González-Duarte, R. and Prevosti, A. University of Barcelona, Spain. Polymorphic system controlling esterase-5 in D. subobscura.

Using electrophoretic mobility in acrylamide gels as described by Hubby (1963) and Hubby and Lewontin (1966) we have characterized six alleles at one locus controlling a polymorphic system for the esterase-5. Our survey indicates that more than six alleles are present at this locus. The genetic crosses between single individuals homozygous for an electrophoretic form of this enzyme confirmed their behaviour as single Mendelian genes in F_1 and F_2 offspring. The relative mobilities of the six electrophoretic variants of the enzyme are: $E\text{-}5^{0.85}$, $E\text{-}5^{0.89}$, $E\text{-}5^{0.92}$, $E\text{-}5^{0.94}$, $E\text{-}5^{1.00}$, $E\text{-}5^{1.06}$. The locus controlling protein esterase-5 in this species is autosomal, differently from what happens in D. pseudoobscura for the homologous gene.

Hubby, J. L., 1963. Protein differences in Drosophila. I. Drosophila melanogaster. Genetics, 48: 871-879.
Hubby, J. L. and Lewontin, R. C., 1966. A molecular approach to the study of genic heterozygosity in natural populations. I. The number of alleles at different loci in Drosophila pseudoobscura. Genetics, 54: 577-594.

Kuroda, Y. National Institute of Genetics, Misima, Japan. The effect of ecdysone analogues on the differentiation of eye-antennal discs cultured in a chemically defined medium.

Eye-antennal discs were dissected from mature third-instar larvae of the Oregon-R strain of Drosophila melanogaster grown under sterile conditions. They were organ-cultured at 28°C in hanging drops of the chemically defined medium K-6, as described in the previous paper (1). In the medium without any supplementations of hormonal substances eye-antennal discs showed a pronounced increase in the eye-forming and antenna-forming portions after 24 hours of cultivation. Folded area of the eye disc extended and flattened out, but no distinct differentiation of the ommatidia was observed.

Four steroids having ecdysone activity which have been isolated from plants by Nakanishi (2) and Takemoto et al. (3, 4) were tested for their activity to promote the differentiation of eye-antennal discs cultured in the chemically defined medium. The chemical structures of these steroids, ecdysterone, ponasterone C, inokosterone and rubrosterone are shown in Fig. 1.

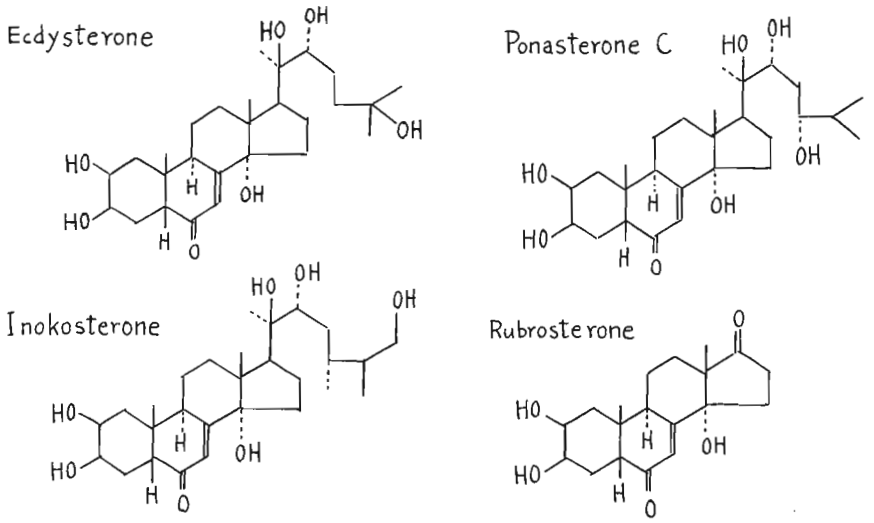

Fig. 1. Chemical structures of ecdysone analogues.

When these ecdysone analogues of plant origin were added to the medium in which eye-antennal discs were cultured, a pronounced differentiation of ommatidia was observed. The results obtained are summarized in Table 1.