

Scientific data

## Notes on Cyperaceae plants collected from the Mongolia II. Around Ulaan Burgas Pond and Gun Nur Lake area in Selenge Province

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**Abstract:** Ulaan Burgas Pond and Gun Nur Lake in Selenge Province of Mongolia are in one of the country's most biodiverse areas, and are surrounded by taiga and forest steppe. We conducted fieldwork to investigate the diversity of Cyperaceae in the area during 24-29 June 2019. Among the specimens collected, we recognized 16 taxa of five genera in Cyperaceae. Two *Carex* species, *C. diandra* Schrenk and *C. diluta* M.Bieb., are thought to be new records for the Mongolian Dauria mountain forest steppe region.

Cyperaceae Juss. is one of the largest monocot families, comprising 106 genera and ca. 5400 species (Govaerts et al. 2007). In Mongolia, 13 genera and 132 species of Cyperaceae have been reported previously (Nyambayar 2009, Urgamal et al. 2014).

Grubov (1982) recognized 16 botanico-geographic regions in Mongolia (Fig. 1). The Mongolian Dauria mountain forest steppe region (Fig. 1-4) is known to have a high of diversity

of Cyperaceae, with 55 species in 10 genera having been reported from this region (Urgamal et al. 2014). Prior to 2018, the only Cyperaceae have been reported from the Shatan area in this region were two species of *Carex* (Badamtsetseg 2015). We carried out fieldwork in the Shatan area in 2018 and increased this to 16 taxa from six genera of Cyperaceae (Yano et al. 2019). One reason for the paucity of Cyperaceae records is the difficulty in their identification, as many

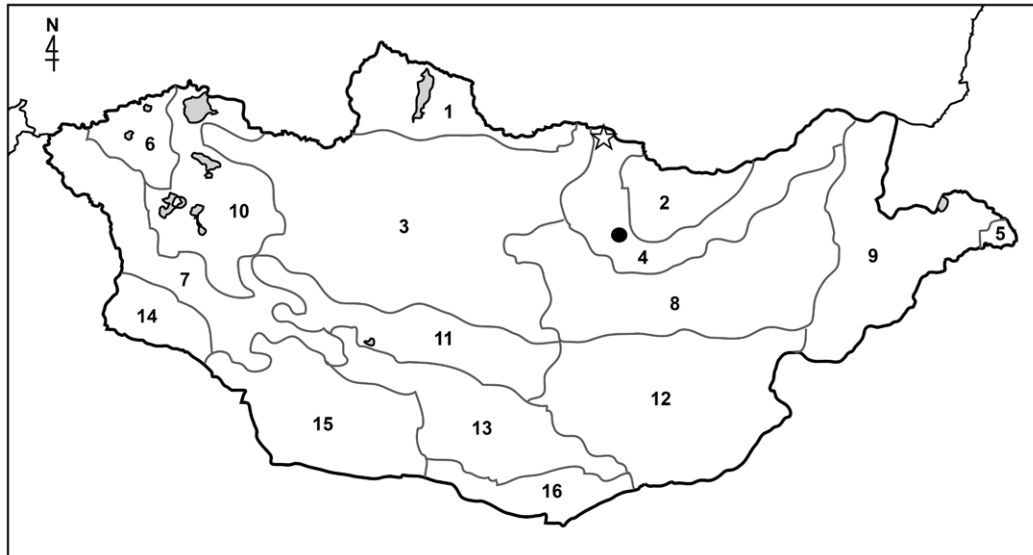


Fig. 1. Map of 16 botanico-geographic regions of Mongolia [after Grubov (1982)] and the location of field site. 1: Khubsugul mountain taiga. 2: Khentei mountain taiga. 3: Khangai forest steppe. 4: Mongolian Dauria mountain forest steppe. 5: Great Khingan mountain meadow steppe. 6: Khobdo mountain semi-desert steppe. 7: Mongolian Altai mountain steppe. 8: Middle Khalkha dry steppe. 9: East Mongolia steppe. 10: Depressions of Great Lakes semi-desert steppe. 11: Valley of Lakes semi-desert steppe. 12: East Gobi semi-desert steppe. 13: Gobi-Altai mountain semi-desert steppe. 14: Dzungarian Gobi desert. 15: Transaltai Gobi desert. 16: Alasgan Gobi desert. (☆) indicates the location of Ulaan Burgas Pond and Gun Nur Lake area, and (●) that of Ulaanbaatar.

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species require a microscope to observe fine details. Further work will be needed to form a more complete understanding of the diversity of Cyperaceae in the region.

This is the second report in a series of notes on Cyperaceae collections from Mongolia, and is an account of an inventory of the Cyperaceae species around Ulaan Burgas Pond and Gun Nur Lake in Selenge Province of Mongolia which was carried out from 24 to 29 June 2019.

Ulaan Burgas Pond is located in Tseregiin Dugang, and Gun Nur Lake is in Altanbulag, Selenge Province, ca. 340 km north of Ulaanbaatar and ca. 100 km south of Lake Baikal (Russia). Both are included in the Mongolian Dauria mountain forest steppe region (Fig. 1-4).

Collections were made in grasslands, sandy place, *Pinus* (Pinaceae) or *Betula* (Betulaceae) forests and the wet margins of Ulaan Burgas Pond (Fig. 2A), and Gun Nur Lake (Fig. 2B). A total of 16 taxa from five genera of Cyperaceae were found (Figs. 3 & 4), most of which were the genus *Carex*. Among the collections, two *Carex* species, *C. diandra* Schrank (Fig. 3F & G) and *C. diluta* M.Bieb. (Fig. 3H & I), are thought to be new records for the Mongolian Dauria mountain forest steppe region. All taxa are listed below in alphabetically by genus and species. Classification was mainly followed Nyambayar (2009). The number following the species name indicates the distribution of the species in Mongolia according to Grubov's botanico-geographic regions (Fig. 1), with "4" referring to Mongolian Dauria mountain forest steppe region. All voucher specimens are deposited in the Herbarium of Okayama University of Science (OKAY), with duplicates available in the Department of Biology, Mongolian National University of Education. The abbreviation GY refers to the names of the collectors, V. Gundegmaa and O. Yano.

### List of Cyperaceae in Mongolia (Around the Ulaan Burgas Pond and Gun Nur Lake area)

#### 1. *Blysmus* Panz. ex Schult.

- 1) *B. compressus* (L.) Panz. ex Link subsp. *brevifolius* (Decne.) Kukkonen (Fig. 3A) [2, 3, 4, 5, 7, 8, 9, 11, 13, 14]  
**Habitat:** Sunny, open wet sandy place around Gun Nur Lake.  
**Voucher:** GY no. 1911023, 28 June 2019.
- 2) *B. rufus* (Huds.) Link (Fig. 3B) [1, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15]  
**Habitat:** Sunny, open wet place around Ulaan Burgas Pond.  
**Voucher:** GY no. 1911005, 25 June 2019; GY no. 1911019, 26 June 2019.

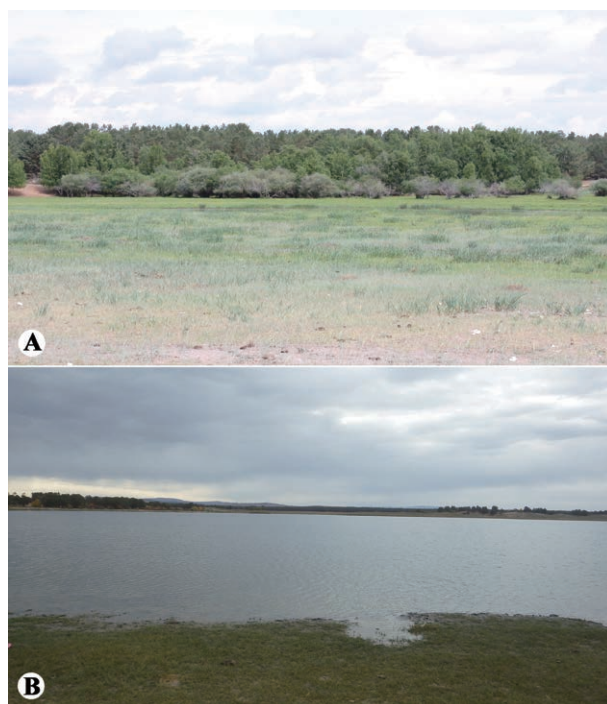


Fig. 2. Field sites around Ulaan Burgas Pond and Gun Nur Lake. A: Ulaan Burgas Pond. B: Gun Nur Lake.

#### 2. *Carex* L.

- 1) *C. argunensis* Turcz. ex Ledeb. (Fig. 3C) [2, 4, 5, 7, 9]  
**Habitat:** Under *Pinus* forest around Ulaan Burgas Pond.  
**Voucher:** GY no. 1911013, 25 June 2019.
- 2) *C. coriophora* Fisch. & C.A.Mey. ex Kunth (Fig. 3D) [1, 2, 3, 4, 5, 8, 9]  
**Habitat:** Sunny, open wet place around Ulaan Burgas Pond.  
**Voucher:** GY no. 1911022, 26 June 2019.
- 3) *C. delicata* C.B.Clarke (Fig. 3E) [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 13, 14]  
**Habitat:** Sunny, open wet place around Ulaan Burgas Pond.  
**Voucher:** GY no. 1911002, 25 June 2019.
- 4) *C. diandra* Schrank (Fig. 3F & G) [2, 4, 5, 9, 10]  
**Habitat:** Sunny, open wet place around Ulaan Burgas Pond.  
**Voucher:** GY no. 1911010, 25 June 2019.  
**Note:** This species is thought to be a new record for the Mongolian Dauria mountain forest steppe region.
- 5) *C. diluta* M.Bieb. (Fig. 3H & I) [4, 10]  
**Habitat:** Sunny, open wet place around Ulaan Burgas Pond.  
**Voucher:** GY no. 1911001, 25 June 2019.  
**Note:** This species is thought to be a new record for the Mongolian Dauria mountain forest steppe region.
- 6) *C. duriuscula* C.A.Mey. (Fig. 4A) [1, 2, 3,

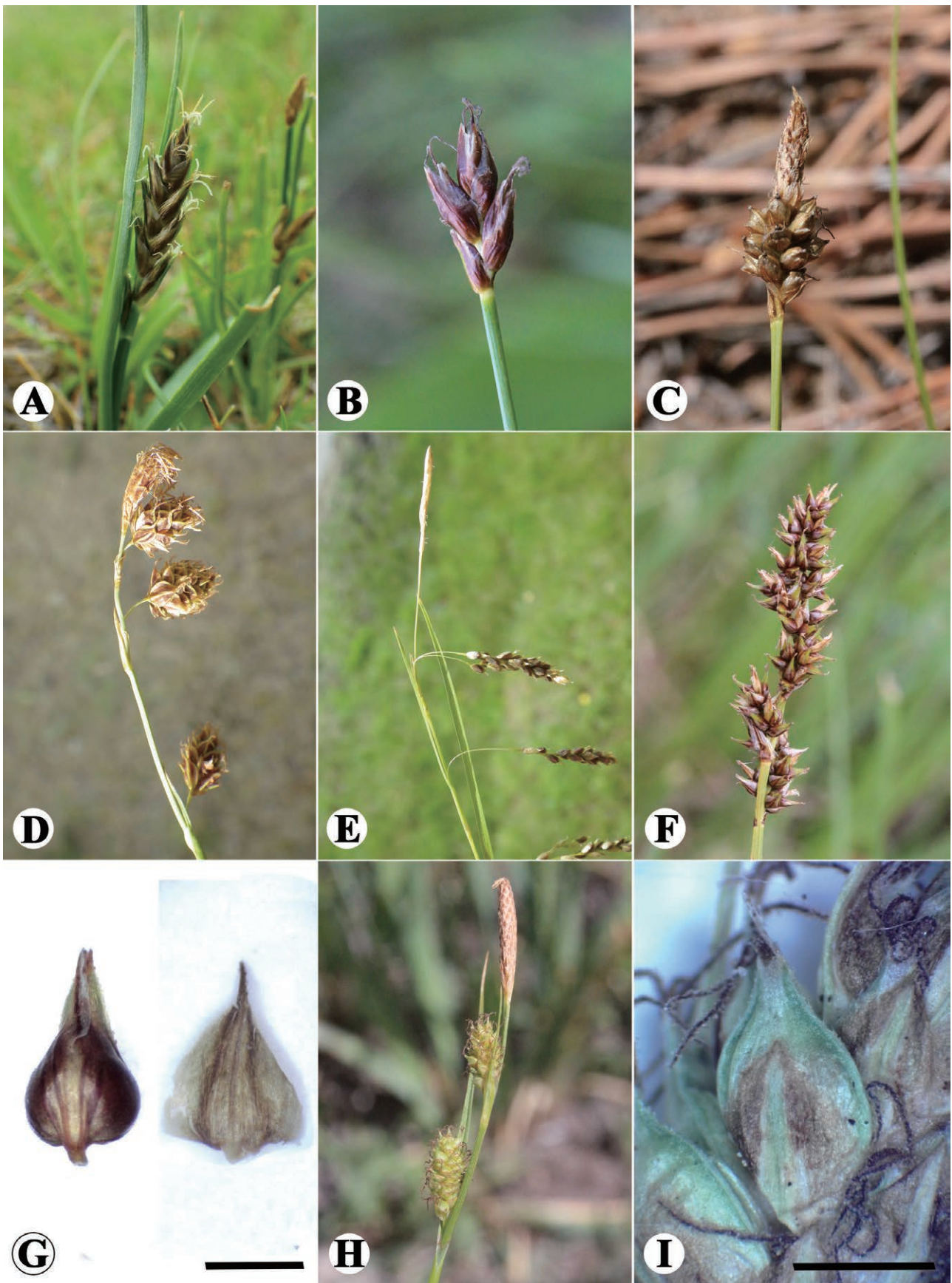


Fig. 3. *Blysmus* and *Carex* from Ulaan Burgas Pond and Gun Nur Lake area. A: *Blysmus compressus* subsp. *brevifolius*. B: *B. rufus*. C: *Carex argunensis*. D: *C. coriophora*. E: *C. delicata*. F: *C. diandra*. G: Perigynium (left) and scale (right) of *C. diandra*. Bar: 1 mm. H: *C. diluta*. I: Perigynium and scale of *C. diluta*. Bar: 1 mm.

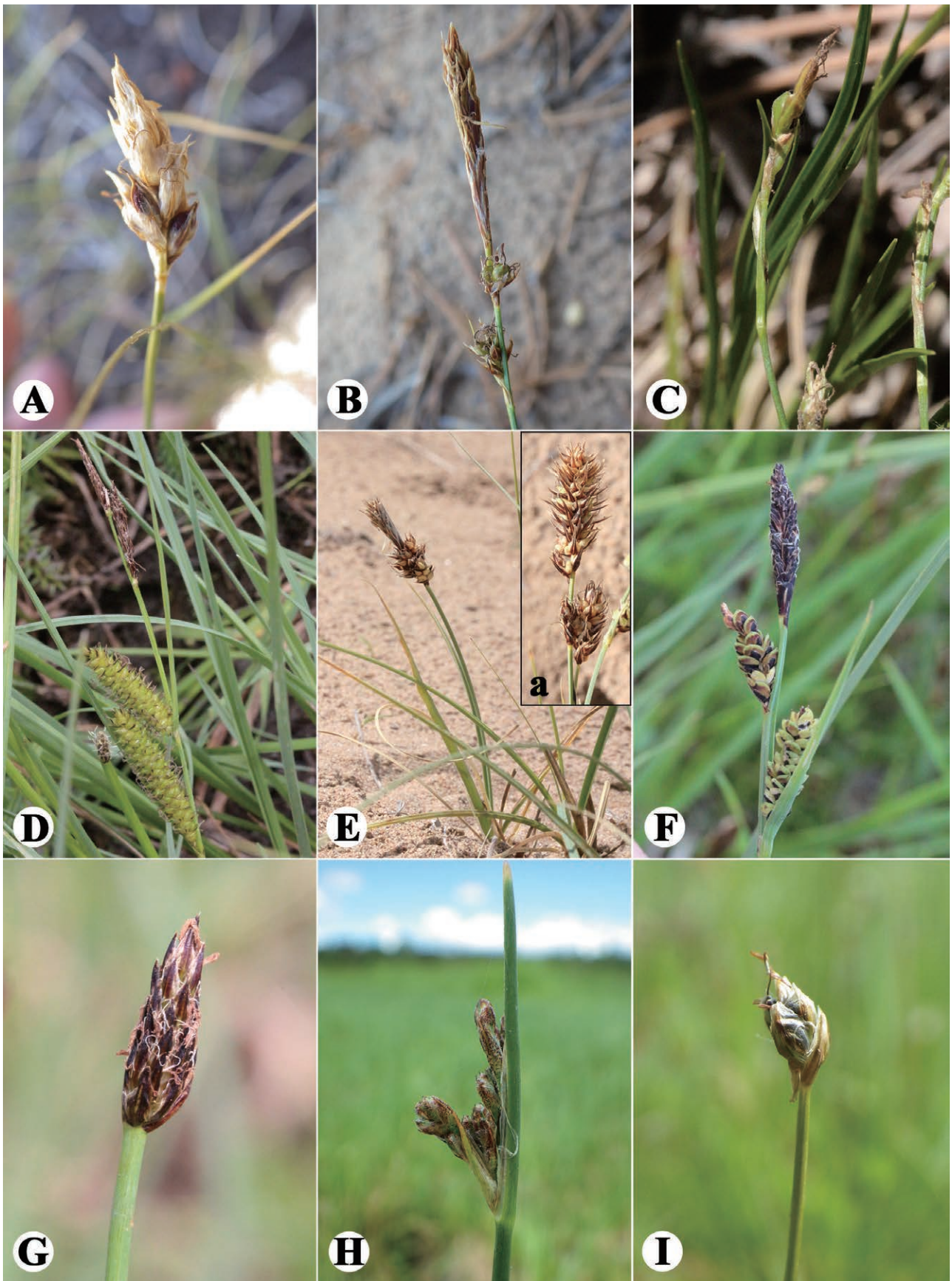


Fig. 4. *Carex*, *Eleocharis*, *Schoenoplectus* and *Trichophorum* from Ulaan Burgas Pond and Gun Nur Lake area. A: *Carex duriuscula*. B: *C. korshinskyi*. C: *C. pediformis*. D: *C. rynchophysa*. E: *C. sabulosa* (a: female parts). F: *C. schmidtii*. G: *Eleocharis palustris*. H: *Schoenoplectus lacustris* subsp. *hippolytii*. I: *Trichophorum pumilum*.

4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 16]

**Habitat:** Sunny, open wet place; along a small stream; under *Betula* forest, around Ulaan Burgas Pond.

**Voucher:** GY nos. 1911004, 1911016, 1911017, 25 June 2019; GY no. 1911018, 26 June 2019.

7) *C. korshinskyi* Kom. (Fig. 4B) [1, 2, 3, 4, 5, 6, 8, 9, 10, 12, 13]

**Habitat:** Sandy, under *Pinus* forest around Ulaan Burgas Pond.

**Voucher:** GY no. 1911014, 25 June 2019.

8) *C. pediformis* C.A.Mey. (Fig. 4C) [1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14]

**Habitat:** Under *Betula* forest around Ulaan Burgas Pond; under *Pinus* forest around Gun Nur Lake.

**Voucher:** GY no. 1911015, 25 June 2019; GY no. 1911024, 28 June 2019.

9) *C. rhynchophysa* Fisch., C.A.Mey. & Avé-Lall (Fig. 4D) [2, 3, 4, 5, 9, 10]

**Habitat:** Sunny, open wet place around Ulaan Burgas Pond.

**Voucher:** GY no. 1911009, 25 June 2019.

10) *C. sabulosa* Turcz. ex Kunth (Fig. 4E) [1, 2, 3, 4, 7, 8, 10]

**Habitat:** Sunny, open sandy place around Ulaan Burgas Pond.

**Voucher:** GY no. 1911012, 25 June 2019.

**English name:** Baikal sedge.

11) *C. schmidtii* Meinsh. (Fig. 4F) [2, 3, 4, 5, 8, 9]

**Habitat:** Wet place around Ulaan Burgas Pond.

**Voucher:** GY no. 1911006, 25 June 2019; GY no. 1911021, 26 June 2019.

### 3. *Eleocharis* R.Br.

1) *E. palustris* (L.) Roem. & Schult. (Fig. 4G) [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16]

**Habitat:** Sunny, pond margin; along a small stream around Ulaan Burgas Pond.

**Voucher:** GY no. 1911007, 25 June 2019; GY no. 1911020, 26 June 2019.

### 4. *Schoenoplectus* (Rchb.) Palla

1) *S. lacustris* (L.) Palla subsp. *hippolytii* (V.I.Krecz.) Kukkonen (Fig. 4H) [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15]

**Habitat:** Sunny, margin of Ulaan Burgas Pond.

**Voucher:** GY no. 1911008, 25 June 2019.

### 5. *Trichophorum* Pers.

1) *T. pumilum* (Vahl) Schinz & Thell. (Fig. 4I) [1, 3, 4, 8, 9, 10, 14]

**Habitat:** Sunny, open wet place around Ulaan Burgas Pond.

**Voucher:** GY no. 1911003, 25 June 2019.

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矢野興一・星野卓二・Vanjil GUNDEGMAA・中本敦：モンゴル国における植物調査で採集されたカヤツリグサ科植物 (2) セレンゲ県ウランブルガス池およびゲン・ヌール湖周辺地域

## 要約

モンゴル国セレンゲ県ウランブルガス池およびゲン・ヌール湖周辺地域は、首都ウランバートルから約340km北に、ロシアのバイカル湖から約100km南に位置し、タイガ林と森林ステップに区分され、モンゴル国の中でも植物の多様性が高い地域の1つに含まれる。モンゴル国のカヤツリグサ科は13属132種が知られているものの、同定が難しいグループの1つであることから、モンゴル国内でのカヤツリグサ科の分布や生育状況に関する調査が充分になされていない。そこで著者らは2018年に植物の多様性が高い地域の1つであるトゥブ

県シャタン地域において調査を行い、6属21分類群のカヤツリグサ科を採集した。さらに今回、筆者らは2019年6月24日から29日までの6日間、セレンゲ県ウランブルガス池およびゲン・ヌール湖周辺地域でカヤツリグサ

科植物の調査・採集を行った。その結果、5属16分類群のカヤツリグサ科植物を採集し、そのうちスゲ属の2種 *Carex diandra* と *C. diluta* は、この地域から初めて確認された分類群であると考えられる。

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