11
SEP.
2009

de 14h à 15h30

SÉMINAIRE

Niche dynamics of sympatric herbivores

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The distributions of the Trans-Himalayan large herbivores are fragmented, engendering a spatial heterogeneity in their species-richness. We capitalised on this natural-experiment situation to understand the niche dynamics of herbivores in relation to the number of sympatric species. We used the blue sheep Pseudois nayaur, a relatively widely distributed mountain ungulate, as a model species to address the issue. We selected three discrete valleys in three protected areas with almost similar environmental features but varying wild ungulate species richness, and studied the species' diet and habitat utilization in them. Habitat variables were observed in the field and microhistological faecal analysis was carried out to determine the habitat and diet widths of the animal in the three areas with different ungulate species richness. The habitat- and diet-niche widths were determined using the Shannon's H' Index. The results showed that habitat width of blue sheep has a negative relationship with the number of sympatric species. However, contrary to our expectation, there was a hump-shaped relationship between blue sheep's diet width and the sympatric species richness, with the diet width being narrower in areas of allopatry as well as in areas with greater number of sympatric species, and the widest diet spectrum in areas with moderate species richness. We suspect that the narrow diet width in allopatry is out of choice, while it is out of necessity in areas with greater number of sympatric species due to resource partitioning. We suggest that interactions with sympatric species lead to niche adjustment of mountain ungulates, and underscore the importance of including biotic interactions in species distribution models, which have often been neglected.