Because of its importance as an ornamental, it has seemed appropriate to designate the hybrid of Schneevogt and Jacquin with a binary name, rather than a formula. However, it must be admitted that future hybridizations may upset this tidy nomenclatural picture. The two parental species both show a considerable geographic variation, *P. × elongatus* apparently being the offspring of a cross between the pale-flowered Blue Mountains race of *P. arbuscula* with the common subsp. *epiphyllanthus* of *P. epiphyllanthus*. If the depauperate red-flowered race of *P. arbuscula* were to be crossed with the Cuban subsp. *dilatatus* of *P. epiphyllanthus*, a radically different-looking hybrid would probably be obtained; and several other crosses are conceivable. Unless careful records were kept, the cultivated offspring of all these matings might become inextricably confused. However, the discomfiture to systematic book-keeping would probably be offset by the attractiveness of some of the progeny, and by the interesting studies which could be made on the cytological and morphogenetic effects of hybridity.

**THE GLUME PIT OF ANDROPOGON BARBINODIS**

**FRANK W. GOULD**

Texas Agricultural Experiment Station and
Agricultural and Mechanical College of Texas
College Station

The glandular depression or 'pit' in the first glume of the sessile spikelet in many North American species of *Andropogon*, section *Amphilophis* (genus *Bothriochloa*) has been discussed by the writer (1957) and its phylogenetic significance noted. The glume pit (Figs. 1–4), as far as known, has no functional value. It does provide, however, a marker character for tracing relationships of Old World and New World taxa of this group and when properly used is a reliable taxonomic character.

Grasses of Sect. *Amphilophis* are separable into three groups on the basis of the presence or absence of the glume pit: 1. Glumes never pitted; 2. First glume of sessile spikelet always pitted; and 3. Glume pit irregular in occurrence on different plants or even different parts of the same panicle.

It can be seen from Table 1 that New World taxa with irregularly pitted glumes are all highly polyploid, with chromosome complements of $2n = 120$ and $2n = 180$. Presumably they have arisen from crosses and backcrosses between plants with pitted and non-pitted glumes. The situation in respect to the Old World taxa probably is similar, but data to substantiate this observation are unavailable.

The name *Andropogon perforatus* was proposed by Trinius (1886) for plants with pitted spikelets, belonging to the *A. barbinodis* complex. The type collec-
tion for this species was made by Berlandier in the vicinity of Mexico City. Hackel, in his monograph of the genus *Andropogon* (1889) relegated *A. perforatus* to subvarietal status under *A. saccharoides* Swartz, var. *leucopogon* (Nees) Hack. Hitchcock recognized *A. perforatus* as a distinct species and it is treated as such in both editions of the "Manual of the Grasses of the United States" (1935, 1951). The writer in a recent publication (1957) maintained it as a variety of *A. barbinodis* Lag., whereas Shinners (1958) treats *A. perforatus* as a synonym of *A. barbinodis*. The merits of formal taxonomic recognition of "perforatus" will not be discussed here. It should be noted, however, that the type specimen probably belongs with a series of Mexican plants with regularly pitted glumes and correlated vegetative and inflorescence characters that may well warrant its taxonomic recognition at the varietal level.

To determine the relationships among plants of *A. barbinodis* with and without pitted glumes, an extensive study was made of field populations, nursery plants and herbarium specimens. The North American distribution of plants with non-pitted, irregularly pitted, and regularly pitted glumes is mapped (Fig. 5). The "irregularly pitted" category includes all plants with both pitted and non-pitted glumes in the same panicle.

The glume pit character has diffused through populations of *A. barbinodis* almost throughout the North American range of the species. Only in southern California, where the species is relatively rare, does the glume pit seem to be completely absent. In many areas of Texas and in the vicinity of Durango, Mexico, pitted, non-pitted, and intermediate types occur in the same population. The highest incidence of pitting occurs on and adjacent to the Edwards Plateau of central Texas. Here also is found *Andropogon edwardsianus*, a species with the relatively low chromosome number of $2n = 60$ and with regular, large glume pits (Fig. 2). This species doubtless must have been involved in hybridizations which resulted in the plants with pitted glumes of the present day *A. barbinodis* complex.