Short Notes

CAREX ACUTA L. × *C. ACUTIFORMIS* EHRH. IN S.E. YORKSHIRE

On 2nd June 1955, I collected two shoots of a sedge which I thought was *Carex acuta* L. from the bank of the River Hull, near Hallytreeholme, GR 54/08.49, some eight miles down-river from Driffield, S.E. Yorks., v.c. 61. Each shoot had the general appearance of *C. acuta* except that the lowest bract was appreciably shorter than the inflorescence; in *C. acuta* the lowest bract characteristically exceeds the inflorescence. Later that year, the specimens were sent to **K** where E. Nelmes added "or *C. acuta* × *C. acutiformis*" to my tentative diagnosis of *C. acuta*, and retained one specimen.

Early in 1982, I re-examined my specimen (**herb F.E.C.**) and found it to be completely sterile. After a search I found utricles, some with two and some with three stigmas in the same spike, a feature of the hybrid *C. acuta* × *C. acutiformis* mentioned by Jermy (1982). Furthermore, the bottom and next to bottom female spikes are 7.6 cm and 5.3 cm respectively, whereas the maximum length of the female spike in *C. acutiformis* is 5 cm and in *C. acuta* it is 10 cm. The *C. acutiformis* Ehrh. parentage is also indicated by the presence of occasional fibrillae on the split edge of the basal sheath, by the female glume sometimes being drawn out to a point and at least slightly serrulated, sometimes markedly so, and by the utricles being long-beaked.

Identification of *Carex acuta* × *acutiformis* (= *C.* × *subgracilis* Druce) was confirmed by A. O. Chater, A. C. Jermy and R. W. David in March 1982; A. O. C. commented *in litt.* that some material of the hybrid has shorter, stouter spikes, is more fertile and, like most hybrids, can vary markedly. Remarks concerning the partial fertility of the hybrid, here and elsewhere (Jermy 1967), have not been substantiated experimentally: no germination of fully formed seeds has yet been achieved (Jermy *et al.* 1982).

C. acuta is a species of river-sides and marshy places with a more or less constantly high water level. It is frequent in the upper and middle reaches of the Hull valley and locally abundant by the River Hull, as at Pulfin Bend, GR 54/04.44, about a mile north of Hull Bridge, Beverley.

C. acutiformis often forms large stands by slow-flowing rivers, in ditches and by ponds. It is far more widely distributed and frequent than *C. acuta* in S.E. Yorks, including the River Hull valley where it is locally abundant.

As *C. acuta* and *C. acutiformis* frequently grow together, it is surprising that there are so few records of the hybrid between them. Unfortunately it has not survived by the river near Hallytreeholme, having been lost during bank reconstruction. The hybrid has also been recorded from Berks., v.c. 22, and Oxon., v.c. 23 (Wallace 1975). It also occurs in the Walthamstow Marshes, S. Essex, v.c. 18, (*Wurzel*, 1981, **BM**) and Caerns., v.c. 49, (**herb. A. P. Conolly**, det. A.O.C., A.C.J. and R.W.D.). Records for E. Norfolk, v.c. 27, and France (Wallace 1975) have not been traced to source and require confirmation. It seems possible that *C.* × *subgracilis* may be under-recorded in the British Isles.

REFERENCES

JERMY, A. C. (1967). *Carex* section *Carex* (= *Acutae* Fr.) *Proc. bot. Soc. Br. Isl.*, **6**: 375–379.

JERMY, A. C., CHATER, A. O. & DAVID, R. W. (1982). *Sedges of the British Isles*, pp. 197, 208. London.

WALLACE, E. (1975). *Carex acuta* L. × *C. acutiformis* Ehrh., in STACE, C. A. ed. *Hybridization and the flora of the British Isles*, pp. 526–527. London.

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CAREX PUNCTATA GAUD.: THE EAST ANGLIAN RECORDS

In a previous Short Note (David 1981) I joined some earlier botanists in doubting the reports of this sedge in Suffolk (Hind 1889). Although there are isolated records of *C. punctata* in southern Norway, southern Sweden and Poland, and in **BEL** an authentic specimen purporting to have been collected near Berwick-on-Tweed, it is primarily a plant of the Atlantic and Mediterranean coasts and has not been seen in the English Channel east of Spithead. Furthermore, confusions between this sedge and its near ally, *C. distans* L., have been very frequent.

Hind's record reads: "Dunwich, on gravelly banks very near the sea: one a little north of the village, the other 2 miles south of it. A sea wall recently built has destroyed the second locality, which was at Scot's Hall". The first site has long since disappeared beneath the sea, so that it is not possible to check the sedge in either of the original localities. When, however, I visited the Hull University herbarium (**HLU**) in 1982, I noticed a specimen labelled "*C. punctata*, saltmarsh, Dunwich, July 1884, *J. D. Gray*". On inspection, the comparatively large, evenly tapered utricles, inserted at an angle of 50 to 60 degrees to the axis of the spike, and the fact that the ligule was in no sense tubular, proved this to be *C. distans*. Later Mrs E. M. Hyde drew my attention to the existence of another specimen in the Ipswich City Museum (**IPS**). There are in fact two there, both collected by Hind himself on 30 June 1881, labelled "Scot's Hall, Suffolk" and "sea-shore, Dunwich", and evidently the vouchers for the records in his *Flora*. Both, on the same criteria as the Hull specimen, are *C. distans*; and one of them had indeed been queried by an earlier visitor, C. E. Salmon, who knew the true plant in Dorset. A duplicate of the Dunwich gathering is in **CGE**, and is also *C. distans*.

The curator of the Ipswich herbarium, Mrs C. Green, pointed out to me another Suffolk record, which I had overlooked. Mr Ronald Burn (Burn 1933) claimed to have seen *C. punctata* on a Suffolk Naturalists Society Excursion to Blythburgh; but the date of the excursion was 1st June 1933, and I find it very hard to believe that *C. punctata* could, without a great deal of expert discussion, have been certainly identified so early in the season.

There remains the Aldeburgh record, by Miss K. D. Little in 1929 (Little 1930). The specimen was determined by the finder's father, J. E. Little, a very competent botanist with a special interest in *Carex*, but it is not in his herbarium in Cambridge. In view of the fact that, of the six East Anglian records of *C. punctata* so far traced, four have proved to be not that species while a fifth appears extremely doubtful, I think it highly probable that the Littles' record, despite J. E. L.'s expertise, was also an error, and that *C. punctata* has never occurred in Suffolk. I wish, however, that the Littles' specimen could be found.

REFERENCES

BURN, R. (1933). Record in *Trans. Suffolk Nat. Soc.*, **2**: xciv.

DAVID, R. W. (1981). The distribution of *Carex punctata* Gaud. in Britain, Ireland, and Isle of Man, *Watsonia*, **13**: 318–321.

HIND, W. M. (1889). *Flora of Suffolk*, p. 381. London.

LITTLE, K. D. (1930). Plant record in *Rep. botl Exch. Club Br. Isl.*, **9**: 142.

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DESCHAMPSIA SETACEA (HUDSON) HACKEL NEW TO SOUTH-WESTERN ENGLAND

In September 1982, I discovered *Deschampsia setacea* (Hudson) Hackel, in moderate quantity, in a shallow, heathland pool on Lizard Downs, W. Cornwall, v.c. 1. The identification was confirmed by Dr T. A. Cope. Subsequent searches by myself and my colleagues revealed the grass in nine pools, both natural and artificial in origin, on the Downs and all within the 10 km square SW61. The population size is estimated at 500 plants. Specimens have been deposited at **K, CGE** and **BRIST**.

The nearest extant localities for this species are on the Purbeck and New Forest heaths where the plant is widely scattered but in small quantity. A pre-1930 record for *D. setacea* near the

Somerset-Devon border, which was cited by Perring & Walters (1976), originated from Marshall (1908) who stated, "Beer Moors and other hill bogs between E. Anstey and Brushford; an interesting novelty for Somerset". However, Marshall (1909) reported that his record was erroneous and that Arthur Bennett considered the material to be "a variety of *Agrostis tenuis* Sibth. (*vulgaris* With.)". Marshall's material in **CGE** was identified as *Agrostis canina* L. by P. J. O. Trist in 1982 as was Marshall's specimen in **BRIST** by me in 1983. Hence the present record of *D. setacea* is new to the Lizard, Cornwall and south-western England.

The rectangular, artificial pools on Lizard Downs are probably the result of cob removal in the past and both these and the natural pools dry out in summer from a winter water depth not exceeding 25 cm. All the pools occur in loess deposits over serpentine (Coombe & Frost 1956a), provided the pool depth does not penetrate the loess-serpentine boundary. Analyses of the loess soil indicated low nutrient status (0.2 ppm P, 2 ppm N–Morgan's reagent extraction). Soil pH gave a range of 4.3 to 5.3, average 5.0 (25 determinations), while pH of pool water ranged from 5.3 to 7.1, average 5.6 (18 samples). Proximity to the sea was indicated by high levels of salts, particularly sodium (up to 59 ppm).

The pools are surrounded by *Agrostis curtisii* (*A. setacea* Curtis, non Vill.) heath (Coombe & Frost 1956b) and the associates of *D. setacea* were investigated by eighteen 1 × 1 m quadrats. The data, showing percentage frequency of associates in the quadrats, are summarized below:

Molinia caerulea	100	*Galium palustre*	6
Carex panicea	56	*Sanguisorba officinalis*	6
Hydrocotyle vulgaris	50	*Agrostis canina*	6
Salix repens	39	*Calluna vulgaris*	6
Eleocharis multicaulis	28	*Genista anglica*	6
Ranunculus flammula	28	*Potentilla erecta*	6
Agrostis stolonifera	17	*Plantago maritima*	6
Danthonia decumbens	17	*Schoenus nigricans*	6
Eleogiton fluitans	12	*Succisa pratensis*	6
Glyceria declinata	12	*Ulex gallii*	6
Erica tetralix	6	*Sphagnum* spp.	6

Molinia caerulea was the only constant species. Bare soil was recorded in all quadrats (range 5–70%, average 45%) and the number of species per quadrat ranged from two to ten. *D. setacea* had the lowest percentage cover in quadrats with the least bare soil but the highest number of species, suggesting that in such pools vegetation succession is occurring to the detriment of *D. setacea*. However, the majority of the pools are poorly vegetated and one site is on National Trust land within a reserve operated by the Cornwall Trust for Nature Conservation, thus ensuring the conservation of this uncommon species at the Lizard.

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REFERENCES

COOMBE, D. E. & FROST, L. C. (1956a). The nature and origin of the soils over the Cornish serpentine. *J. Ecol.*, **44**: 605–615.

COOMBE, D. E. & FROST, L. C. (1956b). The heaths of the Cornish serpentine, *J. Ecol.*, **44**: 226–256.

MARSHALL, E. S. (1908). Somerset plant notes for 1907. *J. Bot., Lond.*, **46**: 252–264.

MARSHALL, E. S. (1909). Somerset plant notes for 1908. *J. Bot., Lond.*, **47**: 255–261.
PERRING, F. H. & WALTERS, S. M., eds (1976). *Atlas of the British flora*, 2nd ed. East Ardsley.

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SENECIO × *SUBNEBRODENSIS* SIMK., AN EARLIER NAME FOR *SENECIO SQUALIDUS* L. × *S. VISCOSUS* L.

In 1881, Simkovics described *Senecio* × *subnebrodensis* Simk. as the hybrid between *S. nebrodensis* L. and *S. viscosus* L. from the Bihar Mountains in what is now north-western Romania. However, it is almost certain that Simkovics misapplied the name *S. nebrodensis* to material of *S. squalidus* L. This very frequent misapplication results from a mistake by Linnaeus, who described *S. nebrodensis* as an annual from Sicily, Spain and the Pyrenees. From the Linnaean type, however, it is clear that the name applies to a glandular-viscid perennial endemic to Spain (Alexander 1979). Furthermore, in his description of the hybrid, Simkovics refers to the leaves as "foliis iis *S. Nebrodensis* L. similibus, sed viscosis", which obviously implies that the material he understood as *S. nebrodensis* was non-viscid, the condition found in *S. squalidus*. As *S. squalidus* is a rather widespread species in south-eastern Europe, Simkovics almost certainly dealt with the hybrid *S. squalidus* × *S. viscosus*. I have not, however, seen any type material.

S. × *subnebrodnesis* Simkovics (1881) has priority over *S.* × *londinensis* Lousley (1946) as the correct name for the hybrid *S. squalidus* × *S. viscosus*. In continental Europe, this name has been in use for a long time (Hegi 1928).

REFERENCES

ALEXANDER, J. C. M. (1979). Mediterranean species of *Senecio* Section *Senecio* and *Delphinifolius*. *Notes R. bot. Gdn Edinb.*, **37**: 387–428.
HEGI, G. (1928). *Illustrierte Flora von Mittel-Europa*, 6(2). München.
LOUSLEY, J. E. (1946). A new hybrid *Senecio* from the London area. *Rep. botl Soc. Exch. Club Br. Isl.*, **12**: 869–874.
SIMKOVICS, L. (1881). Kirándulásaim a Bihar- és az Iskola-Hegységekben. *Természetr. Füz.*, **5(1)**: 43–56.

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NOTES ON THE DISTRIBUTION OF *ARTEMISIA MARITIMA* L. IN EASTERN SCOTLAND

Artemisia maritima L. is found on the coastal fringes and inland saline areas of Europe and from the Black Sea across Central Asia to Lake Baikal (Clapham 1962). Subsp. *maritima* is confined to the coasts of north-western Europe, from western France and the British Isles to Denmark and southern Sweden.

In Britain it is found in some abundance on the south and east coasts between the Humber estuary and the Solent, with scattered records elsewhere. On the west coast its northern limit is, like so many other maritime species, on the north shore of the Solway Firth. On the east coast of Scotland its range extends further northwards to Whinnyfold, N. Aberdeen, v.c. 93. Even so, it is still regarded as a very rare plant in Scotland, with only eight post-1930 10 km square records (Perring & Walters 1976).

In eastern Scotland *A. maritima* is found in several distinct types of habitat: along drift-lines of sand or pebble beaches, on wave-cut platforms amongst boulders or on upstanding ridges of rock, and on (generally south-facing) sea-cliffs and rock stacks, especially where these are washed by storm tides, subject to fresh-water flushing or manuring by sea-birds. However, the largest colonies

occur on small beach-head saltmarshes in East Lothian and Fife. At Barnsmuir, Fife, *A. maritima* is abundant in a grazed *Festuca rubra* turf with *Cochlearia officinalis, Agrostis stolonifera, Plantago maritima, Armeria maritima* and *Juncus gerardii*. This roughly corresponds to the *Artemisietum maritimi* community although it is unusual in that it lacks a number of typically 'southern' associated species such a *Halimione portulacoides*. Although formerly occurring on a beach-head saltmarsh in Angus, it appears that the stands of *A. maritima* on the Firth of Forth marshes are now the northern-most examples of this type of vegetation in the British Isles. Colonies further north, in Kincardine and N. Aberdeen, are confined to sea-cliffs and rock stacks.

All stations for this plant in eastern Scotland which have come to my attention are listed below. Localities in Fife, including all those where it no longer occurs, were visited by me during 1982, following a survey of coastal vegetation by P. Phillipson in 1980–81. Details of extant localities in other vice-counties have been kindly supplied by those listed in the 'Acknowledgments', wherever possible these records have been checked against those in the literature and in local herbaria at **STA** and **DUE**. The present status of the plant at each site is denoted by the letters: A = scattered over an area of less than 0.001 ha; B = more than 0.001 ha, but less than 0.01 ha (i.e. up to 10 × 10 m); C = more than 0.01 ha, but less than 0.1 ha; D = more than 0.1 ha; X = probably extinct.

Berwicks., v.c. 81: 36/9.6, St Abbs, on two rock stacks – much used by herring gulls – and on drift-line on beach below (McBeath & Warman pers. comm.) (B); 36/8.6, Greenheugh, near St Helen's Church, west-facing on small stack, known here for more than a century, less than ten plants (A); 36/7.7, "not seen recently, possibly saltmarsh/shingle casual" (C.O. Badenoch pers. comm.).

E. Lothian, v.c. 82: 36/7.7, Cat Craig, in saltmarsh (A); The Vaults, in beach-head saltmarsh, also on sandy foreshore nearby (B); 36/6.7, Tyninghame, in estuarine saltmarsh (C); 36/6.8, near Scoughall, on shingle drift-line (A); 36/4.8, Aberlady Bay, extant but status not known. Balfour & Sadler (1871) and Martin (1934) noted records from Gullane, Aberlady and Dunbar but precise localities for these are not known.

Fife, v.c. 85: 36/47.99, Chapel Green, Earlsferry, in rock gully amongst drift litter (B); 36/46.99, Kincraig Point (Wood 1887) (X); 36/49.99, Elie Ness on sandy beach above saltmarsh (A); 37/51.00, Ardross, south-east-facing sandstone cliff at 4 m above sea level, about ten plants (A); 37/52.02, rock stack east of Newark Castle (B); 37/54.02, Pittenweem, behind sea-wall (A); 37/5.0, Anstruther, *Miss Goodsir,* 1839 (Young 1936) (X), but might be the following locality: 37/59.05, Hermit's Well, Barnsmuir, on sandy beach above drift-line (A); 37/60.06, Barnsmuir and The Pans, two colonies in beach-head saltmarsh, *G. Sim*, 1888 (**STA**) and *W. Young*, 1891 (**STA**), still extant (B,C); 37/63.09, Fife Ness, low rock outcrop adjoining beach-head saltmarsh (A); 36/66.98, Isle of May, south-facing cliff, *James*, 1947 (**STA**), Eggeling (1960), still extant (A,B), apparently found elsewhere on island by Sadler (1872); 37/4.2, post-1930 record (Perring & Walters 1976), also record in Young (1936) for Tayport, possibly lost due to reclamation of saltmarsh (X); 37/2.1, Newburgh (Anonymous 1836–45) (X); 37/3.2, Balmerino (Anonymous 1836–45) (X).

Angus, v.c. 90, apparently extinct: 37/6.5, post-1930 record in Perring & Walters (1976), precise locality not known; 37/7.5, Usan, in beach-head saltmarsh, *Crapper*, 1948 (**STA**) and *Crapper*, 1950 (**DUE, herb. J.L. Colville**) (X); 37/7.5, north-west of Boddin Point, on sea-cliff, *U.K. Duncan*, 1960 (Ingram & Noltie 1981) (X).

Kincardines., v.c. 91: 37/75.64, St Cyrus, on rock stack (B); 37/9.9, Muchalls (Trail 1923) precise locality not known but probably extinct (X); 38/? 9.0, near Altens, parish of Nigg (Trail 1923) (X); 37/8.8, Garron Point (Dickie 1860), precise locality not known, searched for but presumed extinct (X).

N. Aberdeen, v.c. 93: 48/03.27, Forvie, south-facing site on sea-cliff, 15 m above sea level (B); 48/04.28, Collieston, on sea-cliff, similar position to last (B); 48/08.33, Whinnyfold, on sea-cliff, south-facing site with some flushing, about 20 m above sea level (B).

E. Ross, v.c. 106, extinct: 28/5.4, Redcastle, Beauly Firth, *J. Whyte*, 1955, "all efforts to refind it here have failed" (Duncan 1980) (X); 28/7.5, shore between Ethie and Rosemarkie, *T. Aitken* (Duncan 1980) (X); 28/6.4, Kessock (Lang 1905) (X).

I suspect the reason that Fife appears to be the plant's stronghold is simply that it has been looked for there with the greatest vigour. A thorough search elsewhere would surely reveal other sites; in particular, it is difficult to believe that it will not be refound in Angus.

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REFERENCES

ANONYMOUS (1836–45). *New statistical account of Scotland. Vol. IX, Fife and Kinross*. Edinburgh.
BALFOUR, J. H. & SADLER, J. (1871). *Flora of Edinburgh*, 2nd ed. Edinburgh.
CLAPHAM, A. R. (1962). *Artemisia*, in CLAPHAM, A. R., TUTIN, T. G., & WARBURG, E. F. *Flora of the British Isles*, 2nd ed. Cambridge.
DICKIE, G. (1860). *Botanist's guide to the counties of Aberdeen, Banff, and Kincardineshire*. Aberdeen.
DUNCAN, U. K. (1980). *Flora of East Ross-shire*. Edinburgh.
EGGELING, W. J. (1960). *The Isle of May: a Scottish nature reserve*. Edinburgh.
INGRAM, R. & NOLTIE, H. J. (1981). *The flora of Angus*. Dundee.
LANG, G. A. (1905). *A list of wild flowers and ferns of Inverness and district*. Inverness.
MARTIN, I. H., ed. (1934). *The Field-Club Flora of the Lothians*. Edinburgh.
PERRING, F. H. & WALTERS, S. M., eds. (1976). *Atlas of the British flora*, 2nd ed. London.
SADLER, J. (1872). Notes on the flora of the Isle of May. *Trans. bot. Soc. Edin.*, **11**: 390.
TRAIL, J. W. H. (1923). *Flora of the city parish of Aberdeen*. Aberdeen.
WOOD, W. (1887). *The East Neuk of Fife*, 2nd ed. Edinburgh.
YOUNG, W. (1936). *A list of the flowering plants and ferns recorded from Fife and Kinross (v.c. 85)*. Edinburgh.

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CHROMOSOME NUMBERS OF BRITISH PLANTS, 7

Apium nodiflorum (L.) Lag. × *A. repens* (Jacq.) Reichenb.	2n=20	Cambs., v.c. 29: Chippenham Fen, *S. M. Walters s.n.* (Correction of count in *Watsonia*, **13**: 170 (1980)).
Festuca juncifolia St Amans	2n=56	E. Sutherland, v.c. 107: fore-dunes at Dornoch. *Stace F27.*
	2n=56	E. Ross, v.c. 106: disturbed dunes at Nigg Point, Cromarty Firth. *Stace F26.*
Festuca rubra L. subsp. *rubra*	2n=42	Caithness, v.c. 109: turf on Wick Golf-course, Wick. *Stace F34.*
	2n=42	W. Sutherland, v.c. 108: mobile dunes at Betty Hill. *Stace F30.*
	2n=42	E. Sutherland, v.c. 107: turf at The Mound, S.W. of Golspie. *Stace F32.*
	2n=42	W. Sutherland, v.c. 108: low cliff on beach by Coldbackie, near Tongue. *Stace F33.*
Glyceria declinata Bréb.	2n=20	Bucks., v.c. 24: Howe Park Wood, near Milton Keynes. *Stace s.n.*
Glyceria declinata Bréb. × *G. fluitans* (L.) R. Br.	2n=30	Bucks., v.c. 24: Howe Park Wood, near Milton Keynes. *Stace s.n.*
Glyceria fluitans (L.) R. Br.	2n=40	Bucks, v.c. 24: Howe Park Wood, near Milton Keynes, *Stace s.n.*
Vulpia australis (Nees) Blom	2n=14	W. Kent, v.c. 16: hop garden at Barming. *J. E. Lousley W2845.* **RNG.**

Vulpia fasciculata (Forskål) Fritsch	2n=28	E. Suffolk, v.c. 25: coast near Felixstowe, GR 62/294.333. *E. M. Hyde V501.*
	2n=28	Cheviot, v.c. 68: dunes near Seahouses. *G. A. Swan s.n.*
	2n=28	Westmorland, v.c. 69: dunes at Sandscale Haws, N. of Barrow-in-Furness. *S. L. Jury 750.*
Vulpia unilateralis (L.) Stace	2n=14	Berks., v.c. 22: Cothill, near Abingdon. *H. J. M. Bowen N8.*
	2n=14	Leics., v.c. 55: Bloody Oaks Quarry, Rutland. *E. K. Horwood N9.*
	2n=14	Derbys., v.c.: 57: cinders of Clifton Goods Yard, Ashbourne. *K. M. Hollick N11.*
	2n=14	W. Kent, v.c. 16: Stone, near Dartford. *A. G. Side N10.*

Voucher specimens are in **LTR** unless otherwise stated.

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