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Floral Biology, Breeding System, and Pollination Ecology of Cucurbita moschata (Duch. ex Lam) Duch. ex Poir. Varieties (Cucurbitaceae) from Parts of the Niger Delta, Nigeria

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Abstract: Flowering, breeding mechanisms, and pollination biology of Cucurbita moschata (Duch. ex Lam) Duch. ex Poir. varieties were studied. C. moschata carries male and female flowers on the same plant and is pollinated by thrips and bees with nectar and pollen as major rewards for the pollinators. Both flowers begin opening between 0330 and 0400 hours. The male flower opens for about 8 to 9 h and the female opens for 6 h 30 min to 7 h. There is, however, a period of overlap in the flower anthesis of both sexes, which coincides with the peak of pollen viability and pollinator activity. Pollen viability is about 90% in newly opened flowers but decreases to about 62% on closure and crashes to 8% after 1 day. Stigma receptivity, measured by pollen germination on the stigma, lasts from 1 day before anthesis to 2 days afterwards. There was no evidence of non-pseudogamous agamospermy.

Key Words: Breeding system, Cucurbita moschata, Cucurbitaceae, floral biology, Nigeria, pollination

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