

Grimmia leibergii Paris – Actes Soc. Linn. Bordeaux, sér. 5, 9 : 528. 1895

Type: U.S.A., Idaho, Kootenai Co., Post Falls, leg. J.B. Leiberg No. 250, holotype, US; isotypes NY!, PC!

Synonyms: *Grimmia pachyphylla* Leiberg, *Grimmia jacutica* E. Ignatova, H. Bednarek - Ochyra, O. Afonina & J. Muñoz.

Distribution: Am.1, As 1

Description

Grimmia leibergii is a robust plant with 5-12 cm long, repeatedly dichotomous, reddish stem, ascending from a decumbent base. The leaves are loosely appressed when dry, patent to spreading when moist, towards the top of the stem becoming more and more secund, lanceolate to ovate-lanceolate, carinate, the costa is yellowish, $\pm 100 \mu\text{m}$ wide below, channeled above, the hair-points are remotely denticulate, flattened below, widely decurrent, the margins are recurved on both sides. The distal areolation is unistratose, at margins partly bistratose, the mid-leaf cells are rectangular with extremely incrassate and nodulose, longitudinal walls and thin oblique transverse walls, the basal marginal cells are in a few rows short-rectangular with incrassate walls, the basal juxtacostal cells are elongate with incrassate \pm porose walls. The sexuality is dioicous, and capsules on 2-4 mm long, arcuate setae are occasionally present, they are obloid, exserted, and striate with rostrate operculums.

Discussion

Grimmia leibergii has the habit of *Racomitrium heterostichum* (Hedw.) Brid. and nearly all specimens of this species in NY, and probably also in other North American herbaria, have been stored as varieties of *R. heterostichum*. This confusion is probably the reason why *G. leibergii* was not recognized in the U.S.A. Leiberg (1893) mentioned *G. decipiens* as most related species, however, this latter species does not occur in America. Both species share robust gametophytes, striate capsules on arcuate setae with long straight operculum, broadly ovate-lanceolate leaves with recurved margins and a *Racomitrium*-like areolation with rectangular cells with extremely incrassate and nodulose longitudinal walls and thin transverse walls. However, there are many differences, *G. decipiens* is autoicous, it is a much smaller species, the hair-points are sharply denticulate, and although sometimes flattened below, only very shortly decurrent down the margins; the upper leaves are patent and not secund, forming comal tufts, so the upper leaves are 2-3 times longer than the lower leaves. Ignatova et al. (2003) described *Grimmia jacutica*

from eastern Asia and Alaska but all specimens that Hastings and I have examined are just smaller forms of *G. leibergii* with slightly more sinuous mid-leaf cells.

Specimens examined

U.S.A. California, Sierra Nevada, along route 49 between Mocassin and Coulterville, alt. 1820 ft, leg. H.C. Greven nr. C 56, 10-11-1999; California, Sierra Nevada, route 49, two miles north of San Andreas, leg. H.C. Greven nr. C 65, 10-11-1999; California, Lake Co., two miles southwest of Lake Pillsbury alt. 2000 ft, leg. David Toren nr. 7440, 05-05-1999; Idaho (without locality), Bull. Tor. Bot. Club, 1893, 113, Leiberg 171, BM; California, Yosemite Nat. Forest, Head of Mirror Lake, MacFadden 17480, NY; California, Placer Co., Rawhide Mine, MacFadden, NY; California, Placer Co., Canyon Creek, Monte Vista Inn, MacFadden nr. 8883, NY; California, Klamath Mts., Hamburg, Frye, NY; California, Mitchell's Canyon, Mt. Diablo, Howe, NY; California, Siskiyou Co., Salmon River near Summerville, 2800 ft, Norris 9476, 10083 NY; California, El Dorado Co., American River, Ritter, NY; California, Trinity Co., Weaverville, Kleeberger, NY; California, Mitchell Canyon, Mt. Diablo, Koch 3341, NY; California, Santa Clara Co., Mt. Hamilton, Koch 1417, NY; California, Butte Co., Feather River, Koch 1838, NY; California, Marin Co., Lagunitas, Howe, NY; California, Trinity Co., Jork River, Howe 112f, NY; California, Hyampom, Howe 1106, NY; California, Trinity Co., Trinity River valley, 500 m, Düll 613/5g, NY; Oregon, Rooster rocks, Howell, NY; Oregon, Oregon City, Willamette Falls, Foster, (distributed by J.M. Holzinger in Musci Acrocarpi Boreali-Americani nr. 158 (as *Grimmia mühlenbeckii* Sch.), BM.; California, Del Norte Co., Big Flat Road near Gordon Mt., alt. 4000 ft, Norris nr. 7856, 30-09-1967, MICH; **Canada.** British Columbia, Fraser Canyon Hwy, Hell's Gate Bridge, 210 m, Greven nr. 3021, 09-07-1998; **Russia.** Yakutia, Kobyaisky Distr. Undyulyung Rives sources, north-facing slope, leg. A.A. Kazantsev, 13-08-1990; Chita Prov., Kalar District, Udokan Range, Naminga village, left slope of Pravaya Naminga river, leg. V.R. Filin, 30-08-1989; Amurskaya Territory, Zeya District, Zeya State Reserve, Bolshaya Erakingra river, leg. D.A. Petelin, 02-10-1979;

References

- Jones, G.N. 1933. Grimmiaceae. In: Grout (ed.), Moss Flora of North America Vol. II, Part I: 1-66. Newfane, Vermont.
- Leiberg, J.B. 1893. Two New Species of Mosses from Idaho. Bull. Torrey Bot. Club. 20: 113-115.

Ignatova, E., H. Bednarek- Ochyra, O. Afonina & J. Muñoz. 2003.
A new species of *Grimmia* (Grimmiaceae, Musci) from north-east Asia and
Alaska. *Arctoa* 12: 1-8.