With those isolated from sugar beet EBRAHIM-NESBAT and NIENHAUS (1972) described similar inhibition effects. Also WORMS and NIENHAUS (1975) ascertained the inhibition of virus infections by polysaccharides obtained from *Brassica oleracea* L. var. *sabauda* L. (the authors also mentioned comparable inhibition properties of polysaccharides found by others in extracts from fungi). It was concluded by the above authors that polysaccharides did not inactivate viruses "*in vitro*" and that a very similar inhibition mechanism was acting as observed in our experiments. WORMS and NIENHAUS (1975) also proved that the effects of polysaccharide inhibitors could not be abolished by ten-minutes heating at 100 °C, that no alterations could be observed with virus particles by electron microscopic investigation, and no disturbing of serological reaction could be ascertained. Thus, the inhibition effect can be clarified by an alteration of the inoculated leaf surfaces reducing the attachment of the virus.

Mucilage apparently plays its main role in the mechanical spread of plantain seeds along roads *etc.*, because it enables the seeds to be attached to shoes of pedestrians, wheels of carts *etc.* Our results have shown moreover that the mucilage may also serve as a natural and perhaps even the main vehicle of the virus under field conditions preserving the infectious virus particles for quite a long time.

References

BRČÁK, J., SLÍPKA, M.: [Tobacco mosaic virus occurring in *Plantago* in southern Bohemia.] In Czech. — Sborník VŠZ Praha, PEF Č. Budějovice **8** (1970): 217—225, 1972.

CARROLL, N. V., LONGLEY, R. W., ROE, J. H.: The determination of glycogen in liver and muscle by use of anthrone reagent. — J. biol. Chem. **220** : 583—593, 1956.

DISCHE, Z.: A new specific color reaction of hexuronic acids. — J. biol. Chem. **167** : 189—198, 1947.

EBRAHIM-NESBAT, F., NIENHAUS, F.: Beinflussung von Tabakmosaikvirus- und Gurkenmosaikvirusinfektion durch hemmende Prinzipien in Pflanzenextrakten. — Phytopathol. Z. **73** : 235 to 250, 1972.

PROCHÁZKOVÁ, Z.: [Host range and complex character of a tobacco mosaic virus strain from *Plantago major* found in southern Bohemia.] In Czech. — Ochr. Rostl. (Praha) **13** : in press, 1977.

WORMS, G., NIENHAUS, F.: Charakterisierung und Wirkung eines virushemmenden Polysaccharids aus Kohlpflanzen. — Phytopathol. Z. **82** : 224—245, 1975.

BOOK REVIEW

CALOW, P.: **Biological Machines. A Cybernetic Approach to Life.** — Special Topics in Biology Series. Edward Arnold Publ. Ltd., London 1976. £ 3.95.

This is an inspiring book which speaks in clear words on the recent revival of the "mechanistic" approach in studying living systems. It is an extremely stimulating discussion on the significance of the application of the system theory based on the cybernetics and of the theory of information in model building in biological research. Model building is no doubt a very useful tool for modern life sciences which are interested in the organismic behaviour of living systems and not only in molecular aspects of the structure and partial metabolic functions. The author is well aware of possible misunderstandings resulting in the overemphasized "reductionism" on the one hand and in the extreme holistic approach on the other. The book gives a well equilibrated review of the philosophical background of methodological advances in biological sciences.

B. SLAVÍK (*Praha*)