

## Type material in the Herbarium of the Martin-Luther-University Halle-Wittenberg (HAL)

### *Carex* species in the herbarium of C. Schkuhr

Uwe BRAUN & Klaus WERNER

**ABSTRACT:** Braun, U. & Werner, K. 2007: Type material in the Herbarium of the Martin-Luther-University Halle-Wittenberg (HAL). *Carex* species in the herbarium of C. Schkuhr. *Schlechtendalia* 16: 33–40.

The *Carex* herbarium of C. Schkuhr (1741–1811), separately preserved at HAL, has recently been searched for type collections of taxa described by Schkuhr himself and by other authors. The types concerned have been sorted out and are listed in the present paper. Nomenclatural comments about author citations of particular taxa, above all of those first published by C.L. Willdenow, bibliographic references and discussions on the status of original collections in Schkuhr's herbarium are added.

**Zusammenfassung:** BRAUN, U. & WERNER, K. 2007: Typusmaterial des Herbariums der Martin-Luther-Universität Halle-Wittenberg (HAL). *Carex*-Arten im Herbarium C. Schkuhr. *Schlechtendalia* 16: 33–40.

Das *Carex*-Herbarium von C. Schkuhr (1741–1811), welches in HAL getrennt aufbewahrt wird, ist unlängst nach Typusmaterial von Taxa durchsucht worden, die von Schkuhr selbst oder von anderen Autoren beschrieben worden sind. Entsprechende aussortierte Typus-Kollektionen werden in der vorliegenden Arbeit aufgelistet. Nomenklatorische Anmerkungen zu Autorenzitaten einzelner Taxa, vor allem von solchen Sippen, die von C.L. Willdenow zuerst publiziert worden sind, zu bibliographischen Angaben und Diskussionen zum Status von Originalkollektionen in Schkuhrs Herbarium werden angefügt.

**Key words:** *Carex*, typus, HAL, Schkuhr, Willdenow.

Christian Schkuhr (14 May 1741 to 17 July 1811) was 'Universitäts-Mechanikus' (university mechanic) at the University of Wittenberg. He left a large herbarium, above all containing abundant valuable *Carex* collections. This herbarium was the base for his famous *Carex* monograph (SCHKUHR 1800–1801, 1801, 1806). In 1812, Schkuhr's herbarium was originally bequeathed to the University of Wittenberg. In 1819, it was transferred to the University of Halle (Saale), due to the unification of the two universities (WERNER 1955, 1988). Later, Schkuhr's *Carex* collections were rearranged by Th. Irmisch with a new numeration (numbers below on the left side of the outer envelop). Irmisch listed these numbers and the corresponding *Carex* names on pp. 83–87 of a handwritten herbarium catalogue (Index Herbarii Universitatis Litter. Halensis, 1839). On the inner envelop, the species names were written by Schkuhr himself, but underlining and synonyms were added by A. Sprengel.

Recently Schkuhr's *Carex* herbarium, separately preserved at HAL, has been searched for type collections of taxa described by Schkuhr himself and by other authors. All

type specimens have been sorted out and are listed in this paper, including added new HAL accession numbers.

Some notes about author citations of particular taxa, above all of those first published by C.L. Willdenow, bibliographic clarifications and discussions on the status of original collections in Schkuhr's herbarium are necessary. SCHKUHR (1800–1801) published his treatment of *Carex* spp. as a part of his 'Botanisches Handbuch' and almost simultaneously as a separate book (SCHKUHR 1801). The second half ('Nachtrag') was issued by SCHKUHR (1806). The history of the publication of Schkuhr's 'Botanisches Handbuch' (STAFLEU & COWAN 1985) is complicated and needs to be explained in a separate detailed paper. But to cut a long story short, the following details can be given. Schkuhr published his 'Botanisches Handbuch' in 30 issues between 1787 and 1803. Part 3, containing *Carex*, was published in separate issues ('Hefte') between 1798 and 1803. Several of the plates were issued much earlier. Based on the whole context and available data, it is evident that at least the pages 305 to 352 had been issued in 1800 (pp. 353 to 400 in 1800–1801, pp. 401 to 432 in 1801), i.e., before SCHKUHR (1801). As a complete book, vol. 3 of the 'Botanisches Handbuch' was available in 1802, rather than 1803 as printed in the book (see RAUSCHERT 1974). At least the new species published by Schkuhr on the pages 305 to 352 appeared first in his 'Botanisches Handbuch, Vol. 3', which has hitherto been overlooked. The following species are concerned: *Carex bina* Schkuhr, *C. rivularis* Willd. in Schkuhr, *C. spicata* Schkuhr and *C. tenella* Schkuhr. The priority of new species published on pp. 353–432 is unclear and cannot be resolved. Therefore, the traditional references to SCHKUHR (1801) should be maintained.

Various names of *Carex* species coined by Willdenow, e.g. *C. norvegica* Willd. and *C. straminea* Willd., were issued in SCHKUHR (1801), where they are published without any author citations, but with references to 'Willd. in litt.' at the end of the descriptions. Later, WILLDENOW (1805a) included these names in his treatment of *Carex* species and cited 'W.' (= Willdenow) as author. [WILLDENOW (1805b) published the identical text of the genus *Carex* from his 'Species plantarum' (WILLDENOW 1805a) as a separate booklet ('Caricologia'), which is a very rare publication with only 12 copies (STAFLEU & COWAN 1988), one of them at Halle (Saale).] Schkuhr and Willdenow co-operated closely and exchanged specimens; above all Willdenow placed numerous collections from his herbarium in Berlin at Schkuhr's disposal, which are now maintained at HAL. It was undoubtedly intended that Willdenow should publish his new species in SCHKUHR (1801). Following Art. 46.2 of the ICBN, these names have to be ascribed to Willdenow ('Willd., in Schkuhr') and not to Schkuhr ('Willd. ex Schkuhr' or 'Schkuhr') as done, e.g., by KUNTH (1837). ROTHROCK et al. (1997) cited, for instance, the correct authorship of *C. straminea*.

Another problem is encountered with regard to new species published in WILLDENOW (1805a,b) as well as SCHKUHR (1806). KUNTH (1837) attributed these names to Schkuhr, often as 'Muhl. ex Schkuhr'. WILLDENOW (1805a,b) described the species concerned, e.g., *Carex anceps*, *C. linkii*, *C. oligocarpa* and *C. pellita*, without any author citation, but in each case with reference to Part 2 of Schkuhr's 'Beschreibungen der Riedgräser' (SCHKUHR 1806), although this publication was not yet issued.

Willdenow (1805a,b) mentioned for all species concerned Schkuhr's exact plates and figures, i.e., he had at least Schkuhr's plates at his disposal when he prepared his own manuscript. Willdenow's kind of citation and reference fully agrees with other cases of species already published by other authors, i.e., he anticipated the issue of Schkuhr's book before his own publication or at least simultaneously. There is no evidence that Schkuhr intended to publish these species in WILLDENOW (1805a,b). Furthermore, it is evident that most names were coined by Schkuhr himself or he accepted names proposed by M. Muhlenberg, since Schkuhr often discussed the choice of names on labels or envelopes (e.g. for *C. rosea* Schkuhr ex Willd.). However, on account of some unknown, maybe technical reasons, Schkuhr's book was not published until 1806. Therefore, the names of the species concerned cannot be attributed to Schkuhr, as for instance done by KUNTH (1837), but, according to the ICBN Art. 46.4, have to be ascribed to Willdenow, as 'Schkuhr ex Willd.' or simply 'Willd.'. On the other hand, samples of Willdenow's original material and other specimens in herb. Schkuhr have to be considered type collections. They are part of the protologue since WILLDENOW (1805a,b) referred in the original descriptions to Schkuhr's names and plates, as previously clearly explained by WERNER (1980) for *Carex rosea*. WEBB & BALL (1979) automatically considered original material of *C. rosea* at B to be the holotype. WERNER (1980) demonstrated that this approach was wrong, i.e., in any case lectotypifications including the duplicates at HAL are necessary.

#### List of type collections in Schkuhr's herbarium at HAL

- Carex aethiopica* Schkuhr, Beschr. Riedgräs. 1: 107 (1801); Typus: Insel Bourbon, C.P. Thunberg, 1781; HAL 103621.
- Carex aethiostachys* Schkuhr, Beschr. Riedgräs. 2: 53 (1806); Holotypus: without locality, but with reference to Tab. LIII, Fig. 169 on the label; HAL 103659.
- Carex anceps* Schkuhr ex Willd., Sp. pl. 4: 278 (1805) & Caricologia: 74 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 32; HAL 103638 [Schkuhr (1806: 66)].
- Carex approximata* Hoppe, Herb. Pl. Rar., Cent. 3, No. 90 (1800), nom. nud., non Allioni 1785; Syntypus: in Carinthiae, Salisburgi uliginosis alpinis, Heiligenbluter Tauern, 20 July, Hoppe; HAL 103605.
- Carex atrofusca* Schkuhr, Beschr. Riedgräs. 1: 106 (1801); Holotypus: without locality, 1780, plant agreeing with Tab. CCLXXXVI, Y, No. 82; HAL 103632.
- Carex boryana* Schkuhr, Beschr. Riedgräs. 2: 43 (1806); Holotypus: in Insulae Franciae, J.B.G.G.M. Bory de St. Vincent; HAL 103608.
- Carex buekii* Schkuhr, in herb.; HAL 103661. Notes: There is an annotation on the label indicating that all samples under this name belong to *Carex contigua* Hoppe (= *C. muricata* s. lat.). This name has no relation to *C. buekii* Wimm., Fl. Schles., Ed. III: 81 (1857).
- Carex capensis* Schkuhr ex Willd., Sp. pl. 4(1): 227 (1805) & Caricologia: 23 (1805); Typus: Cap bon. spei; HAL 103620 [Schkuhr (1806: 39)].
- Carex capillata* Schkuhr ex Kunth, Enum. pl. 2: 430 (1837), pro syn. *C. hirsuta* Willd.; Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 147; HAL 103648.

- Carex conoidea* Schkuhr ex Willd., Sp. pl. 4(1): 280 (1805) & Caricologia: 76 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 32.a.2; HAL 103634 [Schkuhr (1806: 67)].
- Carex fimbriata* Schkuhr, Beschr. Riedgräs. 2: 61 (1806); Holotypus: in Helvetica, 1805; HAL 103640.
- Carex fusca* Schkuhr, Beschr. Riedgräs. 1: 64 (1801); Holotypus: ex herb. Vahl (base for Tab. Cc, Fig. 88); HAL 103658.
- Carex gebhardii* Schkuhr ex Willd., Sp. pl. 4(1): 240 (1805) & Caricologia: 36 (1805); Typus: in montibus Salisburgensibus (ex herb. Willdenow); HAL 103595 [Schkuhr (1806: 22)].
- Carex geminata* Schkuhr, Beschr. Riedgräs. 1: 65 (1801); Holotypus: Nova Zeelandia, ex herb. G. Forster [ex herb. K. Sprengel], 29 April 1798; HAL 103607. [= *C. ternaria* Forster, 1786, nom. nud.].
- Carex glomerata* Schkuhr, Beschr. Riedgräs. 1: 79 (1801); Holotypus: without locality; HAL 103623.
- Carex granulata* Schkuhr ex Willd., Sp. pl. 4(1): 279 (1805) & Caricologia: 75 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 33; HAL 103636 [Schkuhr (1806: 67)].
- Carex grypos* Schkuhr, Beschr. Riedgräs. 2: 18 (1806); Holotypus: in alpebus Salisburgi (?); HAL 103599.
- Carex heisii* Schkuhr, in herb.; HAL 103660. Notes: 'Var. von *C. buekii*' is annotated on the label.
- Carex hystericina* Schkuhr ex Willd., Sp. pl. 4(1): 282 (1805) & Caricologia: 78 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 24; HAL 103635 [Schkuhr (1806: 69)].
- Carex lachenalii* Schkuhr, Beschr. Riedgräs. 1: 51 (1801); Lectotypus: without locality; HAL 75278. Notes: Lectotypification by N.J. Turland, Oct. 1996.
- Carex lacustris* Schkuhr ex Willd., Sp. pl. 4(1): 306 (1805) & Caricologia: 102 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 92; HAL 103635 [Schkuhr (1806: 84)].
- Carex laevis* Hoppe, Taschenb.: 243 (1800); Syntypus: in Germaniae pratis uliginosis. Majo, in pratis ad Gebrachin vicinia Ratisbonae, Duval; HAL 103606.
- Carex lagopodioides* Schkuhr ex Willd., Sp. pl. 4(1): 230 (1805) & Caricologia: 26 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 12; HAL 103596 [Schkuhr (1806: 20)].
- Carex linkii* Schkuhr ex Willd., Sp. pl. 4(1): 223 (1805) & Caricologia: 19 (1805); Typus: in graminosis alpinis Lusitaniae; HAL 101842 [Schkuhr (1806: 39)].
- Carex lupulina* Schkuhr ex Willd., Sp. pl. 4(1): 266 (1805) & Caricologia: 62 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 26; HAL 103642 [Schkuhr (1806: 54)].
- Carex lusitanica* Schkuhr ex Willd., Sp. pl. 4(1): 245 (1805) & Caricologia: 41 (1805); Typus: Fl. Lusitan., Link; HAL 103594 [Schkuhr (1806: 23)].
- Carex marginata* Schkuhr ex Willd., Sp. pl. 4(1): 261 (1805) & Caricologia: 57 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, ex herb. Willenow; HAL 103625 [Schkuhr (1806: 49)].

- Carex mielichhoferi* Schkuhr ex Willd., Sp. pl. 4(1): 276 (1805) & Caricologia: 72 (1805); Typus: in alpinis Helvetiae, Salisburgi; HAL 91252 [Schkuhr (1806: 66)].
- Carex miliacea* Schkuhr ex Willd., Sp. pl. 4(1): 290 (1805) & Caricologia: 86 (1805); Typus: ex Am. bor., ex herb. Willdenow; HAL 103631 [Schkuhr (1806: 77)].
- Carex multiflora* Schkuhr ex Willd., Sp. pl. 4(1): 243 (1805) & Caricologia: 39 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 225, July 1802; HAL 103602 [Schkuhr (1806: 14)].
- Carex norvegica* Willd., in Schkuhr, Beschr. Riedgräs. 1: 50 (1801); Typus: Norway, Vahl, herb. Schkuhr; HAL 103600.
- Carex oligocarpa* Schkuhr ex Willd., Sp. pl. 4(1): 279 (1805) & Caricologia: 75 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 34 b; HAL 103643 [Schkuhr (1806: 58)].
- Carex pedunculata* Schkuhr ex Willd., Sp. pl. 4(1): 222 (1805) & Caricologia: 18 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 2/62; HAL 103591 [Schkuhr (1806: 39)].
- Carex pellita* Schkuhr ex Willd., Sp. pl. 4(1): 302 (1805) & Caricologia: 98 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 38; HAL 103629 [Schkuhr (1806: 84), as '*pellida*'].
- Carex persoonii* Schkuhr ex Kunth, Enum. pl. 2: 509 (1837), pro syn. *C. indica*; Typus: Isle de franc., per Bory, a Persoon; HAL 103651.
- Carex polyandra* Schkuhr, Beschr. Riedgräs. 1: 59 (1801); Holotypus: without locality, Krockner jun.; HAL 103626/2.
- Carex polygama* Schkuhr, Beschr. Riedgräs. 1: 84 (1801); Lectotypus: in uliginosis Siaellandiae, M. Vahl, VII. 1799; HAL 103626 (two sheets). Notes: Lectotypification by S. Rauschert, 1972.
- Carex polytrichoides* Schkuhr ex Willd., Sp. pl. 4(1): 213 (1805) & Caricologia: 9 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 138; HAL 103592 [Schkuhr (1806: 34)].
- Carex pubescens* Schkuhr ex Willd., Sp. pl. 4(1): 281 (1805) & Caricologia: 77 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 28; HAL 103641 [Schkuhr (1806: 60)].
- Carex refracta* Schkuhr ex Willd., Sp. pl. 4(1): 297 (1805) & Caricologia: 93 (1805); Typus: Monte Ceniso, ex herb. Willdenow; HAL 103639.
- Carex rosea* Schkuhr ex Willd., Sp. pl. 4(1): 237 (1805) & Caricologia: 33 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 4; HAL 103628 [Schkuhr (1806: 15)]. Notes: Discussion on typification, see WERNER (1980).
- Carex rostrata* Schkuhr ex Willd., Sp. pl. 4(1): 282 (1805) & Caricologia: 78 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 28; HAL 103645 [Schkuhr (1806: 54)].
- Carex schraderi* Schkuhr ex Willd., Sp. pl. 4(1): 286 (1805) & Caricologia: 82 (1805); Typus: Hab. Germanica, ex herb. Willdenow; HAL 103630 [Schkuhr (1806: 81)].
- Carex scirpoides* Schkuhr ex Willd., Sp. pl. 4(1): 237 (1805) & Caricologia: 33 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 52, 1803; HAL 103598 [Schkuhr (1806: 19)].

- Carex scoparia* Schkuhr ex Willd., Sp. pl. 4(1): 230 (1805) & Caricologia: 26 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, Feb. 1805; HAL 103597 [Schkuhr (1806: 20)].
- Carex spadicea* Schkuhr, Beschr. Riedgräs. 1: 90 (1801); Holotypus: ex herb. J.N. von Gebhard (herb. Schkuhr); HAL 103637. Notes: The plant agrees with Tab. CCLVI, L, No. 47b. SCHKUHR (1806: 59) reduced *C. spadicea* to synonym with *C. frigida*.
- Carex sparganioides* Schkuhr ex Willd., Sp. pl. 4(1): 237 (1805) & Caricologia: 233 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 58; HAL 103601 [Schkuhr (1806: 14)].
- Carex stenophylla* Wahlenb., Kungl. Svenska Vetensk.-Akad. Handl., N.S., 24: 142 (1803); Lectotypus: without locality, Hedwig? 1798; HAL 103627. Notes: Lectotypification by T. Norlindh, 1959.
- Carex sterilis* Schkuhr ex Willd., Sp. pl. 4(1): 208 (1805) & Caricologia: 4 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 98, 1803; HAL 103604 [Schkuhr (1806: 3)].
- Carex stipata* Schkuhr ex Willd., Sp. pl. 4(1): 233 (1805) & Caricologia: 29 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 8, 1803; HAL 103603 [Schkuhr (1806: 12)].
- Carex straminea* Willd., in Schkuhr, Beschr. Riedgräs. 1: 49 (1801); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 63, 1803; HAL 103622.
- Carex tenella* Schkuhr, Bot. Handb. 3: 327 (1800) & Beschr. Riedgräs. 1: 23 (1801); Holotypus: without locality, herb. Schkuhr; HAL 103657.
- Carex tentaculata* Schkuhr ex Willd., Sp. pl. 4(1): 266 (1805) & Caricologia: 62 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 23, 1803; HAL 103646 [Schkuhr (1806: 53)].
- Carex trichocarpa* Schkuhr ex Willd., Sp. pl. 4(1): 302 (1805) & Caricologia: 98 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 37, 1803; HAL 103644 [Schkuhr (1806: 47)].
- Carex umbellata* Schkuhr ex Willd., Sp. pl. 4(1): 290 (1805) & Caricologia: 86 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 98, 1803; HAL 103650 [Schkuhr (1806: 75)].
- Carex vahlII* Schkuhr, Beschr. Riedgräs. 1: 87 (1801); Holotypus: Norwegische Alpen (in alpinis Lapponicis), Oeder, ex herb. Vahl; HAL 103647.
- Carex varia* Muhl. ex Wahlenb., Kungl. Svenska Vetensk.-Akad. Handl., N.S., 24: 142 (1803); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, ex herb. Willdenow; HAL 103624. Notes: Annotated and marked as type by J.H. Rettig, 1988.
- Carex verna* Schkuhr, Beschr. Riedgräs. 1: 89 (1801); Holotypus: Switzerland?; HAL 103633.
- Carex virescens* Schkuhr ex Willd., Sp. pl. 4(1): 251 (1805) & Caricologia: 47 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg, No. 17/68; HAL 103649 [Schkuhr (1806: 45)].
- Carex willdenowii* Schkuhr ex Willd., Sp. pl. 4(1): 211 (1805) & Caricologia: 7 (1805); Typus: USA, Pennsylvania, G.H.E. Muhlenberg; HAL 103593 [Schkuhr (1806: 33)].

**Type collections of the following species are not preserved in Schkuhr's herbarium at HAL:**

- Carex austriaca* Schkuhr, Beschr. Riedgräs. 2: 10 (1806).  
*Carex bertolonii* Schkuhr, Beschr. Riedgräs. 2: 5 (1806).  
*Carex bina* Schkuhr, Bot. Handb. 3: 340 (1800) & Beschr. Riedgräs. 1: 36 (1801). ≡ *C. distachya* Willd., Sp. pl. 4(1): 220 (1805) & Caricologia: 16 (1805), nom. superfl. (Willdenow, l.c., cited the earlier published *C. bina* as synonym).  
*Carex bromoides* Schkuhr ex Willd., Sp. pl. 4(1): 258 (1805) & Caricologia: 54 (1805) [Schkuhr 1806: 8].  
*Carex bullata* Schkuhr ex Willd., Sp. pl. 4(1): 309 (1805) & Caricologia: 105 (1805) [Schkuhr 1806: 85].  
*Carex cephalophora* Schkuhr ex Willd., Sp. pl. 4(1): 220 (1805) & Caricologia: 16 (1805) [Schkuhr 1806: 4].  
*Carex emarginata* Schkuhr ex Willd., Sp. pl. 4(1): 262 (1805) & Caricologia: 58 (1805) [Schkuhr 1806: 50].  
*Carex festucacea* Schkuhr ex Willd., Sp. pl. 4(1): 242 (1805) & Caricologia: 38 (1805) [Schkuhr 1806: 23].  
*Carex flexuosa* Schkuhr ex Willd., Sp. pl. 4(1): 297 (1805) & Caricologia: 93 (1805) [Schkuhr 1806: 74].  
*Carex fuliginea* Schkuhr, Beschr. Riedgräs. 1: 91 (1801).  
*Carex hispida* Willd. in Schkuhr, Beschr. Riedgräs. 1: 33 (1801).  
*Carex hostii* Schkuhr, Beschr. Riedgräs. 2: 7 (1806). Notes: possibly only based on 'Host gram. I. p. 34. Tab. 44' which was cited by SCHKUHR (l.c.).  
*Carex muehlenbergii* Schkuhr ex Willd., Sp. pl. 4(1): 231 (1805) & Caricologia: 27 (1805) [Schkuhr 1806: 12].  
*Carex patula* Schkuhr, Beschr. Riedgräs. 1: 115 (1801).  
*Carex ramosa* Schkuhr ex Willd., Sp. pl. 4(1): 247 (1805) & Caricologia: 43 (1805) [Schkuhr 1806: 40].  
*Carex recurva* Schkuhr, Beschr. Riedgräs. 1: 115 (1801).  
*Carex retroflexa* Schkuhr ex Willd., Sp. pl. 4(1): 235 (1805) & Caricologia: 31 (1805) [Schkuhr 1806: 11].  
*Carex rivularis* Willd. in Schkuhr, Bot. Handb. 3: 334 (1800) & Beschr. Riedgräs. 1: 30 (1801).  
*Carex schkuhrrii* Schkuhr ex Willd., Sp. pl. 4(1): 264 (1805) & Caricologia: 60 (1805) [Schkuhr 1806: 51].  
*Carex spicata* Schkuhr, Bot Handb. 3: 315 (1800) & Beschr. Riedgräs. 1: 11 (1801).  
*Carex stipitata* Schkuhr ex Willd., Sp. pl. 4(1): 233 (1805) & Caricologia: 29 (1805) [Schkuhr 1806: 12].  
*Carex tetanica* Schkuhr, Beschr. Riedgräs. 2: 68 (1806). Notes: WILLDENOW (1806a,b) cited Schkuhr's illustration of *C. tetanica* (Ggg, Fig. 100) under *C. conoidea*, but without quoting the name *C. tetanica*.  
*Carex vestita* Schkuhr ex Willd., Sp. pl. 4(1): 263 (1805) & Caricologia: 59 (1805) [Schkuhr 1806: 51].

*Carex villarsii* Schkuhr ex Willd., Sp. pl. 4(1): 220 (1805) & Caricologia: 16 (1805) [Schkuhr 1806: 5]. Notes: Probably only based on 'Vill. delph. 2, p. 196, t. 6' which was cited by Schkuhr as well as Willdenow.

### Acknowledgement

We are grateful to S.R. Pennycook, Auckland, New Zealand, for reading the manuscript and fruitful discussions.

### References

- KUNTH, C.S. 1837: Enumeration Plantarum. Vol. 2. Stuttgart, Tübingen.  
 RAUSCHERT, S. 1984: Zur Nomenklatur der Farn- und Blütenpflanzen Deutschlands (IV). Feddes Repertorium **85**: 641–661.  
 ROTHROCK, P.E., REZNICEK, A.A. & GANION, L.R. 1997: Taxonomy of the *Carex straminea* complex (Cyperaceae). Canadian Journal of Botany **75**: 2177–2195.  
 SCHKUHR, C. 1800–1801: Botanisches Handbuch der mehresten theils in Deutschland wild wachsenden, theils ausländischen in Deutschland unter freyem Himmel ausdauernden Gewächse, Dritter Theil (*Carex*, pp. 305–432). Wittenberg.  
 SCHKUHR, C. 1801: Beschreibung und Abbildung der theils bekannten, theils noch nicht beschriebenen Arten von Riedgräsern nach eigenen Beobachtungen und vergrößerter Darstellung der kleinsten Theile. Wittenberg.  
 SCHKUHR, C. 1806: Beschreibung der Riedgräser. Zweyter Heft (Nachtrag oder die zweyte Hälfte der Riedgräser). Wittenberg.  
 STAFLEU, F.A. & COWAN, R.S. 1985: Taxonomic literature. Vol. V: Sal–Ste. Second edition. The Hague, Boston.  
 WERNER, K. 1955: Das Herbarium der Botanischen Anstalten der Martin-Luther-Universität Halle-Wittenberg. Wissenschaftliche Zeitschrift der Martin-Luther-Universität Halle-Wittenberg, Math.-Nat., **4**(4): 775–778.  
 WERNER, K. 1988: Zur Geschichte des Herbariums der Martin-Luther-Universität Halle-Wittenberg nebst Anmerkungen zu einigen Sammlern. Hercynia N.F. **25**: 11–26.  
 WERNER, K. 1980: Zur Typisierung von *Carex rosea* Schkuhr ex Willd. Taxon **29**: 685–687.  
 WILLDENOW, C.L. 1805a: Species plantarum. Vol. 4(1). Berlin.  
 WILLDENOW, C.L. 1805b: Caricologia. Sive descriptions omnium specierum caricis, in usum excursionum botanicarum pro amicis seorsim impressa. Berlin.

### Address of the authors

Uwe Braun & Klaus Werner, Martin-Luther-Universität Halle-Wittenberg, Institut für Biologie, Geobotanik und Botanischer Garten, Herbarium, Neuwerk 21, D-06099 Halle, Deutschland. (E-mail: uwe.braun@botanik.uni-halle.de)