teeth, the middle one of which is much longer than the other two
pollen-grain diameter	c. 15 μ	c. 16 μ	c. 16 μ
chromosome-number	2n = 30	2n = 30	2n = 30

c. 2 mm lati, nervis 1-3, non-ramosis vel sparsim ramosis. *Corollae* roseae; tubi urniformes, c. 8 mm longi, medio c. 6 apice c. 5 mm lati; lobi plus minusve torti, ovati vel lanceolati, apice obtuso vel acuto, basi auriculati, et signati macula carminea V-figurata in tubum prolongata dentibus tribus subaequilongis. *Stamina* subsessilia; filamenta c. 1 mm longa; antherae c. 4 mm longae luteae, dorso plus minusve purpureae. *Styli* c. 7 mm longi, subinclusi. *Fructus* subglobosi, usque ad 12 mm diametro. *Pollinis granulae* c. 16 μ diametro. *Chromosomata* 2n = 30.

Holotype in Herbarium Free University Amsterdam (AVU); isotype in WAG; paratypes in L and Herbarium Free University.

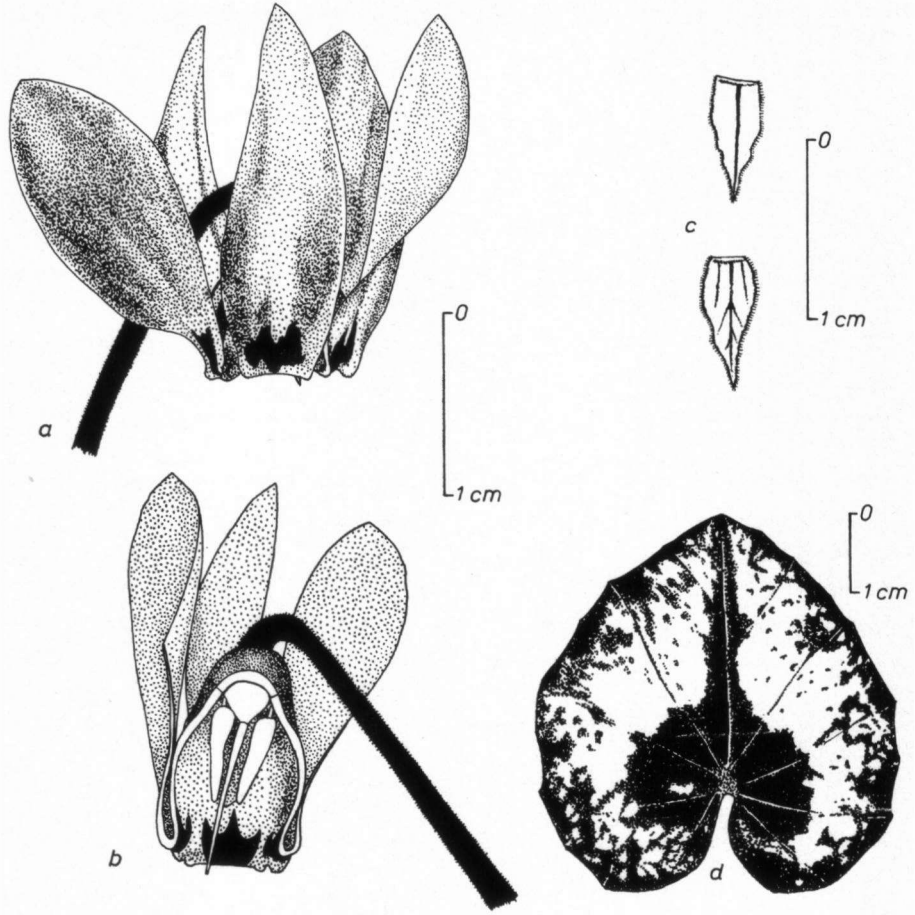


Fig. 1. Some details of *Cyclamen × wellensiekii*.

- a. flower
- b. flower cut lengthwise
- c. calyx lobes
- d. leaf

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