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### A NEW COMBINATION IN SOUTH AMERICAN *CAREX* (CYPERACEAE) AND ADDITIONAL NOTES ON THE GENUS

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**ABSTRACT:** "A new combination in South American *Carex* (Cyperaceae) and additional notes on the genus". *Hickenia* 2 (39):179-184. 1996.

A new combination in South American *Carex*, *C. rupicola* (Pedersen) G. A. Wheeler, is made here. This species occurs in eastern Argentina and southern Uruguay, where it grows in dry and rocky places on uplands. Additionally, the taxonomic status of four carices described as new by Hans H. Pfeiffer in 1921 is discussed. Of these, *Carex feddeana* H. Pfeiff. is recognized as a good species and the name is lectotypified. This species occurs in southeastern Brazil, Uruguay, eastern Paraguay, and northeastern Argentina. Pfeiffer's other three carices are here considered to be conspecific with earlier described taxa, and the names *C. gynaecandra* H. Pfeiff., *C. decidua* Boott var. *caespitosa* H. Pfeiff., and *C. sphaerogyna* Baker var. *brasiliensis* H. Pfeiff. are placed in synonymy under *C. brasiliensis* A. St. Hil., *C. catharinensis* Boeck., and *C. purpureovaginata* Boeck., respectively.

### INTRODUCTION

*Carex* L. (Cyperaceae) is well represented in South America, with slightly under 100 species and some 30-40 infraspecific taxa in about 32 sections known from the southern half of the continent (Wheeler, 1989). In this paper, a new combination is made and the differences between *C. rupicola* (Pedersen) G. A. Wheeler and *C. bonariensis* Desf. ex Poir. are pointed out. In addition, the status of four carices described by Hans H. Pfeiffer in 1921 is discussed, and a lectotype is chosen for *C. feddeana* H. Pfeiff.

*Carex rupicola* (Pedersen) G. A. Wheeler, comb. et stat. nov. (Fig. 1).

*Carex bonariensis* Desf. ex Poir. var. *rupicola* Pedersen, in *Fl. Prov. Buenos Aires*, ed. A. L. Cabrera, Colec. Ci. Inst. Nac. Agropecu. 4(1): 332. 1969- Type: Argentina, Prov. Buenos Aires, Pdo. Tornquist, Sierra de la Ventana, La Pileta, 5-XI-1941, Cabrera 7353 (Holotype: LP).

In Argentina, these plants are known only from the southwestern part of Buenos Aires Province (Fig. 2), where they grow in the uplands, such as the Sierra de la Ventana, that lie between Coronel Suarez and Bahía Blanca. Notably, Pedersen (1969) also reports the plants from the Department of Canelones in southern Uruguay. These plants grow in dry sites and mature fruit has been collected from November through January. The epithet refers to the habitat in which the plants frequently occur, such as on rocky cliffs or ledges.



Fig. 1. Habit of *Carex rupicola* (Gómez et al. s.n., MIN). Bar = 2 cm.

This plant is raised to species rank because its resemblance to *Carex bonariensis* seems only to be superficial. Indeed, there are distinct differences between the two taxa, both morphologically and ecologically. In addition to the differences given in the key (see further below), *C. rupicola* has fewer spikes, shorter and wider bracts, shorter culms, and larger pistillate scales. Moreover, I have not seen any intergrades between them. It is also worthy of note that *C. bonariensis* occurs primarily in moist meadows, in wet depressions in grasslands, and along highway embankments, whereas *C. rupicola* grows in dry and rocky places.

Representative specimens. ARGENTINA. Prov. Buenos Aires: Pdo. Cnel. Suarez, Sierra de las Tunas, Nuevo Cerro de la Cruz, 17-I-1947, Rossi et Bachmann 169 (LIL). Pdo. Saavedra, Sierra de Bravard, Abra 27 de Diciembre, 19-XI-1972. Gómez et al. s.n. (BAA-11812, MIN).

In 1921, Pfeiffer described four new carices from plants collected in Brazil, viz., *C. feddeana*, *C. gynaecandra*, *C. sphaerogyna* Baker var. *brasiliensis*, and *C. decidua* Boott var. *caespitosa*. The type collections of the first three were made in the State of Paraná and that of the last in the State of Rio de Janeiro. Angely (1965) listed *C. feddeana* H. Pfeiff. and *C. gynaecandra* H. Pfeiff. in his flora of Paraná but indicated (by marking both names with an asterisk) that the status of each was unclear; notably, in Angely's work no mention was made of *C. sphaerogyna* var. *brasiliensis* H. Pfeiff. It is also noteworthy that neither Reitz (1956) nor Barros (1960) mentioned any of these four names in their respective treatments of the *Carex* of Santa Catarina, Brazil. The taxonomic status of each of these four carices is discussed below.

### 1. Status of *Carex feddeana* and its lectotypification

Pfeiffer (1921) described this species from two collections (Dusén 1134a and 8714) made in eastern Paraná and placed it in section *Ammoglochin* Dumort. (sect. *Arenariae* Kunth subsect. *Siccatae* Carey ex Kük. sensu Kükenthal 1909). However, examination of type material reveals that the plants, which are immature, belong in section *Phaestoglochin* Dumort., and, going even further, that they are conspecific with what Kükenthal (1899, 1909) and subsequent authors (e.g., Barros 1947, 1960; Chebataroff 1942; Osten 1931; Pedersen 1969; Reitz 1956) have called *C. bonariensis* Desf. ex Poir. var. *achalensis* Kurtz ex Kük.

It is important to note here that *Carex bonariensis* var. *achalensis* is characterized by having: inflorescences with numerous short, androgynous spikes, the lower of which are often compound; spikes sessile and approximate, with the lowermost ones sometimes interrupted, and which have subtending leaf-like bracts that much exceed the inflorescence (at least the lower ones); and perigynia that are bistigmatic, less than 4 mm long, ovate, more or less tuberculate on both surfaces, puckered at the base and bulged somewhat below the middle, and adaxially 13-17-veined in the proximal half.

Similarly, the isosyntypes of *Carex feddeana* have numerous androgynous spikes, these short and sessile with the lower ones often compound, and spikes with subtending leaf-like bracts that exceed the inflorescence. Also, the perigynia (though immature) are bistigmatic and ovate and, most notably, are distinctly tuberculate. I have examined immature specimens from Argentina that are essentially identical to the Brazilian isosyntypes of *C. feddeana*, many of which have been annotated by the eminent Argentine cyperologist Manuel Barros (1880-1973) as *C. bonariensis* var. *achalensis*. Moreover, Dusen 1134a at S was annotated as *C. bonariensis* var. *achalensis* by T. M. Pedersen, author of the *Carex* of Buenos Aires Province (Pedersen 1969).

Based on the evidence presented above, it is abundantly clear that *Carex feddeana* belongs in section *Phaestoglochin* and that the plants are conspecific with *C. bonariensis* var. *achalensis*. In regard to rank, *C. bonariensis* and *C. feddeana* are treated here as closely related but taxonomically distinct species. Indeed, the two plants differ considerably in both morphology and ecology. As such, it is suggested here that henceforth the name *C. feddeana* should be included in the floras of Argentina, Brazil, Paraguay, and Uruguay.

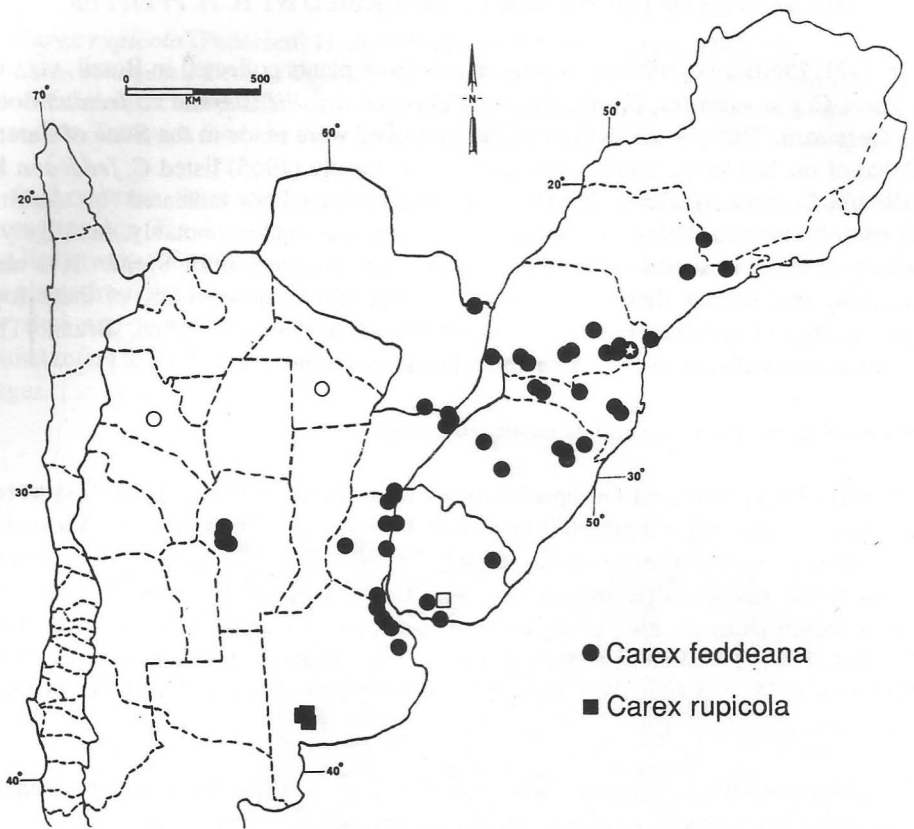


Fig. 2. Map of central South America showing the distributions of *Carex feddeana* and *C. rupicola*; starred circle represents the holotype locality of *C. feddeana*; open circles represent reports (Barros 1935, 1947) of *C. feddeana* from provinces for which I have not seen any specimen; open square represents a report (Pedersen 1969) of *C. rupicola* from Uruguay not seen by me.

***Carex feddeana*** H. Pfeiff., *Repert. Spec. Nov. Regni Veg.* 21: 30. 1921.

Type. Brasília, Paraná, prope Pinhaes, locis subpaludosis, [885 m, 14 Oct 1914], Dusén 1134a (Lectotype [here designated]: BREM, photocopy of BREM at MIN; Isolectotypes: GH, MO, S).

Synonym: *Carex bonariensis* Desf. ex Poir. var. *achalensis* Kurtz ex Kük., *Bot. Jahrb. Syst.* 27: 513. 1899.

*Carex feddeana* occurs from southern Minas Gerais in Brazil southwestward to Uruguay, then westward to eastern Paraguay and northeastern Argentina (Fig. 2). It grows in wet places, particularly in swamps, where it forms cespitose clumps. It flowers in September and October and bears ripe fruit from November through April. This species is named in honor of the great German botanist Friedrich K. G. Fedde (1873-1942).

A key to the Argentine members of *Carex* section *Phaestoglochin* that possess tuberculate perigynia is here provided. (In the key, the perigynium body excludes the beak and the basal stipe).

A. Perigynia 5.1-6 mm long; achenes 1.7 mm wide or wider; plants of dry and rocky places.

*C. rupicola* (Pedersen) G. A. Wheeler

A'. Perigynia less than 5.1 mm long; achenes less than 1.7 mm wide; plants of mesic and wet sites.

B. Perigynium body broadly ovate to suborbicular (occasionally ovate), abruptly contracted to beak,  $\pm$  flat proximally; inflorescence 0.5-1.5(-2.5) cm long; spikes few, compact but the lowest sometimes separated.

*C. trachycystis* Griseb.

B'. Perigynium body ovate to oblong, gradually tapered to beak, usually puckered and bulged proximally; inflorescence (1-)1.5-7.2 cm long; spikes few to many, aggregated but frequently interrupted.

C. Perigynia (3.8-)4.5 mm long, the body 1.6 mm wide or wider, margins smooth or sparingly serrulate; achenes 1.9-2.2 mm long, 1.3-1.6 mm wide; inflorescence usually less than 3.5 cm long.

*C. bonariensis* Desf. ex Poir.

C'. Perigynia 2.8-3.9 mm long, the body less than 1.6 mm wide, margins serrulate (especially distally); achenes 1.4-1.9 mm long, 0.9-1.3 mm wide; inflorescence up to 7.2 cm long.

*C. feddeana* H. Pfeiff.

## 2. Status of *Carex gynaecandra*

An examination of type material of *Carex gynaecandra* (Dusén 944a) reveals that the plants are conspecific with *C. brasiliensis* A. St. Hil. in section *Paludosae* (Fries) Christ (sensu Kükenthal 1909). *Carex brasiliensis* occurs from the Brazilian states of Minas Gerais and Espírito Santo southwestward to Uruguay, then westward to eastern Paraguay and northeastern Argentina. It is suggested here that henceforth the name *C. gynaecandra* should be placed in synonymy under that of:

***Carex brasiliensis*** A. St. Hil., *Voy. Diam.* 1:369. 1833.

*Carex gynaecandra* H. Pfeiff., *Repert. Spec. Nov. Regni Veg.* 17: 31. 1921.- Type: Brasília, Paraná, prope Pinhaes, ad marginem paludosis, [16 Sep 1914], Dusén 944a (Holotype: BREM, photocopy of BREM at MIN; Isotype: GH).

## 3. Status of *Carex sphaerogyna* var. *brasiliensis*

An examination of type material of *Carex sphaerogyna* var. *brasiliensis* (Dusén 16091) reveals that the plants are conspecific with *C. purpureovaginata* Boeck. in section *Pseudocypereae* (L. Bailey) Kük. *Carex purpureovaginata* is endemic to Brazil, as far as known, and occurs from the states of Rio de Janeiro and southern Minas Gerais southwestward to central Paraná. It is suggested here that henceforth the name *Carex sphaerogyna* var. *brasiliensis* should be placed in synonymy under that of:

***Carex purpureovaginata*** Boeck., *Kjoeb. Vidensk. Meddel. Natürl. Foren.* p. 30. 1879-80.

*Carex sphaerogyna* Baker var. *brasiliensis* H. Pfeiff., *Repert. Spec. Nov. Regni Veg.* 17: 32. 1921.- Type: Brasília, Paraná, Curitiba, in fruticetis subuliginosis, [10 Dec 1914], Dusén 16091

(Holotype: BREM, photocopy of BREM at MIN; Isotypes: GH, MO, S-2 sheets).

#### 4. Status of *Carex decidua* var. *caespitosa*

Examination of type material of *Carex decidua* var. *caespitosa* (Dusén 2060) reveals that the plants are conspecific with *C. catharinensis* Boeck. in section *Spirostachyae* (Drejer) L. Bailey. Although Kükenthal (1909) and subsequently Barros (1947, 1960) placed the name *C. catharinensis* under the synonymy of *C. hieronymi* Boeck. (as *Carex fuscula* d'Urv. var. *hieronymi* (Boeck.) Kük.), Pedersen (1969, p. 328) suggests (and correctly so, in my opinion) that the Brazilian plants are taxonomically distinct from *C. hieronymi*, which seems to be confined to Argentina and Chile. Therefore, it is suggested here that henceforth the name *C. decidua* var. *caespitosa* should be placed under the synonymy of:

***Carex catharinensis* Boeck., Allg. Bot. Z. Syst. 2: 191. 1896.**

*Carex decidua* Boott var. *caespitosa* H. Pfeiff., *Repert. Spec. Nov. Regni Veg.* 17: 31. 1921-

Type : [Brasília, Río de Janeiro], Serra do Itatiaia, ca. 1800 m, [19-20 Oct 1903], Dusén 2060 (Holotype: ? BREM; Isotypes: K, S).

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