

Dispersal by anemogeochory in some Neotropical Cucurbitaceae*

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Resumen: Se informa sobre el sistema de dispersión mediante rodamiento por viento, observado en las cucurbitáceas *Cucumis anguria* L. y *Luffa operculata* (L.) Cogn. Ambas especies son rastreras anuales en la formación tropical seca del noroeste de Costa Rica, y fructifican durante la época seca (enero-marzo). Los frutos, demasiado pesados para flotar, son rodados por el viento distancias considerables. Aparentemente, este es el único medio de dispersión en estas especies, aunque en otras cucurbitáceas de hábitos ribereños la dispersión podría ser por flotación en el agua.

Seed dispersal by anemogeochory or chamaeochory (eolic drive on the ground) has been generally neglected in scientific literature, although it represents the only means of dispersion for some plant species. Tumble weeds are most common in semideserts and other dry areas, where fruits or entire plants (with dry fruits) are detached and rolled by the wind (Pijl, 1982).

In the tropical dry formations in north-western Costa Rica (Guanacaste Province) two annual vines, *Cucumis anguria* L. and *Luffa operculata* (L.) Cogn. (Cucurbitaceae) exhibit this behavior. Both species are common in open grassy areas, where they bloom late in the rainy season (September-October) whereas in January the entire plant is completely dry. Fruits are left exposed to intense radiation, the thin epicarp desintegrates and seeds remain surrounded only by a tough spongy mesocarp. These fibrous balls are rolled around easily by the wind but are too heavy to become airborne (the oblong fruit of *Cucumis* is ca. 50 mm long and the spherical fruit of *Luffa* is ca. 30 mm in

diameter). The seeds are securely trapped inside the fibrous network since the mesh is too fine for them to come out. The mesocarp might function as a protective cover, especially against granivorous ants. New plants are observed by the end of May, after the rainy season is well established. Considering the characteristics of the fruit and the lack of attractants to potential animal dispersers, it seems that wind drift is the sole means of dispersion in these species and perhaps in other cucurbits with spongy mesocarps (those in riparian habitats might be dispersed by water). The system is associated with very dry weather dominated by strong north winds (January-March) and a reduced vegetation cover.

Observations were made at the Palo Verde and Santa Rosa National Parks, and at the Wildlife Refuge "Rafael Lucas Rodríguez".

LITERATURE CITED

- Pijl, L. van der 1982. Principles of Dispersal in Higher Plants. Springer-Verlag, Berlin. 215 p.

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