4. Cytological studies in a progeny of autotetraploid Chionachne koenigii.

Meiosis in autotetraploid Chionachne koenigii (4n=40) was reported earlier (MNL 41:6-7, 1967). The seed setting was very poor in the tetraploid and from the few good seeds obtained a progeny of 27 plants was raised in June, 1968. Cytological studies showed that all 27 plants had a tetraploid chromosome number (4n=40) and behaviour. The tetraploids and diploids grew almost to the same height, but in tetraploids the male and female spikelets and the inflated spathe enclosing half the inflorescence are larger in size than in diploids. The tetraploids generally have leaves which are pale green in colour.

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5. Annual and perennial habit in Chionachne koenigii.

Weatherwax (1926) described Chionachne koenigii under the name Polytoca barbata as a tall, slender annual grass with no tendency to perennate. Nirodi (1955) described C. koenigii as an erect grass with a perennial stem. In the collections maintained at the Experimental Farm, there are two populations of C. koenigii, one raised from the seed obtained from Maharashtra (Type 1) and the other raised by transplanting young plants got from Andhra Pradesh (Type 2). Externally the two types differ in a few noticeable features. Type 1 under cultivation is a vigorous, often aggressive, annual grass with thick culms and broad light-green leaves, on both surfaces of which and on the leaf sheath are somewhat stiff hairs. These plants produce abundant fertile seed. However, when plants of this type occur as weeds on the field embankments they are small and produce only a few seeds. The plants of Type 1 die soon after seed production. Type 2 is a perennial grass with a small woody root stock, thin culms and narrow dark-green leaves devoid of conspicuous hairs. The plants of this type also produce fertile seeds and perpetuate through the root stock putting forth several new shoots, which will be in various stages of development and some of which will not flower till the following year. Both types have a chromosome number of 2n=20. The tetraploid (4n=40) plants of Type 1 obtained through colchicine treatment also