Nirmala Sajjan, S. and N.B. Krishnamurthy. University of Mysore, Manasagangotri, India. Drosophila albomicans - a race of Drosophila nasuta.

Biological species are genetically closed systems. D. nasuta subgroup of the immigrans species group includes 3 major morphophenotypic complexes - one with frontal sheen, other with orbital sheen and another without any such sheen on frons. The frontal sheen complex includes 4

species - D. nasuta, D. albomicans, D. kohkoa and D. kepulauana; orbital sheen complex includes 4 species - D. neonasuta, D. sulfurigaster, D. pulaua and D. nixifrons; and the third complex includes only one species - D. pallidifrons. The present report discusses the status of D. albomicans (received from Mrs. F.D. Wilson, Genetics Foundation, Austin, Texas) in the light of the results obtained from the genetic tests between D. albomicans and D. nasuta.

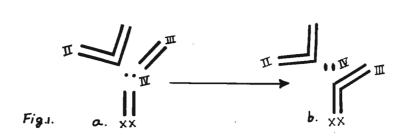


Figure 1. a. Karyotype of D. nasuta b. Karyotype of D. albomicans

D. nasuta was originally described by Lamb (1914) from Seychelles Islands. Later Wakahama and Kitagawa (1972) reported the karyotype of this species - a pair of sex chromosomes, the X was rod-shaped, while the Y was J-shaped, a pair of V's (chromosome 2), a pair of rods (chromosome 3) and a pair of dots (chromosome 4). This karyotype is similar to the one reported earlier for Indian D. nasuta by the authors (1971). In all probabilities, both Seychelles island nasuta and Indian nasuta are one and the same.

D. albomicans (Duda 1923) is morphologically similar to D. nasuta, but differs cytologically valid species by Wilson et al. (1969) only because of the difference encountered in the karyotype. However, the crosses between D. nasuta and D. albomicans have yielded very interesting results. All the F_1 , F_2 and F_3 generations are fertile. Males and females are produced in equal proportions. The karyotype of the F_1 consists of 2n=7, while that of F_2 and F_3 revealed only 2n=8.

As D. albomicans crosses freely with D. nasuta and has not yet reproductively isolated, it cannot be considered to be a full fledged species. The authors opine that D. albomicans certainly is nothing but a chromosomal race of D. nasuta. The karyotype of D. albomicans might have originated from that of D. nasuta by centric fusion of sex chromosomes to the third chromosome and involving also an addition of heterochromatin to the dot (Fig. 1). In the authors' opinion D. albomicans could as well be called D. nasuta albomicana.

Acknowledgements: We are highly thankful to Prof. Rajaskarasetty for his invaluable criticisms and suggestions on the manuscript. Thanks are also extended to Mrs. F.D. Wilson for sending a strain of D. albomicans. This work is supported by C.S.I.R., New Delhi.

References: Lamb, C.G. 1914, Trans. Linn. Soc. London 16:307-372; Sajjan, S.N. and N.B. Krishnamurthy 1971, DIS 47:121; Wakahama, K. and O. Kitagawa 1972, Jap. J. Genet. Vol. 47 No. 2; Wilson, F.D., M.R. Wheeler, M. Harget and M. Kambysellis 1969, Univ. Tex. Publ. 6918: 207-254.

Mosna, G. University of Milan, Italy. Medium for Drosophila cells in vitro without serum.

Echalier and Ohanessian's medium for Drosophila cells in vitro contains 20% of bovine foetal serum. In order to eliminate from the medium ingredients, the chemical composition of which is not exactly known, an attempt has been made

to grow cells without serum. Three established cell lines obtained two years ago in our Laboratory (GM1, GM2 and GM3) have been submitted to a gradual elimination of the amount of serum. Each step consisted in a 2% decrease of serum, the duration of a step being nearly 20 days.

During this process the cells did not show any serious indication of damage. Cell line GM2 has been, up to now, in a medium without serum for two months. The cells look perfectly healthy and multiply normally. Lines GM1 and GM3 are on the way to complete the same process.