LETTERS

Prescribed Fire and Natural Disturbance

THE RECENT COVERAGE OF OUR WORK ON THE relationship between fire history and an emerging forest epidemic called sudden oak death highlights landscape-level aspects of disease spread, which are often overlooked ("Fighting sudden oak death with fire?", J. Withgott, News Focus, 20 Aug., p. 1101). Although we are interested in the possible role of prescribed fire in managing this disease, subsequent reports in the popular press have claimed that we advocate such an approach as treatment. A cautionary note is therefore required at this point. We have not found a direct connection between fire suppression and this disease, and there is reason to suspect that the effects of past wildfires could be very different than those of the typical controlled burn. The decision to use prescribed fire in an ecosystem should be guided by location- and case-specific considerations (*1*).

Skeletons of federally listed (threatened) Morro Manzanita shrubs (*Arctostaphylos morroensis*) immediately after a prescribed burn, which led to its local extirpation (*2*).

As Lindenmayer *et al.* note in their Policy Forum "Salvage harvesting policies after natural disturbance" (27 Feb., p. 1303), natural disturbances such as fire are integral to the healthy functioning of most ecosystems and are often poorly understood in policy and management arenas. The emphasis here is on "natural" disturbances and the important role they play. Most prescribed burns, however, are attempted during conditions when fire is not likely to escape control (e.g., outside the normal fire season). Burning under these conditions will not necessarily produce the natural range of fire severities and subsequent fire effects that could result from past wildfires.

Restoring fire regimes is of great importance, but prescribed fires must ultimately mimic natural events to fulfill their role in disturbance-mediated ecosystems. Prescribed fires that do not attain this goal can have harmful ecological effects, even if successful for goals of fuel reduction and fire reintroduction. Populations of fire-dependent native species can be decimated (*2*) if timing or heating requirements for regeneration are not met. Invasive species may also be promoted, which can lead to near-permanent alteration of fire regimes and ecosystem functioning (*3*). Whether for ecosystem health in general, or management of forest pathogens in particular, prescribed fire will need to be tailored to the societal goals and ecological requirements of the situation at hand.

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The Origins of Afroasiatic

IN THEIR REVIEW "FARMERS AND THEIR languages: the first expansions" (25 Apr. 2003, p. 597), J. Diamond and P. Bellwood suggest that food production and the Afroasiatic language family were brought simultaneously from the Near East to Africa by demic diffusion, in other words, by a migration of food-producing peoples. In resurrecting this generally abandoned view, the authors misrepresent the views of the late I. M. Diakonoff (*1*), rely on linguistic reconstructions inapplicable to their claims (*2*), and fail to engage the five decades of Afroasiatic scholarship that rebutted this idea in the first place. This extensive, well-grounded linguistic research places the Afroasiatic homeland in the southeastern Sahara or adjacent Horn of Africa (*3*–*8*) and, when all of Afroasiatic's branches are included, strongly indicates a pre–food-producing proto-Afroasiatic economy (*1, 7, 8*).

Letters to the Editor

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A careful reading of Diakonoff (*1*) shows his continuing adherence to his long-held position of an exclusively African origin (*4, 5*) for the family. He explicitly describes proto-Afroasiatic vocabulary as consistent with non–food-producing vocabulary and links it to pre-Neolithic cultures in the Levant and in Africa south of Egypt, noting the latter to be older. Diakonoff does revise his location for the Common Semitic homeland, moving it from entirely within northeast Africa to areas straddling the Nile Delta and Sinai, but continues to place the origins of the five other branches of the Afroasiatic language family wholly in Africa (*1*). One interpretation of the archaeological data supports a pre–food-producing population movement from Africa into the Levant (*9*), consistent with the linguistic arguments for a pre-Neolithic migration of pre–proto-Semitic speakers out of Africa via Sinai (*8*).

The proto-language of each Afroasiatic branch developed its own distinct vocabulary of food production, further supporting the view that herding and cultivation emerged separately in each branch after the proto-Afroasiatic period (*7*, *8*). Diamond and Bellwood adopt Militarev's (*2*) solitary counterclaim of proto-Afroasiatic cultivation. However, not one of Militarev's proposed 32 agricultural roots can be considered diagnostic of cultivation. Fifteen are reconstructed as names of plants or loose categories of plants. Such evidence may reveal plants known to early Afroasiatic speakers, but it does not indicate whether they were cultivated or wild. Militarev's remaining roots are each semantically mixed, i.e., they have food-production–related meanings in some languages, but in other languages have meanings applicable to foraging or equally applicable to foraging or cultivating.

Furthermore, the archaeology of northern Africa does not support demic diffusion of farming populations from the Near East. The evidence presented by Wetterstrom (*10*) indicates that early African farmers in the Fayum initially incorporated Near Eastern domesticates into an indigenous foraging strategy, and