

POSSIBLE SIGNIFICANCE OF CAPPARIDACEAE ANTISERUM IDENTIFIED ON A LATE WOODLAND POINT FROM ARCHAEOLOGICAL SITE 18PR545.

prepared for: R. Christopher Goodwin and Associates, Inc.
241 East Fourth Street, Suite 100
Frederick, Maryland 21701

prepared by: Justine Woodard McKnight, Ethnobotanist
708 Faircastle Avenue
Severna Park, Maryland 21146

Immunological testing using cross-over electrophoresis (CIEP) analysis (Newman 1990, Royal Canadian Mounted Police 1983) was conducted on a variety of stone tools recovered during archaeological investigations at site 18PR545, Prince Georges County, Maryland (Neumann 1999). A single projectile point (FS #210) dating to the Late Woodland period yielded positive results for plant antisera identified to the caper family (*CAPPARIDACEAE*).

Members of the *CAPPARIDACEAE* family occurring in Maryland today are confined to *Cleome hassleriana* Chodat. (*C. spinosa* misapplied) (spider flower) and *Polanisia dodecandra* (L.) (clammy weed) (Kartsz and Meacham 1999; Brown and Brown 1984:494; Gleason and Chronquist 1991:174).

Cleome hassleriana is a native of tropical America which has been widely grown as an ornamental and has escaped from cultivation through self-seeding (Gleason and Chronquist 1991:174).

Two subspecies of *Polanisia dodecandra* have been documented within Maryland: *P. dodecandra ssp. dodecandra* and *P. dodecandra ssp. trachysperma*. *P. dodecandra ssp. dodecandra* is the phase most common in the eastern United States, and is common to gravelly soils and shorelines predominantly on the western shore of Maryland. *P. dodecandra ssp. trachysperma* (Torr. & Gray) Iltis. Is the more western phase of the species, but it also exhibits a strange distribution within the eastern United States, intruding eastward over a large region, but in small, isolated populations and acting somewhat as a weed. Brown and Brown (1984:494) cite isolated occurrences of *P. dodecandra ssp. trachysperma* in Anne Arundel County, Maryland, not far distant from Site 18PR545. Illustrations of *P. dodecandra ssp. dodecandra* and *P. dodecandra ssp. trachysperma* are provided in Figure 01.

Study seed clammy weed

Numerous food and ceremonial uses for *P. dodecandra ssp. trachysperma* have been recorded for western Native American populations (Moerman 1998:421). Among the Pueblo, young plants were stewed with wild onions, wild celery and tallow or bits of meat to make a soup, consumed as a potherb, or boiled, pressed, rolled into balls and dried and stored for winter use (Castetter 1935:25). The Isleta used *P. dodecandra ssp. trachysperma* as a smoke plant, drying the leaves and rolling them in corn husks to make ceremonial cigarettes (Jones 1931:38). The switches, roots and blossoms of the species were also used ceremonially by the Zuni (Stevenson 1915:96).



Figure 01: *Polanisia dodecandra* spp. *dodecandra* and *Polanisia dodecandra* spp. *trachysperma*. From Holgrem et al. 1998:161.

The role of prehistoric human populations in creating, influencing the “natural” geographic distribution of plant species remains unclear. What is certain is that the activities of native peoples through cyclical and epic migrations, trade and intermarriage have constituted forceful ecological factors. Archeobotanists scrutinize the past and present distribution or range of potentially important plant taxa as important criteria for establishing their domesticated economic during prehistoric times. And botanists speculate that many anomalies in the distribution of plant species are the result of past human interventions.

The strange distribution of *Polanisia dodecandra* spp. *trachysperma* across Maryland may be a direct result of prehistoric human activities which involved the propagation of the ethnobotanically important species. This appears to be the case with *Iva annua* (sumpweed) (*ASTERACEAE*) - a plant determined archeobotanically to be of serious economic value to Late Woodland cultures throughout the Eastern Woodlands [Asch and Asch 1984; LeeDecker et al. 1996]) which has a patchy pattern of distribution across the Middle Atlantic. It is thought that the present distribution of *I. annua* may be an ecological remnant coincident with prehistoric human occupations in the region, and that *Polanisia dodecandra* spp. *trachysperma* may share a similar history (Chris Ludwig, per comm. 1999).

The *CAPPARIDACEAE* antiserum identified on the Late Woodland triangle recovered from Site 18PR545 may bear witness to the transport of an economically significant plant — *Polanisia dodecandra* spp. *trachysperma* — from its native western United States habitat to central Maryland where it found conditions favorable and where it persists today in isolated populations.

Unfortunately, no archeobotanical evidence has been secured (either at Site 18PR545 or regionally) to confirm the ethnobotanical importance of *Polanisia dodecandra* spp. *trachysperma* in the Middle Atlantic, so this explanation is highly speculative. Regardless, the concomitance of *CAPPARIDACEAE* antiserum and the proximity of regionally unique extant populations of the species is intriguing.

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