



Department of Biology

Alison Brody in Kenya

In East Africa, termites are one of the most ubiquitous modifiers of savanna grasslands. Through mound-building activities, termites enhance the decomposition of plant material, enriching soils with nutrients, as well as provide physical habitat for a large variety of invertebrate and vertebrate animals. Thus, termite mounds create fertile “hot-spots” dotted across the landscape. Dr. Alison Brody, along with colleagues, graduate students and undergraduates, from the US and Kenya, are studying how termites, in creating heterogeneous on-mound and off-mound patches, support biological diversity of plants and invertebrates in East African savannas. “Unlike the bare, columnar mounds of some species, those we are studying are low-lying and fully vegetated. We have found a lower level of diversity of plants on termite mounds than off, but a higher level of density and diversity of invertebrates on mounds versus off-mounds.” The pattern of plant diversity is driven by the dominance of a single grass species growing on mounds. The patterns of invertebrates are likely driven by competition and habitat partitioning among insect species, although these mechanisms remain to be tested. “One of our most striking results so far is finding that termite mounds create spatial patterning in resources that are then mirrored throughout the local community – from plants to invertebrates to the patterns of grazing by gazelles and even to the occupancy of trees by arboreal geckos!”



An *Odontotermes* mound in the treeless foreground, showing greenness in comparison to the dry understory.

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