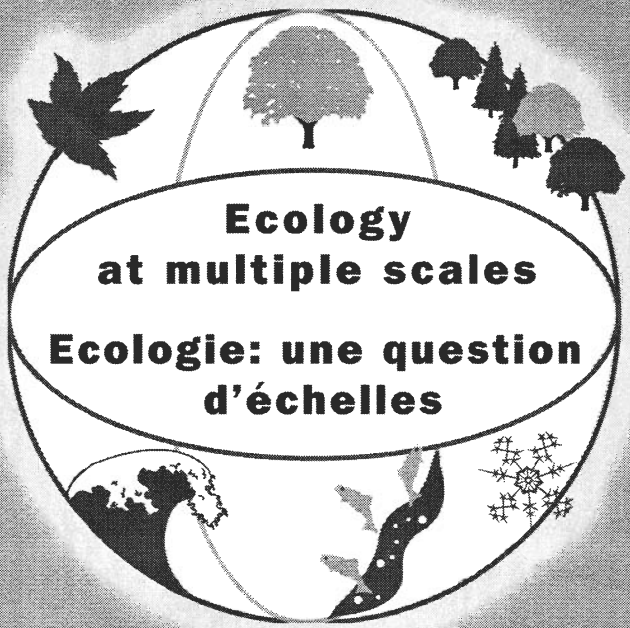
The Ecological Society of America (ESA)

90th Annual Meeting



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ABSTRACTS

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The Italian locust (*Calliptamus italicus* L.) is an abundant insect and the most important pest in the Mediterranean and Saharan-Gobian regions. Many of its outbreaks were described for these areas and for the Eurasian grasslands. The Italian Locust is as an intermediate form between typical gregarious and solitarious acridid species. For its gregarious form some distinctive migrations are described over comparatively small distances, about 100-200 km. Patterns of long-term dynamics of the Italian locust were studied in the southwestern part of West Siberia (Russia) from 1979 till 2004. This region (the so-called Kulunda Steppe) is the typical territory where outbreaks of the Italian locust occur. The last outbreak began in 1999. The area was likely to colonize by a specific mixture of local and immigrated populations. Their densities were about 2-6 adults per sq m. In some cases, the density can be very high (up to 27 adults per sq m). The Italian locust occurred in natural, semi-natural and anthropogenic habitats, including cultivated and fallow fields. Several model areas was chosen in the different parts of this steppe, mainly along the state border of Russia and Kazakhstan. All areas were covered by more or less typical steppe

vegetation, in some cases, vegetation cover was damaged by moderate grazing. Dynamics patterns were different in all studied populations. One can formally divide them in four groups based on the maximum position. The first group includes the majority of studied populations with the maximum in 2000, mainly from the northern part of the Kulunda Steppe. The other groups had the maximal densities of the Italian locust in 2001, in 2002, and in 2000+2002 respectively. This grouping is partly supported by Spearman rank order correlations analysis at the significance level $p<0.05$. The group with the maximum in 2000 divides in two subgroups. Besides that, in four areas the density of the Italian locust began to increase again in 2004. Thus, the general pattern of the Italian locust dynamics is rather complicated. It looks like some waves of spatial redistribution of maxima and minima of abundance. In some cases, adjacent local populations differ significantly in dynamics patterns. These studies were supported by the Russian Foundation for Basic Research (grant 03-04-48633).