A new record for *Salix* × *angusensis* (Salicaceae) Rech. f. from Ainsdale Sand Dunes National Nature Reserve, S. Lancs. v.c. 59

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ABSTRACT

Salix × *angusensis* Rech. f. (S. *cinerea* subsp. *oleifolia* × *S. repens* var. *argentea* × *S. viminalis*), a very rare hybrid, previously known only from the type locality, has been found on Ainsdale Sand Dunes National Nature Reserve. Type material of the hybrid has been located, and an amended description drawn up from additional foliage and catkin material. The paper includes notes on the population and ecology of the hybrid.

KEYWORDS: willow, hybrid.

INTRODUCTION

In July 1993 N.A.R. sent R.D.M. some freshly collected specimens of willows from Ainsdale Sand Dunes National Nature Reserve, S. Lancs. v.c. 59. Amongst these were *Salix repens* L. var. *argentea* (Sm.) Wimm. et Grab. and the rare *S.* × *doniana* G. Anderson ex Sm. (*S. purpurea* L. × *S. repens* L.), both of which were known to occur in the area. But a third specimen (*Robinson* 65) defied immediate identification, though it was evidently a hybrid, with *S. repens* as one of its parents. This puzzling specimen was successfully rooted and grown in R.D.M.'s garden, and developed into a slender, erect shrub about 1 m high, with small, greyish, acuminate leaves, and numerous narrow-cylindrical female catkins, with hairy ovaries, and remarkably elongate styles and stigmas, superficially not unlike the styles and stigmas of the arctic-alpine *S. lapponum* L., and very distinct in this respect from other lowland willows. At first, to account for this unusual feature, R.D.M. thought it just possible that the puzzling willow might be *S. myrsinifolia* Salisb. × *S. repens* L. (*S.* × *felina* Buser ex Camus & A. Camus) but *S. myrsinifolia* is not known to occur anywhere in the vicinity of Ainsdale, nor apart from the elongate styles and stigmas, was there any evidence of *S. myrsinifolia* in the make-up of the hybrid.

Further searches by Mr Tony Duckels in 1996 and 1997 failed to furnish additional material of the puzzling willow, though *S. cinerea* L. subsp. *oleifolia* Macreight (*S. atrocinerea* Brot.), *S. repens* var. *argentea* and *S. cinerea* subsp. *oleifolia* × *S. repens* var. *argentea* was received from the same area of the dunes. Happily, the puzzling plant was relocated by N.A.R. on 10 August, 1998, by which time R.D.M. concluded that it must be a triple hybrid, *S. cinerea* subsp. *oleifolia* × *S. repens* var. *argentea* × *S. viminalis* L., the presence of the last-named being necessary to account for the acuminate leaves of the puzzling plant. This triple hybrid has only once been recorded, as *S.* × *angusensis* Rech. f. (Rechinger 1950) from Angus v.c. 90, "Barry Links near Carnoustie, September 1947, K. H. Rechinger, no. 45". Rechinger's short description of habit, twigs and foliage did not exactly tally with that of the Ainsdale plant, so it became necessary to examine the type, stated by the author to have been deposited in **BM**. R.D.M. had earlier tried, without success, to locate this type when preparing an account of *Salix* for Stace (1975), and a further effort by Mr Roy Vickery (**BM**) was likewise unsuccessful. An enquiry to **E** was no more fruitful, though Mr Douglas McKean drew attention to the fact that Rechinger (*op. cit.*) had also

stated, "Numbers quoted refer to dried specimens, duplicate sets of which have been deposited at the British Museum (Natural History) and at Angus Herbarium". At Douglas McKean's suggestion R.D.M. wrote to Miss Rachel Benvie, Curator, Montrose Museum and Art Gallery, Montrose, Angus, but was informed that no material of *S.* × *angusensis* was to be found in the collections there. Almost on the point of giving up hope of finding the missing types, a good photocopy of the type was received from **W**. Examination of the photocopy satisfied us that the Ainsdale *Salix* and *S.* × *angusensis* are indistinguishable.

Since Prof. Rechinger's original description is brief, and based exclusively on foliage, I subjoin a more detailed description of this rare and interesting hybrid.

DESCRIPTION

Salix × *angusensis* Rech. f. in *Watsonia*, **1**(5): 275 (1950); Meikle in Stace, *Hybridization and the Flora of the British Isles*, p319 (1975). *Salix cinerea* L. subsp. *oleifolia* Macreight (*S. atrocinera* Brot.) × *S. repens* L. var. *argentea* (Sm.) Wimm. ex Grab. (*S. arenaria* L.) × *S. viminalis* L. Holotype: Scotland; Angus (v.c. 90), "Barry Links near Carnoustie, September 1947, *K. H. Rechinger* no. 45"(**W**).

Slender, erect or sprawling shrub, c. 1 m high, but probably taller when more mature; twigs at first densely appressed-pubescent, but soon becoming glabrous or subglabrous and rather lustrous dark reddish-brown. Leaves numerous and rather close together, lanceolate-acuminate, (2·5–)3·5–6(–7) cm long, (0·5–)1–2(–2·5) cm wide, dull green and thinly pubescent above, densely appressed sericeous-pubescent below, margins flat or undulate, entire or subentire, midrib prominent below, lateral nerves numerous, close together ascending; petiole short, usually less than 5 mm long; stipules lanceolate, 3–5 mm long, 1·5–2·5 mm wide, fairly conspicuous on young growths but soon shed. Female catkins numerous and rather close together, suberect or spreading, narrowly cylindrical, shortly stalked, 2–3·5 cm long, 0·4–0·6 cm wide; bracts 3–5, spreading acuminate, 4–7 mm long, 2–3 mm wide, green above, sericeous below; catkin-scales oblong-ovate, acute, about 1·8 mm long, 0·8 mm wide, fuscous except towards base, clothed with long, silvery-silky hairs; ovaries crowded, narrow-ovoid, tapering to apex, 2–2·5 mm long about 1·5 mm wide, shortly stalked, densely subappressed silvery-silky; nectary oblong, truncate, about 0·8 mm long, 0·4 mm wide, style distinct, slender, about 1·5 mm long; stigmas 4, filiform, to about 0·8 mm long, recurving at maturity. Male catkins and seeds not seen.

ECOLOGICAL AND DISTRIBUTIONAL NOTES

The first specimen was collected in July 1993 in Slack 65 in the north-western corner of Ainsdale Sand Dunes National Nature Reserve, at SD/295.118 by Michael Gee, Site Manager, and N.A.R. The slack is situated at the seaward edge of the fixed dunes, just behind the more mobile frontal dune ridges. The plant community in the slack is known in the National Vegetation Classification (Rodwell 1991–1996) as "*Salix repens-Calliergon cuspidatum* damp slack", in which the most conspicuous plant is the leggy, creeping *Salix repens* and the most consistent plant on the ground surface is the moss *Calliergon cuspidatum* (Hedw.) Kindb. Other plants present, typical of damp slacks, are *Mentha aquatica* L., *Equisetum fluviatile* L., *Eleocharis palustris* (L.) Roem. & Schult., *Epilobium palustre* L. and *Lythrum salicaria* L. The water table varies greatly and the slack is usually flooded during the winter, sometimes into the spring, but can be quite dry in summer.

Collections of willows in the slack taken in 1996 and 1997, det. R.D.M., were found not to contain *S.* × *angusensis*, but established that although the willow in the slack was mainly *S. repens* var. *argentea*, *S. cinerea* subsp. *oleifolia* was also present as scattered, stunted bushes, and as a 4 m tall clump at the edge of the slack. The second gathering, which was determined as *S.* × *angusensis,* was made on 10 August 1998 from a group of six bushes within the stand of *S. repens* var. *argentea*, centred about 7 m south of the tall *S. cinerea* subsp. *oleifolia*. The bushes had the same sprawling growth with much horizontal branching, as the surrounding *S. repens* var. *argentea*, and, at 0·7 m, were about the same height. In consequence they did not stand out from the rest and were not visible from the edge of the slack. They could be distinguished form the

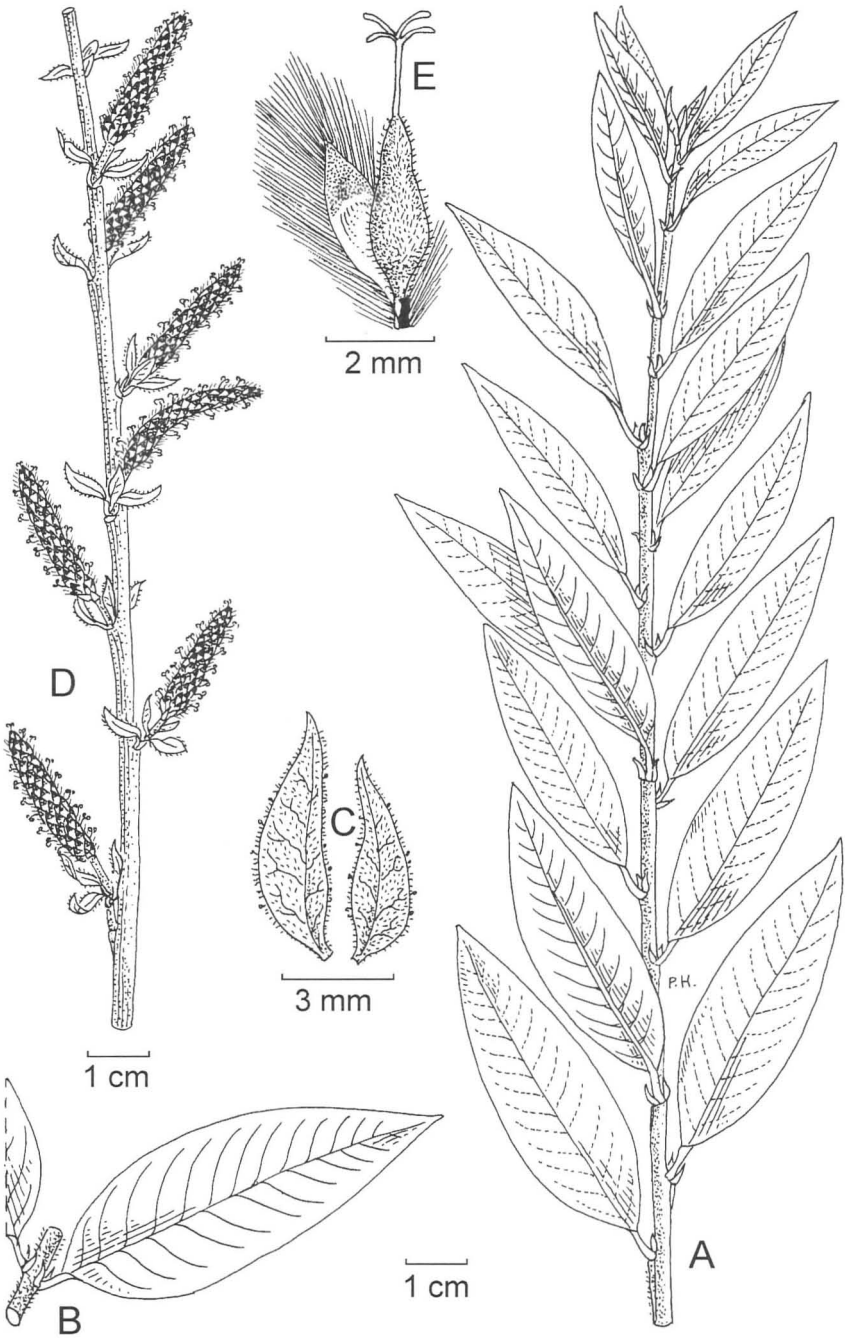

FIGURE 1. *Salix* × *angusensis* Rech. f. del. P. Halliday © 2000
Drawn from *N. A. Robinson* 65 (cult. Ranscombe Lodge, Wootton Courtenay, Som.) Leaves 4 August 1995; catkins 15 April 1997. A: Foliage, B: Mature leaf, C: Stipules, D: ♀ Catkins, E: ♀ Flower.

surrounding willows by the longer leaves on the new growth – leaves on the old growth appeared to be much the same. The bushes looked old and broken down, but new growth was coming from the base and also new shoots could be seen round about, presumably from suckers. The fact that they were growing in a compact group suggested that they had arisen from a single initiate, within the stand of *S. repens* var. *argentea*. The third parent involved in the *S.* × *angusensis* triple hybrid, namely *S. viminalis*, is known to be present in the reserve, though not in the immediate vicinity, and the rare hybrid *S.* × *friesiana* Anderss. (*S. repens* × *S. viminalis*) is widespread and common in the v.c. 59 dunes. Some distance away, in the same slack, there is a clump of *S.* × *doniana* Sm. (*S. purpurea* × *S. repens*). This hybrid was not known outside Scotland until it was found on this part of the coast in 1947 (Savidge *et al.*, 1963). It is present at several locations in the Reserve, and has been found at some other places in the coastal dunes.

These willows are in parts of the Reserve which are not generally open to the public. Anyone wishing to see them, or to take samples, should contact the Site Manager, Ainsdale Sand Dunes National Nature Reserve, 2 West End Lodge, Pinfold Lane, Southport.

ACKNOWLEDGMENTS

We are grateful to Mr Michael Gee and to Mr Tony Duckels for their help in searching for *S.* × *angusensis*; also to Messrs Roy Vickery (Natural History Museum) and Douglas McKean (Royal Botanic Garden Edinburgh), and Miss Rachel Benvie (Montrose Museum and Art Gallery) for assistance in our pursuit of the missing type material, and our thanks to Dr Ernst Vitek (Naturhistorisches Museum, Botanisches Abteilung, Vienna) for tracing the missing specimens and supplying photocopies. Our thanks also to Miss P. Halliday for the illustration which accompanies this paper.

REFERENCES

RECHINGER, K H. (1950). Observations on some Scottish Willows. *Watsonia* **1(5)**: 275.

RODWELL, J. S., ed. (1991–1996). *British Plant Communities, 1–4*, Cambridge University Press, Cambridge.

SAVIDGE, J. P., HEYWOOD, V. H. & GORDON, V. (1963). *Travis's Flora of South Lancashire*. Liverpool Botanical Society, Liverpool.

STACE, C. A. (1975). *Hybridization and the Flora of the British Isles*, pp. 312–319. Academic Press, London.

(Accepted July 1999)