Critic's Choice Essay

MISTLETOE, *PHORADENDRON SEROTINUM* (RAF.) JOHNSTON

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Every Oklahoma child quickly becomes familiar with the common mistletoe, the green leaved growth on naked branches of large trees in mid-winter. This native plant occurs over most of the state and is particularly popular as one of the year-end holiday decorations. We all know it is permissible to steal a kiss from someone standing "under the mistletoe."

Although considered by many to be a parasite, in reality the plant is only semi-parasitic. It does obtain water, minerals, and perhaps some proteins from the host, but it is able to carry out photosynthesis and therefore produce most of its own food. In spite of the plant invading its tissue, the host is seldom harmed, unless of course there is a very heavy infestation.

Just 100 years ago in February 1893, mistletoe became the floral emblem of the Territory of Oklahoma. In 1909, the Second State Legislature conferred the same designation for the State of Oklahoma. The following explanation for its selection appeared in the *Chronicles of Oklahoma*, the publication of the Oklahoma Historical Society.

Tradition has it that the first grave made in Oklahoma country in the winter after the Opening of 1889 was covered with mistletoe since there were no other floral offerings in the new country except the green of the mistletoe with its white berries growing in great clusters on the elms along the dry creek beds and branches. All through the winter, the green bank of the lonely grave could be seen far across the prairie against the sere brown grass or the melting snow of early spring. Thus, the mistletoe became associated with sacred thoughts among the pioneer settlers.

In Oklahoma, mistletoe is most commonly associated with *Ulmus americana* (American elm), a species which has been badly ravaged by Dutch elm disease, a fungus with tissue choking the water translocating tissues. Mistletoe may also be found on hackberries, oaks, maples, ash, sycamore, and other native deciduous trees. This is fortunate; otherwise, the species might well become a candidate for rare or endangered status.

The plants are dioecious (unisexual: staminate and pistillate flowers on different individuals). Flowers are about 2 mm across, without petals, and borne on spike-like stalks from the bases of the leaves. The fruit, which are readily consumed by birds, are whitish, mucilaginous, one-seeded drupes, appearing during the winter. It has been suggested that dispersal takes place when the sticky seeds are "glued" to a twig as a bird wipes its bill, or the ingested, but unharmed, seeds are deposited on a limb with fecal material.

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Used as a medicinal plant by Indians and pioneers, a tea was prepared to relax nervous tension and muscle irritability and to increase blood pressure. Other uses were to lessen bleeding, promote clotting, stimulate uterine contraction, and arrest postpartum hemorrhage. However, caution is advisable. Like virtually all medications, mistletoe can be poisonous under certain conditions such as improper dosage levels, sensitive individuals, or with the very young, elderly, or feeble. There is no reliable information on safe dosages. Although consumption of the fruit is harmless to pigs, 13 Hereford cattle, forced to consume the plant when their pasture was reduced, died within 10 hours after the onset of symptoms. Death was due to collapse of the cardiovascular system. Several deaths among children, having consumed the fruit, have been documented.

Such is the state's floral emblem, the Oklahoma mistletoe, *Phoraendron serotinum* — an interesting, beneficial, and potentially dangerous member of our native flora.