



Male Dogs Have Fitness

Daniel H. Janzen

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WHITTEN, A. J. 1982. A numerical analysis of tropical rain forest, using floristic and structural data, and its application to an analysis of gibbon ranging behaviour. *J. Ecol.* 70: 249–271.
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Male Dogs Have Fitness

In Howe's (1984) recent review of *Interaction and Coevolution* (Thompson 1982), he repeats a fundamental error that has become so widespread that some comment is necessary. Speaking of fig and fig wasps, Howe states (p. 463) that "it is in the reproductive interest of the wasp to raise as many offspring from each fig as it can, while it is in the interest of the fig to maximize seed production rather than wasp production." What is consistently forgotten is that pollen flows from one fig to another by being carried in the pouches of the female wasps produced by the fig (Janzen 1979). Fig fitness, just as in all other plants, is maximized by some balance of seed production and pollen flow to other plants, which in this case means female wasp production. Howe is simply propagating the age-old forester's error of labeling a flowering tree that does not set seed as having failed to reproduce. Male dogs have fitness even though they never get pregnant.

HOWE, H. F. 1984. Interaction and coevolution. *Evolution* 38: 463–464.
THOMPSON, J. N. 1982. Interaction and coevolution. J. Wiley and Sons, New York. 179 pp.
JANZEN, D. H. 1979. How to be a fig. *Annual Review of Ecology and Systematics* 10: 13–51.

Daniel H. Janzen

Department of Biology
University of Pennsylvania
Philadelphia, Pennsylvania 19104, U.S.A.

Not All Male Dogs Have Fitness

Janzen's (1985) major point that pollination includes pollen dispersal is true, obvious, and was discussed in the passage from which he took his quote (Howe 1984). My point remains: a fig would not sacrifice ovules if its progenitors had not been locked into "domestication" of and by a seed parasite. Virtually all plants use inducements other than ovules to lure pollinators, if only because ovule success is generally more predictable than pollen success.

HOWE, H. F. 1984. Interaction and coevolution. *Evolution* 38: 463–464.
JANZEN, D. H. 1985. Male dogs have fitness. *Biotropica* 17(3): 205.

Henry F. Howe

Department of Biology
University of Iowa
Iowa City, Iowa 52242, U.S.A.