Carex obliquicarpa, a new species of the Cyperaceae from Guangxi, South China

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Carex obliquicarpa X.F. Jin, C.Z. Zheng & B.Y. Ding, a new species of the Cyperaceae from China, is described and illustrated. The morphological characters of C. obliquicarpa and the similar species C. olivacea and C. retrofracta are compared.

Key words: Carex, Cyperaceae, new species, taxonomy

Carex comprises ca. 2000 species, which makes it the largest genus in Cyperaceae and it is distributed in many regions of the world. Carex can be easily recognized from other genera of Cyperaceae by the absence of a perianth, and presence of unisexual flowers and utricles subtending nutlets (Nelmes 1951). Carex is divided into three subgenera, mainly based upon the number of stigmas, arrangement of spikes and whether the spikes are unisexual or bisexual (Zhang et al. 1998, Dai et al. 2000). Approximately 500 species have been recorded in China (Dai et al. 2000). Recently, several new taxa of Carex have been described (Jin et al. 2003, 2004).

When collecting specimens in Guangxi, we found a population of a peculiar Carex at Mount Guposhan, Hezhou County. Further study on the utricles and nutlets suggested that this plant belonged to Carex sect. Confertiflorae, but there are clear differences between it and the other members of this section. Therefore, we treat this plant as a new species.

Carex obliquicarpa X.F. Jin, C.Z. Zheng & B.Y. Ding, sp. nova (Fig. 1)

Haec species C. olivaceae affinis, sed culmis latereibus, squamis pistillatis brevioribus, 2–2.5 mm longis, apice truncatis, breve aristis obscuris, utriculis squamis longioris, oblique extesxis differt. Species etiam affinis C. retrofractae, a qua foliis subtus glabris, squamis staminatis et pistillatis nec aristatis, utriculis oblique extensis differt.


Perennial herb. Rhizome lignose. Culms lateral, 50–65 cm tall, trigonous, with fuscous leafless sheaths at base. Leaves equal to culms in length, 9–19 mm wide, plane, acuminate at apex, smooth at margin, glabrous on both surfaces. Bracts shortly phylloid, ± equal to inflorescences in length, lowest one with sheaths, sheaths up to
5 cm long. Spikes 4 to 5, lowest one distant from others; terminal spike staminate, linear cylindric, 3–4 cm long, peduncle ca. 5 mm long; others pistillate, long cylindric, 3–5 cm long, 3–4 mm wide, densely flowered, lowest peduncle up to 10 cm long, exserted from sheath, upper peduncles 2–5 mm long. Staminate scales long-elliptic, membranous, 4–4.5 mm long, obtuse at apex, with 2 green nerves on dorsal surface, reddish brown at margin. Pistillate scales narrowly obovate, membranous, 2–2.5 mm long, truncate at apex, with 2 green nerves on dorsal surface, reddish-brown at margin. Utricles longer than scales, obliquely extended, obovoid, obtusely trigonous, brown, 3.5–4 mm long, glabrous, multi-veined, with traverse wrinkles, broadly cuneate at base, beaked at apex; beak 1 mm long, mouth shortly 2-teethed. Nutlets closely included, obovoid, trigonous, infuscate, ca. 2 mm long, emarginate at apex, with attenuated short stalk at base. Styles ca. 1 mm long, slightly incrassate at base. Stigmas 3. Flowering and fruiting April to May.

This new species belongs to Carex sect. Confertiflora, characterized by pistillate, densely-flowered spikes and by the brown utricles. It closely resembles C. retrofracta in having lat-
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Table 1. Comparison of Carex obliquicarpa, C. retrofracta and C. olivacea.

<table>
<thead>
<tr>
<th>Characters</th>
<th>C. obliquicarpa</th>
<th>C. retrofracta</th>
<th>C. olivacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culm</td>
<td>Lateral</td>
<td>Lateral</td>
<td>Central</td>
</tr>
<tr>
<td>Leaf</td>
<td>Glabrous on both surfaces</td>
<td>Pubescent on dorsal surface</td>
<td>Glabrous on both surfaces</td>
</tr>
<tr>
<td>Bract</td>
<td>Short leaf-like, lowest one long-vaginate, others very short-vaginate</td>
<td>Leaf-like, lowest one long-vaginate, others very short-vaginate</td>
<td>Leaf-like, very short-vaginate or evaginate</td>
</tr>
<tr>
<td>Spike</td>
<td>4–5</td>
<td>4–5</td>
<td>5–7</td>
</tr>
<tr>
<td>Stamine spike</td>
<td>One, linear-cylindric, 3–5 cm long</td>
<td>One, long-cylindric, 3–6 cm long</td>
<td>One or two, cylindric or narrowly cylindric</td>
</tr>
<tr>
<td>Pistillate spike</td>
<td>Long-cylindric, 3–5 cm long, densely-flowered</td>
<td>Long-cylindric, 4–10 cm long, sparsely-flowered</td>
<td>Cylindric, 5–10 cm long, densely-flowered, sometimes with a few stamine flowers at apex</td>
</tr>
<tr>
<td>Stamine scale</td>
<td>Long-elliptic, 4–4.5 mm long, obtuse at apex</td>
<td>Lanceolate, 7–7.5 mm long, acuminate at apex</td>
<td>Oblanceolate or oblong, 5–7 mm long, acute or obtuse at apex</td>
</tr>
<tr>
<td>Pistillate scale</td>
<td>Narrowly obovate, 2–2.5 mm long, truncate at apex</td>
<td>Oval, 5–6 mm long, long-aristate</td>
<td>Oval or oblong lanceolate, 4–8 mm long, long- or short-aristate</td>
</tr>
<tr>
<td>Utricle</td>
<td>Longer than scale, obliquely extended, obovoid, 3.5–4 mm long, beak mouth short-2-teeth</td>
<td>Shorter than scale, horizontally or adown extended, ovoid or obovoid, 4.5 mm long, beak mouth obliquely truncate</td>
<td>Shorter than scale, horizontally extended, ovoid or broadly ovoid, ca. 4 mm long, beak mouth shortly 2-teethed</td>
</tr>
<tr>
<td>Nutlet</td>
<td>Obovoid, ca. 2 mm long, emarginate at apex</td>
<td>Ellipsoid, ca. 2 mm long, shortly beaked at apex</td>
<td>Ellipsoid or obovoid, ca. 2 mm long, shortly beaked at apex, beak curved</td>
</tr>
</tbody>
</table>

Carex obliquicarpa differs from C. olivacea in having lateral culms and glabrous utricles, but differs in the leaves that are glabrous on dorsal surface, shorter spikes, staminate and pistillate scales that are not aristate, and in the utricles that are obliquely extended. Carex obliquicarpa is also similar to C. olivacea in having glabrous and brown utricles, strong staminate spikes, but the former differs by having lateral culms, pistillate scales 2–2.5 mm long, that are truncate and not shortly aristate at apex, and utricles longer than the scales, obliquely extended. Characters distinguishing the new species from the morphologically somewhat similar ones are detailed in Table 1.

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