

ARTICLES

From Teosinte to Maize: The Catastrophic Sexual Transmutation

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An alternative to the theory that the ear of maize (*Zea mays ssp. mays*) evolved from a slender female ear of a Mexican annual teosinte holds that it was derived from the central spike of a *male* teosinte inflorescence (tassel) which terminates the primary lateral branches. This alternative hypothesis is more consistent with morphology and explains the anomalous lack of significant genetic and biochemical differences between these taxa. Maize, the only cereal with unisexual inflorescences, evolved through a sudden epigenetic sexual transmutation involving condensation of primary branches, which brought their tassels into the zone of female expression, leading to strong apical dominance and a catastrophic shift in nutrient allocation. Initially, this quantum change may have involved no new mutations, but rather genetic assimilation under human selection of an abnormality, perhaps environmentally triggered.

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