

Rumex patientia L. × *R. conglomeratus* Murray, a newly described dock hybrid

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ABSTRACT

A new hybrid, *Rumex* × *philpii* Kitchener **hybr. nov.** (Polygonaceae), between the neophyte *R. patientia* L. and native *R. conglomeratus* Murray, is described from a discovery in West Kent in 1978.

KEYWORDS: Hybridisation, Patience Dock, Clustered Dock.

INTRODUCTION

On 9 July 1978, in the course of recording for the purposes of the *Atlas of the Kent Flora* (Philp 1982), a population of *Rumex* was encountered by E. G. Philp in a dried-up reed bed near Snodland, West Kent (v.c. 16), which included *Rumex patientia* and some evident hybrid plants. One of these specimens was identified as *Rumex patientia* × *conglomeratus* (the hybrid between Patience and Clustered Docks), and confirmed as such in 1989 by J. R. Akeroyd and D. H. Kent from material gathered on 21 July 1978 and held in MNE. Other material is *Rumex patientia* × *obtusifolius*, and includes one specimen which appears more sterile than is usual for that taxon. It has been speculated that this may be the product of complex hybridization in which a third species may also be represented, but there is insufficient evidence to conclude that it is other than *R. patientia* × *obtusifolius*.

There appears to be no other record of *R. patientia* × *conglomeratus*, whether in the British Isles or otherwise. The site of its discovery lies in the valley of the River Medway at TQ7161, where a dried-up reed bed approaches the river wall, the river being tidal at this point. The environs of the site have been subject to disturbance, through maintenance of drainage channels, gravel extraction and various industrial (and more recently, leisure) uses. In the 1970s, *Rumex patientia* formed a fairly isolated introduction here, with another colony near Grain, and with most other West

Kent records being located along the Thames Valley from the London boundary eastwards to Gravesend. It is possible that the frequency of this species is overstated in the records that were contributed to Philp (1982) (E. G. Philp, pers. comm. 2006), at the expense of the closely related Greek Dock, *R. cristatus*, which has since spread considerably. This, however, does not cast any doubt on the identity of the Snodland colony of *R. patientia*.

The hybrid was distinctive by virtue of its high level of sterility. Even by late July, there was no evidence of seed formation and its tepals, while developing irregularly, did not include any which were fully formed, although the extent of development of some was such that it was possible to form an opinion in relation to the influence of putative parents. The tepals of *R. patientia* are entire, broadly ovate or sub-orbicular and may carry an inconspicuous tubercle. Those of *R. conglomeratus* are also entire, but are linguulate and bear three conspicuous tubercles. The tepals of the hybrid were entire and varied from broadly ovate to linguulate, but tubercles were either small or mal-formed. The hybrid's tepals were up to 3.5 mm long, intermediate between those of *R. conglomeratus* (2–3 mm) and *R. patientia* (5–8 mm). Local candidates for the parent other than *R. patientia* based on the possession of entire tepals would have been *R. crispus*, *R. hydrolapathum* or *R. conglomeratus*. Only the last-named of these is likely to have contributed the linguulate shape which is at one end of the spectrum of variation exhibited by the hybrid.

R. crispus appears also to be ruled out as a parent by the insufficient crisping of leaf margins. In any event, observations of *R. patientia* × *crispus* elsewhere in West Kent in 2006 point to a more comprehensive maturing of the flowering parts at least a month earlier as being normal. *R. hydrolapathum* offers a more plausible alternative as a parent, but would be expected to provide cuneate leaf bases, which

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TABLE 1. CHARACTERS OF *RUMEX PATIENTIA*, *R. CONGLOMERATUS* AND THEIR HYBRID

	<i>Rumex patientia</i>	<i>Rumex conglomeratus</i>	<i>Rumex patientia</i> × <i>conglomeratus</i>
Inflorescence	Congested, upright branches; occasional leafy bracts towards base of inflorescence	Open, branches wide angled; leafy bracts present along most of their length	Somewhat loosely congested, with upper branches upright (Fig. 1A), lower branches more spreading; many narrow leafy bracts present at least in lower half of branches, sometimes extending into upper half (Fig. 1B)
Tepals	Entire; 5–8 × 5–9 (10) mm; broadly ovate to sub-orbicular; generally bearing one small tubercle	Entire; 2–3 × 1–2 mm; lingulate; bearing 3 large tubercles	(Fig. 1D) Entire; generally imperfect but more developed tepals up to 3.5 × 2.5 mm; broadly ovate to lingulate; occasionally with tubercles, somewhat elongate and mal-formed
Basal leaves	Ovate-lanceolate with subcuneate base	Oblong- to ovate-lanceolate with rounded base	(Fig. 1C) Oblong- to ovate-lanceolate with subcuneate or rounded base

were not present on this plant. The extent to which the hybrid demonstrated intermediacy between *R. patientia* and *R. conglomeratus* is set out in Table 1, but the key features are the tepal shape with its range of variation, the congested panicle inherited from *R. patientia* and the presence of leafy bracts subtending the flower whorls generally at least along the proximal half of the branches.

DESCRIPTION

***Rumex* × *philpii* Kitchener, *hybr. nov.* (*Rumex patientia* L. × *R. conglomeratus* Murray)**

Hybrida inter *Rumicem patientiam* L. et *R. conglomeratum* Murray, characteribus inter parentium characteres variantibus. Herba robusta erecta, altior quam 1 m, bracteas angustas foliaceas florum verticillos subtendentes saltem in ramorum florentium dimidio inferiore, nonnunquam ad ramorum extremitates, ferens; valvae fructiferae integrae, lingulatae vel late ovatae; semina omnino vel plerumque sterilia.

Hybrid between *Rumex patientia* L. and *R. conglomeratus* Murray, with characters varying between those of the parents. Robust, erect herb, over 1 m high, bearing narrow leafy bracts subtending the flower whorls at least in the lower half of the flowering branches and sometimes to the ends of the branches; fruiting valves entire, lingulate to broadly ovate; seeds entirely or for the most part sterile.

HOLOTYPE: West Kent, v.c. 16, Snodland, in dried up part of reed bed, TQ7161, *E. G. Philp* (MNE). There are three sheets marked *Rumex patientia* × *conglomeratus* in MNE, and that designated as holotype is sheet 2 of the gathering of 21 July 1978.

The specific name is given in honour of Eric Philp, the finder of this hybrid, and who has done much to promote the understanding of the flora of Kent.

DISCUSSION

R. patientia is a native of south west Asia and south east Europe, and is widely but locally naturalised elsewhere in Europe (Jalas & Suominen 1979; Akeroyd, 1993) and in North America (Mosyakin 2005). Within the British Isles, it is scattered, but mainly present in the south east (Preston *et al.* 2002); although formerly grown as a vegetable, it may also be a constituent of grass seed (Grob 1978). *R. conglomeratus* has a wide native presence across Europe and in west and central Asia, and is naturalised elsewhere in temperate areas. There is accordingly considerable overlap in distribution.

R. patientia is mainly ruderal; *R. conglomeratus* grows in damp, open habitats. Whilst there is potential for hybridisation where *R. patientia* grows on the banks of watercourses and so approaches the wetter habitats preferred by *R. conglomeratus*, their

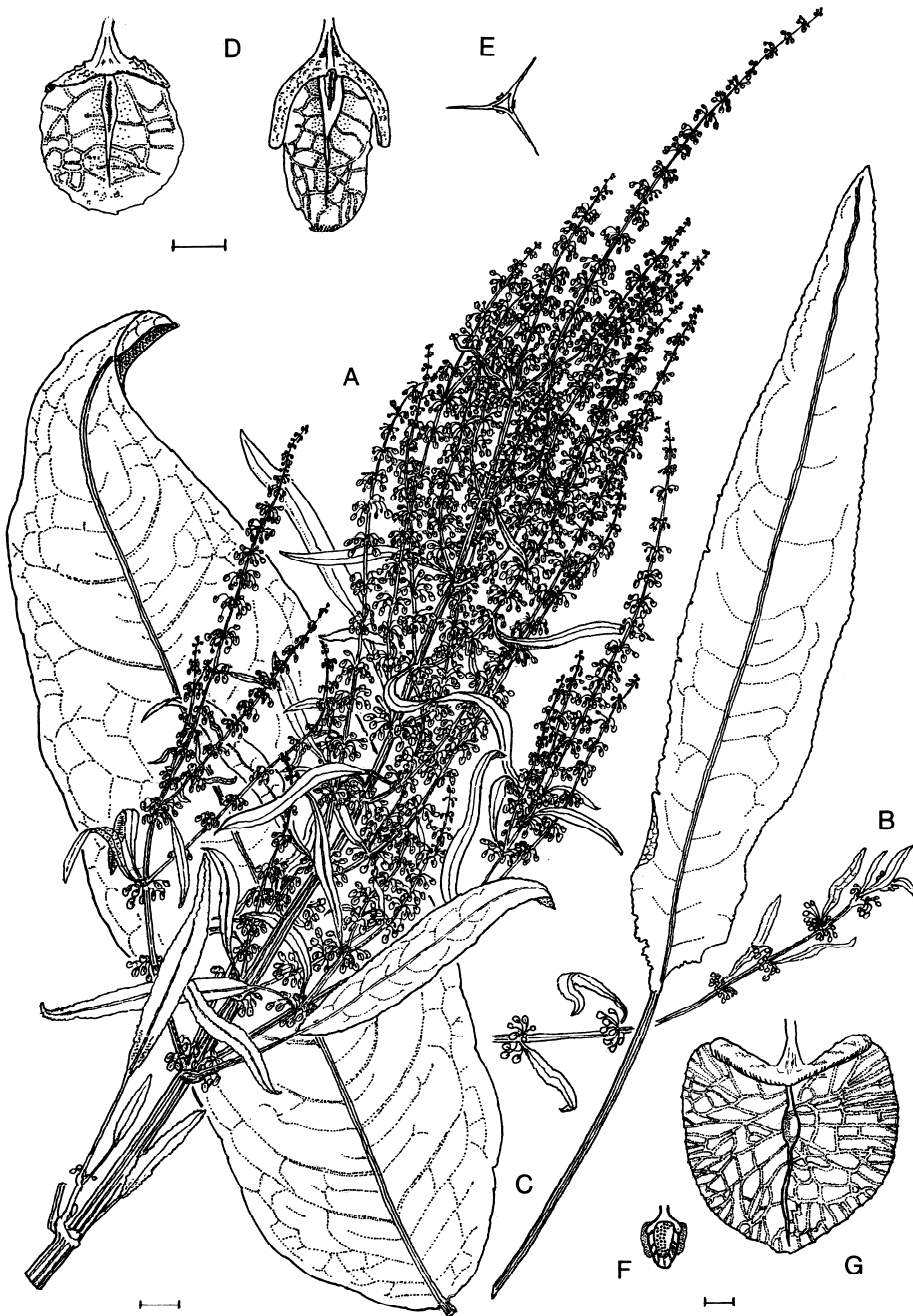


FIGURE 1. *Rumex × philpii*. A. Inflorescence. B. Branch. C. Lower leaves. D. Fruits. E. Diagrammatic section through fruit. *Rumex conglomeratus*. F. fruit. *Rumex patientia*. G. Fruit. Scale bar for A-C = 1 cm. Scale bar for D and E = 1 mm. Scale bar for F and G = 1 mm.

flowering periods in the British Isles constitute an isolating mechanism, as they do not normally overlap (*R. patientia*, May to June; *R. conglomeratus*, July to September). Hence, although species within subgenus *Rumex* generally appear to hybridise freely, this is not a cross to be expected in normal circumstances.

There is a parallel to be drawn in relation to the position regarding *R. cristatus*, which is sufficiently closely related to *R. patientia* for its separate specific status to have been queried by Stace (1997). Jauzein (1990) remarked on the failure of *R. cristatus* and *R. conglomeratus* to hybridise in a mixed group, where *R. cristatus* and *R. crispus* crossed readily. A similar disinclination to hybridise has been noted by the author in a large mixed colony of *R. cristatus* and *R. conglomeratus* at Rainham Marshes in South Essex, although this location has produced *R. × akeroydii* (Rumsey 1999) and hence demonstrated the feasibility of crosses between early and late flowering docks (in this case, *R. cristatus* and *R. palustris*). *R.*

patientia is also recorded as having hybridised with *R. palustris* (*R. × peisonis*) in Austria (Rechinger 1933), which is further evidence that the isolating mechanism of normal flowering periods can be overcome. The extreme rarity of *R. × akeroydii* and *R. × peisonis*, however, also suggests that overcoming such mismatches in flowering periods is a highly uncommon event.

It appears unlikely that *R. × philpii* will have arisen through earlier flowering of *R. conglomeratus*, but rather that delayed or secondary flowering of *R. patientia* may have taken place, perhaps as a consequence of damage to the plant or disruption of the habitat.

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