

records are as follows: Coos Co., Colebrook, Connecticut River, *Krochmal* 1389; Grafton Co., Monroe, Connecticut River, *Krochmal and Sheehan* 62; Lyman, Dodge Pond, *Krochmal and Sheehan* 57 and Ogontz Pond, *Krochmal* 1601; Orford, Upper Baker Pond, *Krochmal* 1467; Sullivan Co., Claremont, Connecticut River, *Hodgdon, Leighton and Richards*, 5885; Charlestown, Connecticut River, Aug. 7, 1947, *Gould and Krochmal*; Cheshire Co., Westmoreland, *Krochmal* 1205. Some of these collections are somewhat intermediate in vegetative character between *P. Richardsonii* and *P. perfoliatus* var. *bupleuroides*. These are the specimens from Colebrook, Dodge Pond in Lyman and Charlestown. We preferred to consider them as extremes of the former.

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## NOTES ON THE GENUS CAREX I:

### A NEW SPECIES OF CAREX FROM WESTERN CANADA<sup>1</sup>

J. A. CALDER

#### *Carex raymondii* sp. nov.

*C. atratiformis* Britton. Bull. Torr. Bot. Club, Vol. 22, p. 222, 1895 (*pro parte, typo excl.*).

Planta caespitosa rhizomatibus brevibus adscendentibus; culmi graciles, 3–7 dm. alt., multo longiores foliis, phyllopodici, summi minute vel valde scabri, acute triangulares; laminae basi foliorum subseptato-nodulosae, planae, marginibus revolutis, glaucovirides, (2.5)–3.5–(6.0) mm. lat., erecto-adscendentes, marginibus ad apicem scabris; vaginae ventrale albae, hyalinae, nonnunquam maculosae, ad summas purpureo-rubrae; ligulae a subquadratis ellipticae; folia inferiora reducta, purpureo-nigra vel pallide subfusco-purpurea; spicae densae 3–4–(7), approximatae, ellipsoideae vel interdum cylindricae, 1.1–2.0 cm. long.  $\times$  4.5–8.0 mm. lat., superior gynaeandra (raro foeminea), laterales foemineae vel floribus inferioribus paucis masculis, inferiores paulum arcuatae pedunculis gracilibus scabris vel subglabris, superiores erectiores, pedunculis brevioribus; perigynia (7)–20–30–(50) in spica singula adpresso-adscendentia; bractea inferior foliacea, saepius culmo brevior, vagina brevissima, concolor cum culmo vel basi sparse rubro-purpurea; bracteae superiores subulatae et saepius basi rubro-purpureae; squamae anguste ovatae, acutae vel subacuminatae, 2.5–3.0 mm. long., nonnunquam longiores perigyniis sed saepius breviores, saepius sublucidae, pallide vel atre purpureo-rubrae, marginibus hyalinis obsoletis vel conspicuis, nervo singulo obsoleto vel conspicuo, saepius angusto, pallidiore; perigynia ovoidea vel suborbiculata, paulo inflata, 2.5–3.5 mm. long.  $\times$  1.5–2.2 mm. lat., bicostata, enervosa, membranacea, granulosa, puncticulata, pallide castanea vel viridi-castanea, interdum ad summas  $\pm$  purpurascentia, breviter stipata, rostro 0.4 mm. long., bidentata,

<sup>1</sup> Contribution No. 1190, Division of Botany and Plant Pathology, Science Service, Canada Department of Agriculture, Ottawa, Canada.



plus minusve purpurea, apice hyalina; achenia media 1.4 mm. long.  $\times$  0.9 mm. lat., granulosa, pallide brunnea; stigmata 3.

Plants caespitose with short, stout, ascending rhizomes; culms slender, 3–7 dm. high, much longer than the leaves, phyllopodic, minutely to strongly scabrous above, sharply triangular; blades of the leaves weakly septate-nodulose at base, flat with revolute margins, glaucous-green, (2.5)–3.5–(6.0) mm. wide, erect-ascending, scabrous-margined towards apex; the sheaths white-hyaline ventrally, occasionally purplish-red-spotted below the concave mouth; the ligule as long as broad or longer; lower leaves reduced, purplish-black to light brownish-purple; spikes 3–4–(7), approximate, ellipsoid or occasionally cylindric, 1.1–2.0 cm. long  $\times$  4.5–8.0 mm. wide, the terminal gynaeandrous (exceptionally pistillate), the lateral either totally pistillate or with a few basal staminate flowers, the lower somewhat curved on slender, scabrous to almost glabrous peduncles, the upper more erect, on shorter peduncles; each spike with (7)–20–30–(50) appressed-ascending perigynia; lowest bract leaflet-like, usually shorter than the culm, very short sheathing, the same colour as the culm or sparingly reddish-purple at base; the upper bracts subulate and usually reddish-purple at base; scales narrowly ovate, acute to subacuminate, 2.5–3.0 mm. long, occasionally longer than the perigynia but usually shorter, usually shiny, light to dark purplish-red, with obsolete to broad hyaline margins, and obsolete to broad (usually narrow) midveins of lighter colour; perigynia short-ovoid to suborbicular, weakly inflated, 2.5–3.5 mm. long  $\times$  1.5–2.2 mm. wide, two-ribbed, nerveless, membranaceous, granular, puncticulate, pale greenish-castaneous to castaneous, sometimes minutely and dilutely purplish-colored just below the beak, short-stipitate, beak 0.4 mm. long, bidentate, hyaline at tip, lightly to strongly purplish-red-tinged below; achenes averaging 1.4 mm. long  $\times$  0.9 mm. wide, granular, light brown; stigmas 3.

In the citations which follow, the abbreviation (CAN) is used for specimens in the herbarium of the National Museum of Canada; all others are in the herbarium of this Division.—**Alaska:** Disturbed sandy-gravel area bordering old airstrip, Big Delta, *Cody & Webster 5480*; sandy soil in depression in cleared area, Delta Junction, Mile 268 Richardson Highway, *Cody & Webster 5947*. **Yukon:** Ear Lake, Whitehorse, *M. P. & R. T. Porsild 49* (CAN); open pine woods, east slope of Rose River valley, Mile 77 Canol Road, *Porsild & Breitung 10252* (CAN); alluvial meadows on west bank of Nisutlin River opposite Mile 36 Canol Road, *Porsild & Breitung 10760, 10762* (CAN); river flats above Rink Rapids, Yukon River, *Macoun 53896* (CAN); moist area along path, willow thicket, west slope of Moosehide Mountain, Dawson, *Calder & Billard 3784*. **Mackenzie District:** Moist crevices in calcareous rocks, Alexander Falls, Hay River, *Lewis 643*; in sand by roadside, Seven Mile Lake, 27 miles west of Fort Smith, *Cody 4640*. **Alberta:** Livingston Valley at the Gap, August 11, 1951, *Malte*; near C. P. R. Notch, Banff, *Macoun 14022* (CAN); Kananaskis, *Macoun 13421A* (CAN); Canmore, *Macoun 13421* (CAN); Moose Mt., Elbow River, *Macoun 25433B* (CAN); Jumping Pound Creek, *Macoun 25434* (CAN); Mt. Coliseum, Nordegg, *Malte & Watson 1511* (CAN); low moist ground, spruce woods, moist fields, burned over area, Nordegg, Clearwater Forest Reserve, *Cormack 582, 584, 754, 775, 789, 790C*; low ground by bog, Pigeon Lake, 40 miles southwest of Edmonton,



*Turner 5009*; edge of hay slough, Pigeon Lake area, *Turner 7239*; moist area, Edmonton, *Moss 6019*; moist area, Whitemud Creek, Edmonton, *Turner 2570*; grassland 2 miles northwest of Harmon Valley, *Moss 7718*; McAllister Creek, north of Dunvegan, *Macoun 59530* (CAN); woodland, Beaverlodge, *Jenkins 167*; Moose Lake District, Wood Buffalo Park, *Raup 1939, 1940* (CAN); Pine Lake District, Wood Buffalo Park, *Raup 1941* (CAN); trail about 10 miles southwest of Fitzgerald, *Raup 1942*

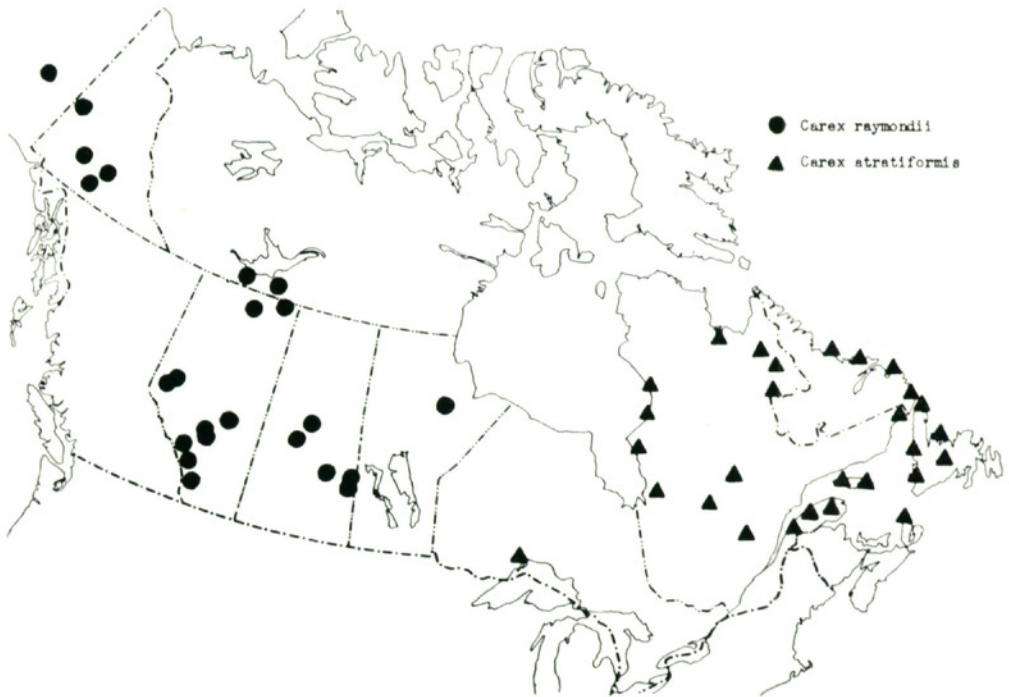


Fig. 1. Distribution of *C. raymondii* and *C. atratiformis* in Canada

(Can); poplar-spruce woods, 1 mile southwest of Fort Smith, *Cody & Loan 4498*. **Saskatchewan:** In loam, roadside 4 miles east of McKague, June 26, 1938, *Breitung*; moist places, McKague, *Breitung 8618*; low ground, woodland trail, 2 miles west of Veillardville, *Breitung 718*; trail, Tallpines, July 4, 1935, *Ledingham*; road through swamp, Prince Albert National Park, July 4, 1934, *Fraser*; moist ditch by highway, Montreal Lake, June 21, 1941, *Fraser* (CAN); Jack Pine woods, Candle Lake, Melfort District, *Boivin & Breitung 6261*; Methye River, *Macoun 13417* (CAN). **Manitoba:** Moist soil along margin of wood-road, Gillam, *Schofield 1270* (Type).

*C. raymondii* is a western species of the coniferous boreal forest ranging in southern Canada from Manitoba to Alberta and in the north from the southern Mackenzie District westward to Alaska. Although there are no records from British Columbia, as indicated by the accompanying map, it is undoubtedly present in the northeastern part of the province, and it may extend southward



into northern Montana. *C. raymondii* is the western counterpart of *C. atratiformis* (*sensu lato*) which was based on *C. ovata* Rudge from Newfoundland, and stated by Britton to be distributed from "Newfoundland to the mountains of New England, west to the Northwest Territory." As now restricted, *C. atratiformis* in Canada ranges from Labrador, Newfoundland, and Nova Scotia (Cape Breton Island), westward over most of Quebec<sup>2</sup> (apparently absent in the southwestern part of the province), with an isolated occurrence in the Port Arthur—Fort William area at the head of Lake Superior in Ontario. Its general distribution as shown on the map is based on Raymond's figure 3 (l. c.), and specimens in the herbaria of the National Museum of Canada and this Division.

In the majority of cases the two species may be readily distinguished solely on the color of the spikes. The table below, however, sets out additional characters by which they may be separated.

	<i>C. raymondii</i>	<i>C. atratiformis</i>
SPIKES	always two-toned in color.	predominantly blackish or dark brown in color, occasionally somewhat two-toned
	only slightly compressed.	usually strongly compressed.
PERIGYNIA	moderately inflated. ovoid to suborbicular.	weakly inflated. obovate or ovate to narrowly ovate or elliptical.
	pale greenish-castaneous to castaneous, occasionally dilutely purplish colored just below the beak.	suffused with purple, usually the same color as the scales.
	tip of beak hyaline.	tip of beak reddish-purple.
ACHENES	confined in lower $\frac{2}{3}$ of perigynia.	confined in approximately lower $\frac{1}{2}$ of perigynia.
SCALES	light to dark purplish-red. obsolete to broad hyaline margins. obsolete to broad midveins of lighter color.	dark purplish-red. obsolete to very narrow hyaline margins. no midvein of lighter color; or, if present, obsolete to very narrow.
LEAVES	reduced basal leaves purplish-black to light brownish-purple.	reduced basal leaves bright reddish-purple.

<sup>2</sup>For the distribution of *C. atratiformis* in eastern Canada see: Raymond, M. Cypéracées de l'Ile Anticoste. *Carex* et *Kobresia*. Can. Jour. Res. C. 28, fig. 3, p. 441, 1950.



The writer would like to express his appreciation to Dr. B. Boivin of this Division for assistance with the Latin diagnosis. It is a pleasure to name this species for Mr. M. Raymond who has been most helpful to the writer with various problems in the genus *Carex*.

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## NEW MISSOURI PLANT-RECORDS (1949-1951)

JULIAN A. STEYERMARK

SINCE the last report on plant records new to Missouri (*Rhodora* **51**: 115-119. 1949), a number of interesting species have been collected, some of them indicating new limits within Gray's Manual range. A few of these discoveries were indicated by the writer in a personal communication to Dr. Fernald before his death, and were incorporated in the new edition of the Manual. None of the following records has been published before and they are based upon specimens collected mostly by the author. Some have also been contributed by Mr. Bill Bauer, Mr. Leslie Hubricht, Mr. Harry Ahles, and Miss Shirley Sparling. All the specimens collected by the writer are deposited in the herbaria of Chicago Natural History Museum, Missouri Botanical Garden, and Gray Herbarium.

POTAMOGETON EPIHYDRUS Raf. var. NUTTALLII (C. & S.) Fern. This northern species, new to Missouri, was discovered in an upland sink-hole pond near another pond where *Decodon verticillatus* had been found and reported as new to the state (*RHODORA* **51**: 117. 1949). The previous southern limits for this variety were in Georgia and Tennessee. Lily Pond, on top of ridge south of Vinson Hol, T 31 N, R 1 E, NW  $\frac{1}{4}$  sect. 23, 7 miles southeast of Centerville, Reynolds Co., September 5, 1949, *Steyermark* 69232.

ECHINODORUS TENELLUS (Mart.) Buchenau. The original pond locality near St. Louis where Engelmann had found this species in Missouri was destroyed long ago, and no collector since Engelmann's time has succeeded in finding another station. While studying the flora of sink-hole ponds, the writer chanced upon a natural upland pond in Howell County, southern Missouri, the margin of which was completely covered by this species. Abundant material was collected for distribution. This is the only known station for the species in Missouri and represents a new western limit for it in the central United States. Adobesee Pond, T 22 N, R 7 W, SE part sect. 36, 9 miles southeast of West Plains, Howell Co., September 4, 1949, *Steyermark* 69124a.



Calder, James A. 1952. "Notes on the genus *Carex* I: a new species of *Carex* from western Canada." *Rhodora* 54, 246–250.

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