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Texas. "Micronucleoli" in *D. paulistorum*?

During the continuing investigation of the cytology of strains belonging to the Interior semispecies of *D. paulistorum* it was discovered that, quite frequently, one sees certain structures (fig. 1) which strongly resemble the

nucleoli of the salivary gland cells. These structures can be seen both in the strains of the Interior, and in their hybrids with the strain of the Andean semispecies which is used as a "standard"; the latter strain does not exhibit similar structures. Tentatively, we call these structures "micronucleoli" but this is to be taken as an indication of morphological similarity with the nucleolus rather than anything else.

The "micronucleoli" are found to occupy (very frequently) a position in the chromocentric heterochromatin (fig. 2). The number of such structures varies, and we have found as many as three both inside or outside the heterochromatic mass.

When free, the "micronucleoli" are connected with the heterochromatin with strands of material of an unknown nature (arrows in fig. 1). It is not known whether the release of the "micronucleoli" from the heterochromatin is a stage-dependent phenomenon or strictly the result of the application of pressure during the preparation of the slides.

The structures described here have been found both in male and female individuals at the late third instar or spiracle eversion stages of development.

At this time, it cannot be determined whether or not the structures described here

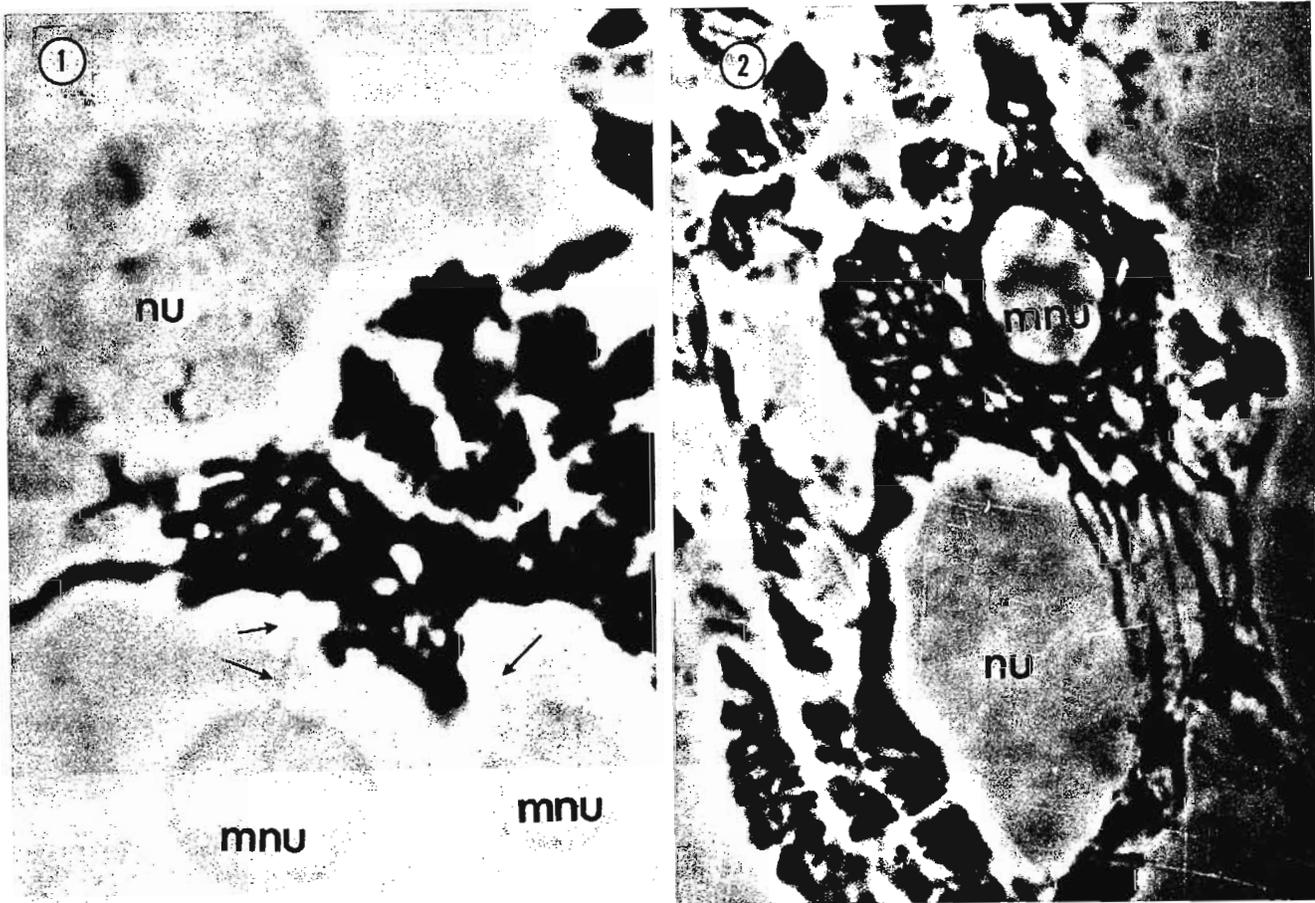


Fig. 1. Phase contrast photomicrograph from a salivary gland cell of a strain of the Interior semispecies of *D. paulistorum*. Nucleolus (nu). "Micronucleolus" (mnu). Arrows point at the connections of the "micronucleoli" with the heterochromatic mass.

Fig. 2. Phase contrast photomicrograph from a salivary gland cell of a strain of the Interior semispecies of *D. paulistorum*. Nucleolus (nu). "Micronucleolus" (mnu).

resemble those described by Da Cunha et al. (1967) in their paper on chromosomal diseases of *D. willistoni*. In no case were these structures found in or near any parts of the chromosomes other than the chromocentric heterochromatin.

Electron microscopic and autoradiographic experiments are being planned to determine the exact nature of the "micronucleoli."

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References: Da Cunha, A.B., Z.M. Franca, A.M. Amaral Goncalves, A. Hitelman and M. Garrido, 1967 *Rev. Brasil. Biol.* 27 (2): 113-124.

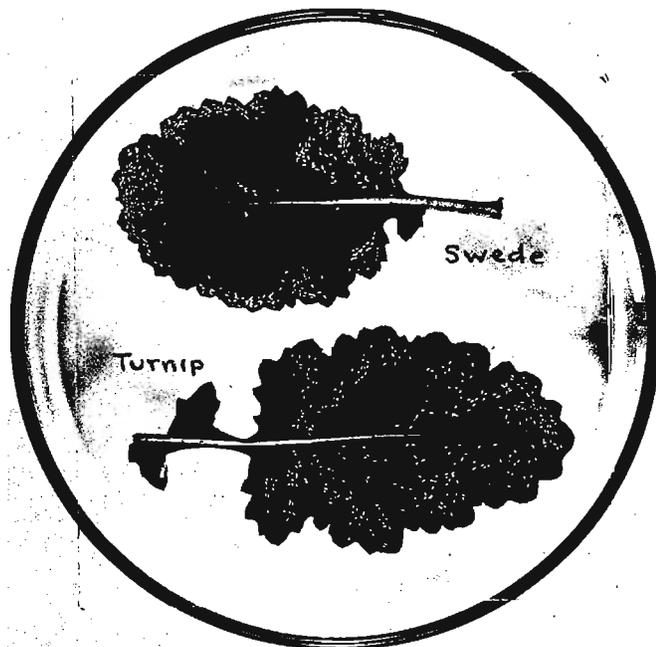
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Feeding by *Scaptomyza flava*.

Females of *Scaptomyza flava* (Fln) (= *apicalis* Hardy = *flaveola* auctt) make feeding punctures in the leaves of the cruciferous and other plants in which their larvae mine. The procedure is to press the truncate end of the

toothed ovipositor-guide against the leaf surface, then strongly scrape sideways until the cells are ruptured. The puncture is then enlarged by the stronger spines along ventral edge of the guide. The immediate vicinity of the puncture becomes wet and sappy, and the female feeds at this.

Scraping takes from about 16 seconds to 1 minute, and feeding lasts 30 to 40 seconds. Eggs may or may not be inserted in the punctures.

These feeding punctures are shown in the photograph (x 0.9) of young leaves of turnip and swede from plants kept in cages with adult *flava*.



Adult Agromyzidae, whose larvae are also leaf-miners, perform the same feeding behaviour, and it reminds one of the feeding by adult parasitic Hymenoptera at oozing punctures in their hosts.

The other photograph (by G.R. Knight) shows larval mines of *Scaptomyza flava* in leaves of swedes growing as a crop at Dunglass, East Lothian, Scotland. Dunglass is the original locality of J. Hardy's new species, *Sc. apicalis* (1848, 1849), now considered to be the same species as *Sc. flava*, and it still persists there also in *Cochlearia* on the coast. John Curtis in his "Farm Insects" (1860:92) was the first to point out that the mine was always in the upper surface of the leaf, whereas that of *Phytomyza* (Dipt., Agromyzidae) was on the under side of the same host plant.