still unknown. Ultimately the order for all of these genes must be superimposed upon the transcription units defined by sequencing the genome in this region.

References: Doane, W.W., 1994, Dros. Inf. Serv. 75:168; Doane, W.W., 1999, Dros. Inf. Serv. 82:53-56; FlyBase 2000, A Database of the *Drosophila* Genome, Available through the FTP server at flybase.bio.indiana.edu; Spradling, A.C., D. Stern, A. Beaton, E.J. Rhem, T. Laverty, N. Mozden, S. Misra, and G.M. Rubin 1999, Genetics 153:135-177; Tearle, R., 1996, Report 1996.5.14, FlyBase reference Fbrf0086812.

Mutation Notes — Other Species

Mapping of two visible mutations in *D. pseudoobscura bogotana.*

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In 1961, a subspecies of *D. pseudoobscura* was discovered in an isolated area of Colombia. Females of this subspecies, when crossed to mainland or "USA" males, produce sterile hybrid male progeny. Previously, we possessed visible markers only in the USA subspecies of *D. pseudoobscura.* Here I present data describing and mapping two visible markers in the Bogota subspecies: *white* (*w*) and *winglet* (*wgl*).

The white-eye marker arose spontaneously in the wildtype Bogota-ER stock and was found to be X-linked recessive. In the first experiment, Bog *w* females were crossed to males from a USA *w* stock. The production of sterile male progeny confirmed that Bog *w* is indeed a Bogota strain and not the result of contamination from USA. Also, the appearance of all white-eyed daughters proved that Bog *w* is allelic to USA *w*. By homology, we thus place the Bog *w* locus at 1-80.5.

The *winglet* marker arose spontaneously in a male from the Toro #1 Bogota stock, a wildtype line that was kindly provided by M. Noor. The wings of *winglet* males and females are very small, dusky in color, and often held away from the body. Subsequent crosses showed that this trait is X-linked, recessive, and causes a slight reduction in viability.

In the first of two mapping crosses, Bog *wgl* virgin females were crossed to Bog *w* males, and F1 females were crossed to their *wgl* brothers. Data from 1277 male F2 progeny showed that *w* and *wgl* recombine at a frequency of 9.7%.

In a second cross, Bog *wgl* virgin females were crossed to the multiply-marked USA stock carrying *ct* (1-22.5), *sd* (1-43.0), *y* (1-74.5), and *se* (1-156.5) (see Orr, 1995). Virgin F1 females were backcrossed to the multiply-marked stock. Progeny were scored relative to the *y* and *wgl* markers only. In 1110 backcross males, *wgl* and *y* recombined at a frequency of 17.1%. Taking these results together, we place the *wgl* locus to the right of *w* at 1-90.2.

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References: Orr, H.A., 1995, Dros. Inf. Serv. 76: 127-128.