Spatial Independence and Sample Size Adequacy

The spatial autocorrelation analyzes failed to show any spatial structure between sampling units even in the first distance class both in *cerrados* (Distance centroid = 50m; Pearson's r = 0.143; p = 0.367) and in forests (Distance centroid = 30 m; Pearson's r = 0.319; p = 0.211).

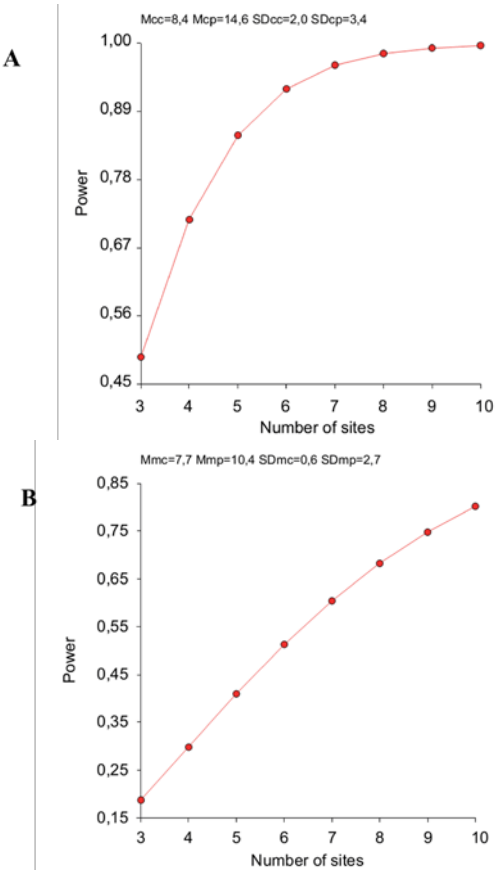

Figure 1. Statistical power increasing as a function of sample size (two-sample T-tests allowing unequal variance; $\alpha = 0.05$, $\beta = 0.80$). A : cerrados; B: forests.

In *cerrados* (Figure 1A), it would require at least five sampling units (composed by three traps each) for each habitat type, while to compare conserved and disturbed forests (Figure 1B), at least ten replicates of each habitat type would be necessary.

From these results we can conclude that – for the Brazilian Savanna – sample independence for drosophilid diversity, ensuring true replicates, can be reached by disposing SUs 50 m apart in *cerrados* and 30 m in forests. Moreover, detecting differences in the drosophilid richness between conserved and disturbed sites requires a sampling effort two times greater in forests than in *cerrados*.

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The Dover wild type strain and four derived isogenic lines.

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Here we report the availability of a wild type *Drosophila melanogaster* strain.

"Dover" and four derived isogenic lines

The Dover strain was founded in 1978 in Iowa City, IA, USA by J. Dawson Mohler, Department of Biology, University of Iowa. Twenty females were captured in Iowa City from a kitchen on Dover Street. Several eggs from each female were de-chorionated, and the offspring were randomly interbred to found the

"Dover" wild-type strain. Single Dover males were crossed with a balanced lethal marker strain (below), to generate isogenic lines for chromosomes I, II and III. BN and BN' designate pairs of balanced marker chromosomes for chromosome number one, two, or three, and Y represents the Y-chromosome:

Cross 1: B1/B1'; B2/B2'; B3/B3' × +/Y; +/+; +/+ (Dover male)

Cross 2: B1/+; B2/+; B3/+ × B1/Y; B2/B2'; B3/B3'

Cross 3: B1/+; B2/+; B3/+ × +/Y; B2/+; B3/+

Isogenic: +/+; +/+; +/+ × +/Y; +/+; +/+

B1 = FM7 *B g v sn w sc y*
B1'= *y pn cv m f*
B2 = SM1 *sp cn Cy al*
B2'= *Pm*
B3 = TM3 *Sb Ser e bx sep p ri*
B3'= TM2 *e Ubx*

The original Dover wild-type strain and four surviving isogenic lines (53, 60, 63, and 67) were maintained at the University of Iowa from 1978 to 1983 when they were moved to Skidmore College, Saratoga Springs, NY, USA, and maintained by mass culturing in two to five shell vials per strain. Cultures have been maintained on open shelves at an average temperature of approximately 21°C in a room with a 16:8LD photoperiod until 1995 and a 12:12LD photoperiod thereafter. Occasionally, if the population size falls below 10 flies in a vial, flies are transferred from another vial of the same strain to maintain viability of the culture. The Dover isogenic lines have been used to characterize genetic background effects modifying expression of *Antennapedia* (Possidente *et al*., 1990), genetic variance influencing oviposition site preference with respect to the presence of phenylthiocarbamide in the food (Possidente *et al*., 1999), genetic variation and covariation influencing developmental rate (Norton, 1985), and genetic variance affecting latency to copulation in response to developmental lead exposure (Wilson, 2004). The Dover wild-type strain and the four derived isogenic lines are available upon request from B. Possidente.

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Assaying basal and ethanol-induced locomotion in flies using a custom built apparatus and freely available software.

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Wolf *et al*. (2002) developed an apparatus that can be used to monitor the locomotor stimulant and depressant responses to ethanol in fruit flies. In this assay, approximately 20 flies are loaded into each of 8 tubes and placed into a custom-built, horizontal tube holder though which air or vaporized ethanol is perfused. An overhead video camera connected to a computer is used to record the behavior of the flies before and