

Copyright ©1999 by The Resilience Alliance*

Correct format for citing this article:

Vanclay, J. 1999. On the nature of keystone species. *Conservation Ecology* 3(1): r3. [online] URL: <http://www.consecol.org/vol3/iss1/resp3/>

Response to Khanina 1998. "Determining keystone species"

On the nature of keystone species

[Jerome Vanclay](#)

School of Resource Science and Management, Southern Cross University, Australia

There is an unfortunate tendency to nominate large and conspicuous creatures as likely keystone species playing pivotal roles in ecosystems. Particular favorites in the tropics include fig trees (*Ficus* spp.), large apes, and colorful birds, but such claims are rarely supported by empirical evidence. Khanina (1998) follows this trend, suggesting that "only trees can be considered as keystone species of forest communities (detritus ecosystems)." I am sceptical; I suspect that inconspicuous organisms may be the ultimate arbiters of ecosystem function and appearance. Mycorrhizae play a critical, possibly pivotal, role in many forests, and they and other fungi may be more realistic candidates for the title of *keystone* within forest communities. Similarly, experience in Australia suggests that insects such as the *Cactoblastis* moth (*Cactoblastis cactorum*) and insect vectors of Myxomatosis have a greater influence on pasture dynamics than do the more conspicuous herbivores. I suspect that the roles of most organisms in ecosystems may be matters of degrees rather than absolutes such as "pivotal" (and conversely, "redundant"). I advocate caution in promoting these concepts without further evidence to support such claims.

Published March 24, 1999.

RESPONSES TO THIS ARTICLE

Responses to this article are invited. If accepted for publication, your response will be hyperlinked to the article. To submit a comment, follow [this link](#). To read comments already accepted, follow [this link](#).

Address of Correspondent:

Jerome Vanclay
Professor of Forestry
School of Resource Science and Management
Southern Cross University
PO Box 157
Lismore NSW 2480
Australia
Tel +61 2 6620 3147
Fax +61 2 6621 2669
JVanclay@scu.edu.au

*The copyright to this article passed from the Ecological Society of America to the Resilience Alliance on 1 January 2000.