electroretinograms are very different. We suggest that carbon dioxide should be the anaesthetic of choice when measuring electroretinograms.

Acknowledgments: We thank Dr. DeMao Chen for teaching us how to measure electroretinograms at Dr. William Stark's laboratory, St. Louis University. We thank Dr. Jorgen Johansen for providing advice, equipment and laboratory space at Iowa State University.

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Goode, S. Department of Genetics, Harvard Medical School. Additional gain of function phenotypes associated with the *Ocellarless* gene of *Drosophila melanogaster*.

Ocellarless (*Oce*, 1-5.7)/+ females are missing 60-80% of ocellar and 90-95% of postvertical head bristles and sometimes show incised margins on the wings (Lindsley and Zimm, 1992). We report additional phenotypes of *Oce*/+ females. We find that ocelli of *Oce*/+ females are usually moved closer together, or fused, and that additional head bristles are often missing or absent (Figure 1, A-C). The wings of *Oce*/+ flies typically have a gap in the fifth longitudinal wing vein and less frequently in the posterior cross vein (Figure 2, A-C). *Oce*/+ phenotypes do not result from haplo-insufficiency, since females heterozygous for *Df(1)HC244*, which removes DNA spanning the 3E to 4F region (approximate meiotic map positions 1-5 to 1-11.5), are completely wild type.

Both *Oce* wing vein gap and ectopic bristle phenotypes resemble phenotypes associated with loss and gain of function mutations of Notch receptor and the *Drosophila* EGF receptor (DER; Clifford and Schüpbach, 1989; Diaz-Benjumea and Hafen, 1994; Schellenbarger and Mohler, 1978; unpublished observations). *brainiac* (*brn*) maps within 0.2 map units of *Oce*, at position 5.9, and *brn* mutant animals display phenotypes common to both the Notch and EGF receptor signaling pathways (Goode *et al.*, 1992, 1996). We ruled out the possibility that *Oce* mutations are gain of function *brn* alleles. $Df(1)rb^{33}$, which was synthesized on an *Oce* chromosome (Banga *et al.*, 1986), fails to complement *brn* mutations, but still retains dominant *Oce* phenotypes.

Oce phenotypes are completely penetrant in *Oce*/*w v* l^{14ts} or *Oce*/*FM3* females reared at 29°C (n > 1400), making a simple F_1 reversion screen for rearrangements in the *Oce* gene easy. These rearrangements should be useful for isolation of *Oce* DNA sequences, since a genomic walk spanning the 3F-4A region has been completed (Goode *et al.*, 1996). Elucidation of the *Oce* molecular structure and function may add to our knowledge of Notch and/or DER signaling pathways.

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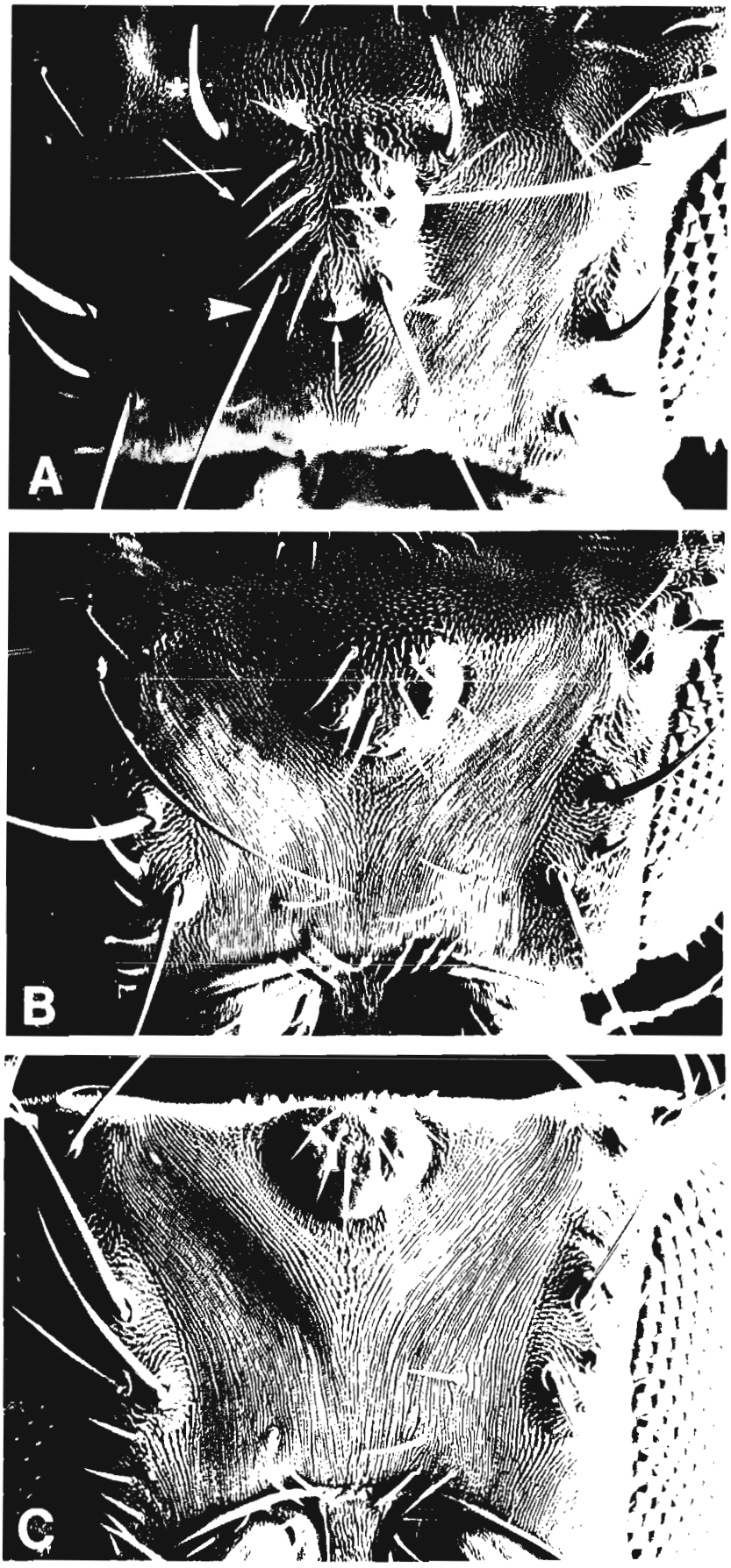
Figure 1 (next page). *Oce* head phenotypes. Scanning electron micrographs of the dorsal side of wild type (A), and *Oce* (B,C) adult heads. Arrows point to the ocellar bristles and stars demarcate the postvertical bristles of wild type flies (A). These bristles are frequently missing in *Oce*/+ flies (B, C; Lindsley and Zimm, 1992). Further, the ocelli (arrows, A) are either moved closer together (B), or fused (C). Other head bristles are often missing or misplaced in *Oce*/+ flies. The "wild type" fly in (A) has an extra microchaete (x).


A
B
C

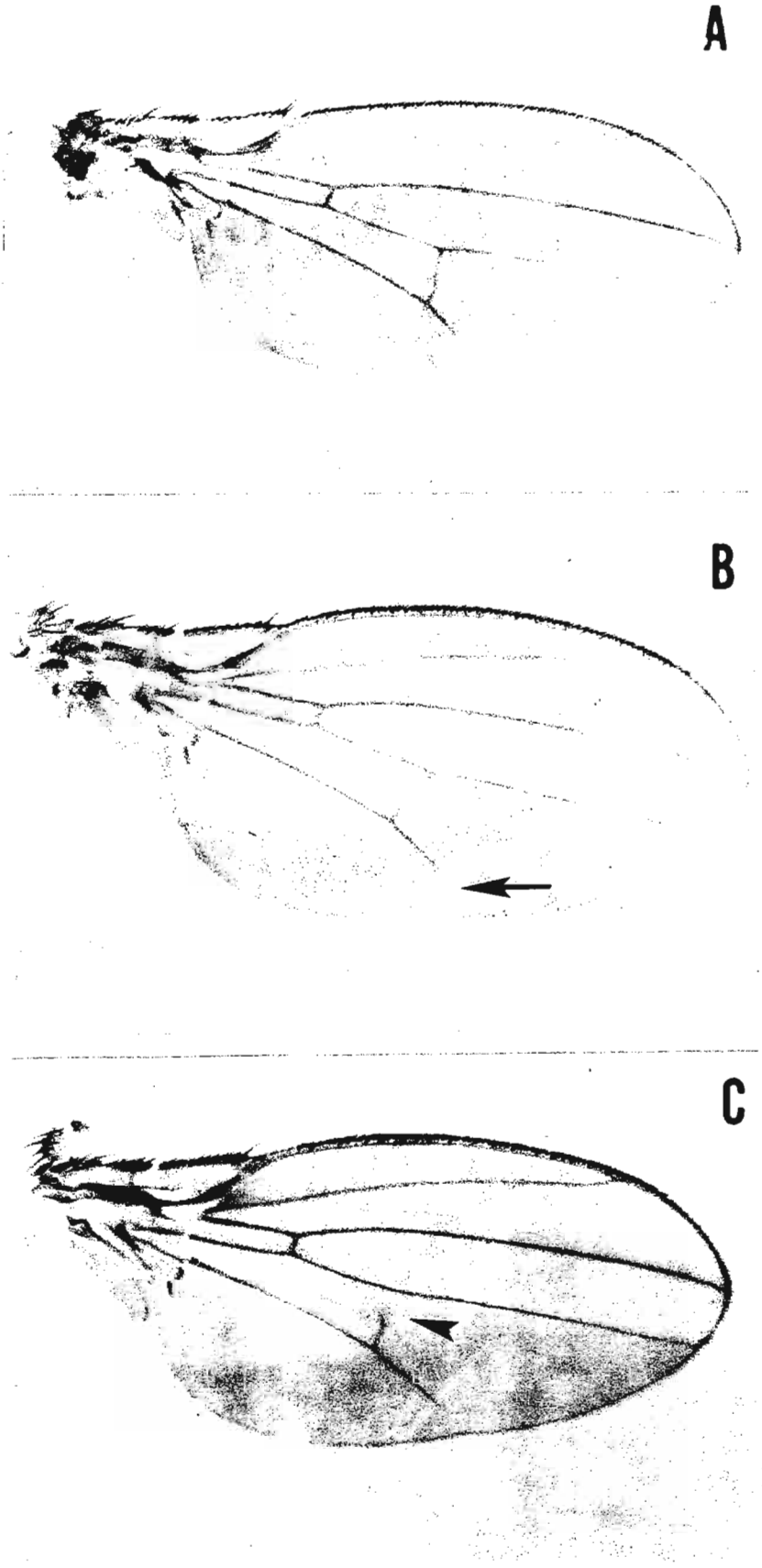


Figure 2. *Oce* wing phenotypes. Hoyer's mounts of wild type (A) and *Oce* mutant wings (B, C). *Oce* mutants frequently have a gap in the fifth longitudinal wing vein (B, arrow), and less frequently, in the posterior cross vein (C, arrow).