Introduction: Since Drosophila subobscura was first detected in Chile (Brncic and Budnik, 1980), several experimental studies have been performed in order to investigate preadult competition between this species and the most common species found in the same collecting sites. All investigations showed D. subscera was a bad competitor (Budnik et al. 1983, 1995).

In this note the authors wish to report the results of interspecific larval competition of D. subobscura with D. simulans and D. pavani in bispecific combination; but with different initial frequencies of eggs. The aim is to contribute further to the understanding of the colonization success of D. subobscura in Chile.

Materials and Methods: The following stocks were used: a) Chilean stock of D. subobscura, b) a stock of D. pavani an endemic Chilean species of the mesophragmatica group (Brncic and Koref-Santibañez, 1957) and c) a stock of D. simulans. All three strains came from La Florida, Santiago, Chile (in the southeastern zone of Santiago) and had been maintained in mass culture for several months before the experiments were started.

The methodology used to study the effect of preadult competition on the survival was similar to that reported by Budnik et al. (1983, 1995). Ten vials per group were used. Each vial contained 10 cc of basic cornmeal-yeast agar medium, into which either 10, 50 or 90 eggs of D. subobscura were put together with 90, 50 or 10 fertilized eggs of D. pavani or D. simulans (a total of 100 eggs per vial). As a control 10 vials were established with the same amount of medium, each sown with 100 fertilized eggs of either D. subobscura, D. simulans or D. pavani. The eggs represented a random sample of those laid by 150 inseminated females from each stock.

The eggs were allowed to hatch and to develop at 18°C; emerging adults were then counted and discarded.

Results and Discussion: Table 1 shows that the viability of the three species varies according to the initial frequencies of eggs of the competitor species; the differences are statistically significant. These findings should be taken into account when studying preadult competition. Regarding D. subobscura, these results once more show that this species is a bad competitor.

In face of the successful colonization of D. subobscura in Chile it is difficult to believe that the species could be subjected to competitive interaction such as those described above.


Kekic, V. Institute of Zoology, Faculty of Biology, University of Belgrade, Studentski trg 16, 11000 Belgrade, Yugoslavia. Drosophila fauna in habitats on the Danube bank in Yugoslavia.

Theoretical population geneticists, and laboratory experimentalists as well, who use Drosophila species as a model organism lament on their lack of knowledge on different life aspects of Drosophila in wild habitats.

I have started faunistical researches of Drosophila along the Danube course with the belief that these results would improve our comprehension of the species
migration, provide some innovative consideration of their ecology, and offer more data on ecological conditions in certain habitats.

Danube river (2,857 km long) connects the North Sea with the Black Sea through the system of channels Rhine - Main, and Pannonian Plain on the north with the south part of Balkan peninsula through its tributaries (Tisa and Morava rivers) - it connects various biogeographic regions and habitats many of which are being altered by human activities, mostly negatively. Nevertheless, there are still numerous wild habitats (large forests along both banks, numerous islands and wetlands) where human impacts have mostly been indirect.

On each of five localities under the study (Figure 1) flies have been captured by fruit bait and net in two ecologically different habitats: in immediate vicinity of the Danube river, in the green belt along the river and in a nearby settlement (about 0.2 to 4 km far from the river, in orchards, vineyards and parks).

Table 1 presents Drosophila species collected only in habitats near the river. I believe that the richness of Drosophila fauna (26 found species) and the difference in species composition between localities suggest a possible sequel to this study along the Danube river. This is an invitation to all colleagues from the Danube countries to join this study.

Elaborate presentation of studies in question, with the detailed description of habitats, periods of collection, and the inclusion of other Drosophilidae species will be published in separate papers - results from the locality Stari Slankamen have been published already (Kekic et al., 1996).
The fly compound eye has been an important system to study structure, function and development. By contrast, the simple eyes (ocelli) have received considerably less attention. Papers on ocelli, few and far between, address electrophysiology (Hu et al., 1978), input into phototaxis (Miller et al., 1981), visual pigment (Feiler et al., 1988; Pollock and Benzer, 1988) and ultrastructure (Stark et al., 1989). The purpose of this study is to take advantage of newly-generated strains of Drosophila which exhibit position effect variegation in the compound eye.

White, R.J., J.C. Eisenberg and W.S. Stark. Saint Louis University, St. Louis, MO USA. Eye color mosaicism in ocelli in variegating lines of Drosophila melanogaster.