

ECOLOGICAL SUCCESSION IN SMALL MAMMALS
IN THE ASPEN ASSOCIATION

During the period 20 July-10 August, 1949 an attempt has been made to find out if there is any measurable and notable ecological succession in the small mammals of the upland aspen association. This association was chosen for study because it is very well known botanically and because records have been kept of fire dates, lumbering, etc. in it.

Three sets were used as examples of the aspen association; (1) an area burned in 1948 and now covered with Populus grandifolia, P. tremuloides, Quercus borealis, and Pteridium latiusculum up to 2 ft. high, soil open and bare; (2) a mature, open aspen area, with Populus grandifolia up to 10" DBH, Quercus borealis, Acer rubrum, and a scattering of Pinus strobus and P. resinosa with dense cover of Pteridium latiusculum; (3) an area of mature pines which have been protected from fire for about 50 years, consisting of Pinus resinosa, P. strobus, with a few scattered Picea canadensis, Populus spp., and Amelanchier sp., with Pteridium more widely spaced than in more pure aspens, and with a thick ground cover of needles.

On these three areas a total of 790 trap nights have been recorded. Traps were set in essentially the same pattern in all areas and a standard bait was used in all cases.

To contrast these aspen sets, one 3-night set of 60 traps was run in a well-developed maple-beech forest near Munro Lake.

Set 1	Set 3	Set 7	Maple-beech
night 1-1m, 6f	night 1-4m, 4f	night 1-2m, 1f	night 1-2m, 3f
" 2-2f	" 2-2m, 1f	" 2-1 insexed	" 2-1m, 3f
" 3-2m	" 3-2 unsexed	" 3-1m, 1f	" 3-2m
" 4-6m, 3f			

(nights 1-3:	15 Peromyscus	6 Peromyscus	10 Peromyscus
11 Peromyscus sp.			2 Blarina
2 Citellus)			

Table 1-Preliminary Table of Trap Results.

In table 1, note that out of 790 trap nights in the aspen association, not a single Blarina brevicauda was caught, while 180 trap nights in the maple-beech association resulted in 2 Blarina. It would be well to remember at this point that the essential difference between the pine areas (and their accompanying aspen associates) and the maple-beech areas lies in the soil; its parent materials, humus, moisture content, etc.

To my experience, 790 trap nights without a Blarina is incredible. Probability computations must be made before any positive statement can be made, but even at this stage, I believe it is safe to say that Blarina brevicauda was not present in Aspen Sets 1, 3, and 7 at the time of trapping.

Application of statistics may show some significance in the sex ratios of trapped Peromyscus from set to set and from night to night.

Pending positive identification of skulls of ant-eaten Peromyscus, no statement can be made of a suspected Peromyscus maniculatus gracilis- P. leucopus noveboracensis relationship in the successional series.

Additional trapping in similar areas in the aspen associates is planned, along with plant counting and collection of soil samples for analysis of water content.

William O. Pruitt, Jr.
Museum of Zoology
University of Michigan
Ann Arbor, Michigan
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