

## On the reported occurrence in Ireland in 1892 of *Carex rhynchophysa* Fisch., C.A.Mey. & Avé-Lall.

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**ABSTRACT:** Praeger reported his discovery of the eastern European, *Carex rhynchophysa* from Armagh in 1893, a remarkable extension of its range. The original specimen was first thought to be *C. riparia* by Praeger, *C. rostrata* by S.A.Stewart, and *C. rhynchophysa* by A.Bennet, the foremost Cyperaceae expert of his day. Within a few years doubt was cast upon the identification, and the three specimens at DBN were identified as variants of *C. rostrata*. The specimens are currently recognised as *C. rostrata* var. *utriculata* (Boott) L.H.Bailey.

### INTRODUCTION

An editorial note in the Journal of Botany for 1893 heralded the news that a sedge new to Ireland had been found (Anonymous, 1893a). It reported, ‘*Carex rhynchophysa* C.A.Meyer – Mr. R. Lloyd Praeger has been fortunate enough to add this well-marked species to our Flora; he found it last August in County Armagh. A description and plate will appear in our next number.’

In the following issue Praeger (1893a) published a detailed description of *C. rhynchophysa* (Greater bottle-sedge) together with full synonymy and a line drawing showing male and female inflorescences and a female floret (A.Bennett, del.; R.Morgan, lith.; West Newman, imp.). Praeger also narrated, in some detail, the dramatic circumstances of the recovery of a specimen from its habitat:

*The circumstances connected with the discovery of this plant in Britain were attended by a rather humorous scene, which I trust it will not be considered heresy to relate in the grave and strictly scientific pages of this Journal. On August 14th last I was botanising along the marshy shores of Mullaghmore Lough, a lakelet occupying a shallow hollow in the Lower Silurian or Ordovician rocks that cover the central portion of the county of Armagh. Tall plume-like tufts of Cicuta grew around, and the numerous bog-holes were spangled with the white flowers of Nymphaea. Presently my eye was caught by a patch several feet in diameter of a large sedge, growing in the centre of a deep drain some ten feet in width, which communicated with the waters of the lake. It was immediately distinguished from the groves of Carex rostrata which grew around by its taller growth and more glaucous leaves. It grew in between two and three feet of water, the total height of the plant being about four feet. How to get at it was the difficulty. The bottom of the drain was soft, deep mud. The sides were soft peat, I stretched over and examined the clump with my stick. A single fruit-stem was disclosed, much shorter than the leaves, and bearing several stout sessile erect spikes of fruit, with long leaf-like bracts. I again and again tried to hook it in with my stick, but unsuccessfully-tantalizing! Meanwhile, my eccentric movements had attracted the attention of the inhabitants of the immediate neighbourhood. A small boy who had been lying half-asleep under a hedge sat up and stared with all his might at this novel fishing. The cows which he was herding approached cautiously, and stood mystified in a semicircle. A flock of ducks hurried in from the lough to see what was up, and paused within a few yards, expressing their curiosity in loud quacks of enquiry. All was excitement and suspense. Ah! I had got the sedge safely hooked this time. Slowly it was drawn towards the bank, and my hand closed on the stem. Then came the denouement. The edge of the bank suddenly gave way. There was a frantic spring, and then a huge splash. The ducks gave one universal quack, and fled from the scene with a prodigious flapping; the cows kicked up their heels, and scattered precipitately; the small boy, convinced that the water-bogie was after him at*

*last, fled from the spot in terror; and the botanist emerged, dripping with mud and water, but clutching firmly in his hand the first British specimen of Carex rhynchophysa !*

*Carex rhynchophysa* was noted as ‘an addition to the British flora’; its distribution elsewhere in Europe given as extending from Norway to Silesia, being ‘most abundant in the deep bogs on the river and lake shores of Finland’. The species was not only new to Ireland, it was also new to western Europe. The critical determination had been made by Arthur Bennett.

The site of the new sedge, on the marshy shore of Mullaghmore Lough – a shallow hollow on the Lower Silurian – is situated on the north side of the road (A28) between Newry and Markethill, Co. Armagh (H37), at grid reference H93 97. Praeger when working the shore observed a robust sedge with glaucous leaves growing in 2-3 ft of water in a 10 ft wide, deep drain which opened to the lough. The drainage is via the Cusher River, a tributary of the River Bann (Upper), which enters Lough Neagh near Charlestown/Bannfoot in the same county.

‘Unable to arrive at a satisfactory conclusion as to its determination’ Praeger (1893a) passed the specimen to S.A. Stewart (1826-1910) – a noted Belfast botanist, co-author with T.H. Corry of *A Flora of the North-East of Ireland* (1888) – who named the plant *C. rostrata*. Stewart was ‘Praeger’s mentor, in so far as Praeger had a mentor’ (Webb 1986). Praeger sought a second opinion from Arthur Bennett (1843-1929) – a British botanist and recognised authority on the Cyperaceae family and the genus *Potamogeton* – who submitted the specimen ‘to the most rigid examination ... (he) is now convinced of its identity with *C. rhynchophysa* of C.A.Meyer’. Praeger then finalised a paper he had in preparation, which appeared in the *Journal of Botany* (Praeger, 1893a).

The new sedge was reported also in *The Irish Naturalist* (founded in 1892) (Anonymous, 1893b). There were three separate mentions in all (Praeger, 1893b), one of which appeared in an instalment of the Flora of Armagh, accompanied by the illustration from the *Journal of Botany* (Praeger, 1893c). The addition to the Irish flora had been well proclaimed. There were further references/listings, Hanbury (1893) in a numbered list of vascular plants entered item 1723 as *C. rhynchophysa* with distribution ‘I’ to indicate known from only one botanic district.

A further species had been added to the flora-list of Ireland. The plant had been well and truly identified. Its presence in Armagh – on the rim of the north midlands of Ireland – revealed a spectacular extension in range, which did not support any recognised pattern of distribution. Experienced botanists visited Mullaghmore Lough and looked carefully on lake shores for ‘a handsome plant closely resembling *C. rostrata*’. It seems that doubts were entertained at an early stage.

## THE PRAEGER SPECIMENS

A review of the herbarium specimens (in **DBN**) and a résumé of the relevant literature revealed the sequence of events surrounding the discovery of the sedge, and its aftermath. Three herbarium sheets and their associated labels are pertinent to the study.

### Specimen 1

The herbarium sheet bearing the initial specimen – the voucher specimen lodged by Praeger in the Science & Art Museum, Dublin – carries four affixed labels and a statement written directly on the sheet. Label 1, a fragment of blue paper (? field label), is inscribed in Praeger’s hand ‘*C. riparia*/ Mullaghmore Lake’. The name is crossed out and ‘*C. ampullacea* = *rostrata*’ entered in the handwriting of S. A. Stewart. Label 2, on white paper, bears the following hand-written statement, ‘*C. rhynchophysa* C.A.Meyer, see notes sent by letter, Arth. Bennett’, 2.12.92.’ Label 3 is one of his own printed labels (‘ex Herb R. Lloyd Praeger, B.E., B.A.’), and carries the following information (filled in by Praeger), ‘*Carex rhynchophysa* C.A.Meyer / Drain / Mullaghmore Lough, Co. Armagh / Aug.14.1892 / R.L.P.’. Label 4, a determinavit label states

‘*C. rostrata* Stokes, forma ? / Det. A.C. Jermy’, it is not dated, but is probably ca. 1980. Written directly on the sheet is ‘*C. rostrata* v. *elatius*, see Journ. Bot 1893, p 33’, the script is in Praeger’s hand, and was apparently inserted after the true identity of the plant had been established and accepted.

This specimen at **DBN** is the template for the lithographic illustration in the Journal of Botany (Praeger, 1893a), it being an exact mirror image of the published plate.

### Specimen 2

The second herbarium sheet reflects Praeger’s return visit of the 10<sup>th</sup> June 1893. The specimen collected was also lodged in the herbarium. The sheet bears four affixed labels: Label 1, a fragment of pink paper (? field label) carries the information:-

$$C. \left\{ \begin{array}{l} \text{rhyrachophysa} \quad ? \\ \text{rostrata} \quad ? \end{array} \right.$$

Mullaghmore Lough Armagh / June [18]93 R.LI.P.

Indicating he was apparently in some doubt, he entered two names, coupled them and added a query. Label 2, the second label, printed and headed ‘ex Herb R.Lloyd Praeger’, in Praeger’s hand states:

$$\left. \begin{array}{l} ? \\ ? \end{array} \right\} \begin{array}{l} \text{Carex rhyrachophysa} \\ \text{Carex rostrata} \end{array}$$

Mullaghmore Lough, Armagh / June 1893 / R.LI.P’

Label 3, a piece of white paper has the inscription, ‘I am not surprised at your doubt with this sp. I cannot find a nut – all the fruit seems sterile – or defective ? but with while I think rhyrachophysa. AB.’ The note is not dated, the initials AB must refer to Arthur Bennett. Label 4, a determinavit label reads ‘*C. rostrata* forma? / Det. A.C. Jermy’, not dated. Written directly on the sheet (in Praeger’s hand) is ‘*C. rhyrachophysa* C.A. Meyer.’

### Specimen 3

The third sheet bears three labels, and a note written directly on the sheet, it was also collected on Praeger’s return visit of 1893. Label 1, on a printed Praeger label has the following particulars, ‘*Carex rhyrachophysa* C.A.Meyer / in a drain / Mullaghmore Lough, Armagh / 10 June 1893. R.LI.P.’ Label 2, written on white paper, is headed New to Britain, and reads, ‘*C. rhyrachophysa* C. A. Mey. / in a drain at Mullaghmore Lough, Co. Armagh, Ireland. / Discovered by Mr. R. L. Praeger and received alive from him through Mr. A. Bennett, June 10, 1893. / Drawn for English Botany ed. 3. Supplement. [signed] N. E. Brown’. Nicholas Edward Brown (1849-1934) was Assistant Keeper, Kew Herbarium. He contributed plates to Curtis’s Botanical Magazine. His plant drawings are in Kew. To the writer’s knowledge the drawing of the Armagh plant by Brown was never published. Label 3 is a determinavit label which reads, ‘*C. rostrata* Stokes × *vesicaria* L. / Det. A.C. Jermy’. A written statement on the sheet notes ‘*Carex rostrata* v. *latifolia* Aschers. MCK’, but the handwriting is not that of M.C.Knowles. It seems that a year later Praeger still considered the plant to be *C. rhyrachophysa*.

### THE DENOUEMENT

Botanists aware of the new sedge sought material to match Praeger’s description (Praeger, 1893a) and collected specimens. The Co. Down botanist, H. W. Lett (1836-1896), a member of the Belfast Naturalists’ Field Club, visited the Armagh marsh. The specimen he collected (in **DBN**) is associated with a printed H. W. Lett label with the following entry, ‘*C. rostrata* v. *latifolia* / deep drain / Mullaghmore Lough, near Loughgilly, Co. Armagh. / 15 June 1895. H.W. Lett’, the handwriting is that of H.W. Lett. There is a further label on the sheet ‘*C. rostrata*

Stokes. / Det. A.C. Jermy', not dated. In the same year, British botanist and frequent visitor to Ireland, E.S. Marshall (1858-1919) collected a specimen resembling the Armagh plant which he named, '*C. rostrata* forma *planifolia* / near Cong, W. Galway / 6.7.1895 / E.S.Marshall, – a very strong form'. Marshall added a second affixed label with the inscription, 'Seems to be quite identical with a Westmeath plant named forma *planifolia* by A.Bennett'. No locality or date is given for this H23 record. The Limerick-based botanist, R.D. O'Brien (1847-1917) gathered a specimen which he labelled, '*C. rostrata* forma *planifolia* / near Parteen, Co.Clare / May 10.1904 / R.D. O'Brien. The determinavit label states, '*C. rostrata* Stokes / Det. A.C. Jermy', not dated. The Lett, Marshall and O'Brien specimens are in **DBN**. It appears that the specimens were purpose-collected in response to Praeger's 1893 paper. There are no further 'rhynchophysa-like' specimens (*sensu* Praeger & A. Bennett) in **DBN** until 1982 when material was collected in Westmeath – which see below.

Botanists in Britain were interested. G.C. Druce (1850-1932) – 'an excellent field botanist of wide experience' – had read of the addition and resolved to search for this 'interesting fact in phyto-geography ... unless it belongs to that abnormal group which comprises *Inula salicina* and *Carex fusca* [= *C. buxbaumii* Wahlenb.] which are almost inexplicable outliers from their ordinary range of distribution' (Druce, 1899b). Accordingly, when attending a meeting in Belfast in Aug 1898, Druce made a detour to seek the location indicated by Praeger. 'After a somewhat prolonged search of 3-4 hours he 'came away very sceptical as to having gathered the true *C. rhynchophysa*.' (Druce, 1899b). In the field he considered the plant to be an extreme form of *C. rostrata*. On returning to Bristol he compared the Druce and Praeger specimens with material from eastern Europe in the herbaria of Kew and the British Museum (Druce, 1899a). Druce concluded, '*C. rhynchophysa* ... is still a desideratum to the flora of Great Britain and Ireland' (Druce 1899b). Arising from the Druce paper, Britten noted (1899) that '*C. rhynchophysa* is *C. rostrata* var. *latifolia*' and 'we understand that Mr. Arthur Bennett concurs in that decision, so, *C. rhynchophysa* must disappear from our lists ...'

The first major floristic work to issue in Ireland following the discovery of the sedge, was *Cybele Hibernica* (Colgan & Scully 1898). In this *C. rhynchophysa* C.A.Meyer is listed but indented under *C. ampullaceae* Good. (= f. *rostrata* Stokes). A statement in the introduction explains – '...sub-species are distinguished by printing the name in italics in the centre of the page'. The entry was followed by 'Co. Armagh only. Not found in Gt. Britain. A plant of Northern Europe'. This treatment, by two of Ireland's foremost botanists, indicated a measure of disagreement or dissent from the view taken by Praeger. Johnson (1899), in the second edition of the check-list of Irish plants followed the approach of Colgan & Scully and indented the name under *C. ampullaceae* Good. The species was not entered in *Irish Topographical Botany* but the paper was listed as item 697 in the bibliography (Praeger 1901).

Thereafter *C. rhynchophysa* was not catalogued in species lists of Ireland or Britain, but there were echoes. Babington (1904), following a description of *C. rostrata*, added 'and a very luxuriant Irish form with broad leaves and large fruit is var. *latifolia* Aschers.' Bennett (1910) published a short note entitled, '*Carex rostrata* var. *utriculata*'. It drew attention to the treatment of taxa, mentioned above, in the floristic works of North America. *Carex utriculata* Boot is given specific rank in Hooker, *Flora Borealis Americana* (1840). Bennett added that Kükenthal in *Das Pflanzenreich* (1909) gives the Irish plant recorded in error as *C. rhynchophysa* as *C. rostrata* var. *utriculata* (Bott).

Salmon (1917) listed *C. laevirostris* Fries (= *C. rhynchophysa*) 'as a species which may possibly occur in northern or eastern Scotland'. He noted that 'its nearest British ally' was *C. rostrata* which 'might be easily passed over as a broad-leaved form of this'. Pearshall (1933) in summarising the *Carex* species known from Britain and Ireland at the time, noted that the *C. rostrata* var. *utriculata* differed in its flat, and broader leaves (4-9 mm), larger flowering spikes and fruits as large as *C. vesicaria*.

## CONCLUSION

Interest in *C. rhynchophylla* arose following the collection of a large robust sedge on the marshy shore of Lough Analla, W of Delvin, Co. Westmeath (H23), in October 1982. The field meeting was reported by Breen (1984). *In situ* the sedge resembled, in general appearance, *C. rostrata* (Bottle sedge) – a frequent species in wetlands throughout Ireland. Specimens were collected for the herbarium and later were studied in detail and compared with a range of material in Irish and World sections of the herbarium. A second visit to the site was made on 23<sup>rd</sup> June 1984, and further material was gathered. The Westmeath plants matched the specimens from Mullaghmore and were labelled *C. rostrata* var. *utriculata*. Duplicate specimens were despatched to Mr. Arthur Chater for critical comment. He replied (pers. comm. to M. Scannell on 17<sup>th</sup> Nov 1982) ‘It is, as you say, *C. rhynchophylla* auct. hib., the current name for which seems to be *C. rostrata* var. *utriculata* (Boott) Bailey.’. He ruled out any question of hybridisation with *C. vesicaria* or others. ‘The anthers have enlarged and dehisced normally’.

Tutin *et al.* (1980) describe *C. rhynchophylla* as ‘Like [*C. rostrata*] but stems sharply trigonous, scabrid above... leaves 8-15 mm wide ... female spikes 10-13mm wide’. The more recent *Sedges of the British Isles* handbooks of the BSBI (Jermy *et al.*, 1982, 2007) continues to note the error of *C. rhynchophylla*, but treats *C. rostrata* as too variable to permit named varieties.

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