

Greatly appreciated is the help of Francisco González M. from the Instituto de Biología, U.N.A.M., while we were on Cerro Potosí. This paper is a contribution from the University of Tennessee Botanical Laboratory, N. Ser. 349 and the Department of Botany, University of Michigan.

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NOTES AND NEWS

TWO SPECIES OF *Panicum* (POACEAE) NEW TO OREGON.—*Panicum villosissimum* Nash is native to the eastern one half of the United States and has not previously been reported from the West. A specimen of *Panicum* collected on July 29, 1931, by E. C. Johnston (*s. n.*) at Troutdale, Oregon (CAS), long left undetermined, was identified some years later as *P. pacificum* Hitchc. & Chase. This is the western species this specimen most closely resembles. The collection was made late in the growing season, after the spikelets had fallen from the terminal panicles, where the largest spikelets on the plants of this and allied species occur. Those spikelets on the branch panicles produced later in the season are about 2.1 mm long, at least 0.3 mm longer than the spikelets found on the branch panicles of *P. pacificum*. The

largest spikelets in that species, found on plants several hundred miles to the south, are on the terminal panicles also and only occasionally reach 2.1 mm in length. Johnston's specimen has long branches with the leaves crowded toward the end and appears not to have had the same habit as the tightly tufted plants with stiffly erect or ascending culms of most of the plants of *P. pacificum* found in northwest Oregon and southwest Washington. The hairs on the adaxial surfaces of the blades are short and dense, unlike the long sparse hairs found on rare hybrids between *P. pacificum* and *P. scribnerianum*, which this plant in a few respects resembles. The specimen in question is sparingly branched and has spreading to ascending hairs on the sheaths and culms, and is referable to *P. villosissimum* Nash var. *pseudopubescens* (Nash) Fernald. Many species are adventive along the lower Columbia River, near Portland, most having been introduced in ballast. Whether this species persists there has not been determined, but it was not found during a brief search of the sandy flats along the Columbia River near Troutdale in August, 1969.

Panicum agrostoides Spreng., also native to the eastern half of the United States, has been reported from California and British Columbia but not the intervening states. On September 8, 1966, it was found growing in moist sand well below the high water level of the Umpqua River at the Scott Creek Low Water Public Boat Access, 8 miles east of Scottsburg, Douglas Co. (*R. & M. Spellenberg 1632*, WTU, NY). Several plants were found at some distance from one another and the species is probably established along this section of the river.—RICHARD SPELLENBERG, Department of Biology, New Mexico State University, Las Cruces 88001.

SYSTEMATIC STUDIES OF LIMNANTHACEAE

ROBERT ORNDUFF

Department of Botany, University of California, Berkeley 94720

Continuing studies of the Limnanthaceae (Ornduff and Crovello, 1968; Ornduff, 1969) have provided data relevant to an understanding of the systematic and evolutionary patterns within this small, primarily western American family of annual herbs. The primary purpose of this paper is to present the results of an extensive inter- and intraspecific crossing program within *Limnanthes*, but also included are observations on the ecology of *L. macounii*, new distributional data for some species, and first chromosome counts for *Floerkea prosperpinacoides* and *L. macounii*.

ARTIFICIAL HYBRIDIZATIONS

Because of the strong barriers to crossing among the species of *Limnanthes*, obtaining hybrids for studies of pollen viability and meiotic behavior have been difficult. Mason (1952) obtained one artificial interspecific hybrid in the genus and by making interspecific pollinations in very large numbers I have been able to obtain additional interspecific hybrids. In the following discussion, the term "pollen viability" refers to the proportion of pollen grains (based on a sample of 100) that stain with aniline blue in lactophenol. A recent study (Hauser and Morrison, 1964) suggests that this staining method sometimes results in an over-estimate of the actual viability by perhaps as much as 15%, but in general stainability of fresh pollen by this technique seems to be a



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