Mutation Notes

Wing mutations detected in *Drosophila subobscura.*

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In the Málaga (Spain) population, crosses using the lethal balanced strain *Va*/*Ba* were carried out to obtain wild O chromosomes of *D. subobscura* in homozygous condition (Sperlich *et al.*, 1977; Mestres *et al.*, 1990). One of the chromosomal lines presented a mutation characterized by the lobulation of the distal area of the wing (Figures 1 and 2). It resembles the *dumpy* (*dp*) mutation of *D. melanogaster* (Lindsley and Zimm, 1992; Ranganath and Tanuja, 1999). This mutation has been previously described in *D. subobscura* (Krimbas, 1993). As in the F_3 we obtained wild, *dumpy*, *Varicose* and *dumpy Varicose* flies, it can be concluded that this mutation is recessive and not located in the O chromosome of the species. Its expressivity is variable. It can be qualified as rank RK1.

Figure 1. Ventral view of a *D. subobscura* female showing *dumpy* and *Varicose* mutations. The lobulation is clearly visible.

Figure 2. Wing detail of *dumpy* mutation.

Figure 3. General view of *D. subobscura* females showing the *ac* mutation. The drooping position of wings is apparent.

Figure 4. Female showing the drooping wing phenotype.

In another chromosomal line, a wing mutation characterized by the abnormal disposition of the wings, presenting them in a drooping position in reference to the body axis was obtained (Figures 3 and 4). This mutation has not been previously described in *D. subobscura* (Krimbas, 1993). We have called this mutation *ac* ("*ales caigudes*"). The mutation is recessive and located in the O chromosome. It can be qualified as rank RK1.

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References: Krimbas, C.B., 1993, D. subobscura. *Biology, Genetics and Inversion Polymorphism*, Verlag Dr. Kovac, Hamburg, Germany; Lindsley, D.L., and G.G. Zimm 1992, *The Genome of* Drosophila melanogaster, Academic Press, San Diego, USA; Mestres, F., G. Pegueroles, A. Prevosti, and L. Serra 1990, Evolution 44: 1823–1836; Sperlich, D., H. Feuerbach-Mravlag, P. Lange, A. Michaelidis, and A. Pentzos-Daponte 1977, Genetics 86: 835–848; Ranganath, H.A., and M.T. Tanuja 1999, Resonance 4: 95–104.

New wing mutation in *Drosophila subobscura.*

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To obtain wild chromosomes in homozygous condition for the O chromosomes of *D. subobscura* from Málaga (Spain), appropriate crosses using the lethal balanced strain *Va*/*Ba* were carried out (Sperlich *et al.*, 1977; Mestres *et al.*, 1990). One of the chromosomal lines obtained presented a wing mutation. This was characterized by a reduction in length and changes in the shape (Figure 1). The vein pattern is altered forming new transverse veins (Figure 2a, 2b). This mutation has not previously been described in *D. subobscura* species (Krimbas, 1993). We have called this mutation *aa* (ales alterades). The mutation is recessive and located in the O chromosome. It can be qualified as rank RK1.

Figure 1. General view of a *D. subobscura* male and female with the *aa* mutation. The reduction of wing size is apparent.

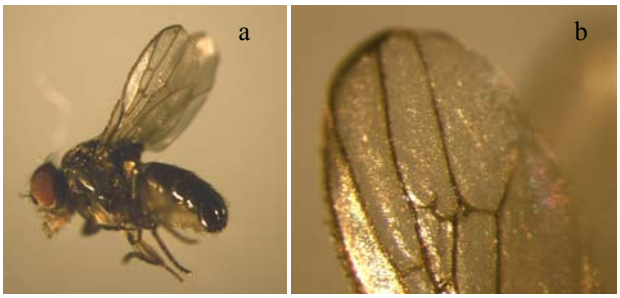

Figure 2. (a, left) Lateral view showing the altered vein pattern. (b, right) Detail of the wing where can be observed additional transverse veins.

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