The causes? 1) Starvation because all the food has been eaten up. 2) Natural enemies concentrate on the easy-to-catch prey. 3) Disease spreads rapidly because of overcrowding, and flames like a torch to destroy nearly all within reach before the fire burns itself out. One or another of these causes can be detected in any crash and sometimes all three causes operate together. Of course there are other causes, such as floods and cold, depending on the time and place. This gradual build-up in numbers and ensuing sudden crash recur so regularly that the time of the crash and the beginning of the build-up can be predicted accurately two years or more in advance.

A marked tendency to gradual increase and sudden crash is seen in the Temperate region too, but the duration of the period of increase is more variable and many of the upward trends in numbers stop short of the expected peaks. Therefore, the time when a peak will occur cannot be predicted accurately. Consequently the term "cyclic," implying regularity, is less applicable to fluctuations in numbers of individuals of a species, especially in the Temperate region, than was originally supposed and some students, therefore, have used instead the adjective "multiannual." Irrespective of the adjective applied to these fluctuations, they are of lesser magnitude and less frequent in progressively more southern regions until in the Tropical region there is no detectable fluctuation in most species.

Precisely why this fluctuation does not occur in the Tropics is unknown but it is tempting to speculate from the basis of fact that is available. One basis is the number of species of carnivorous mammals and small herbivorous mammals arranged according to life-zones (see Table 1).