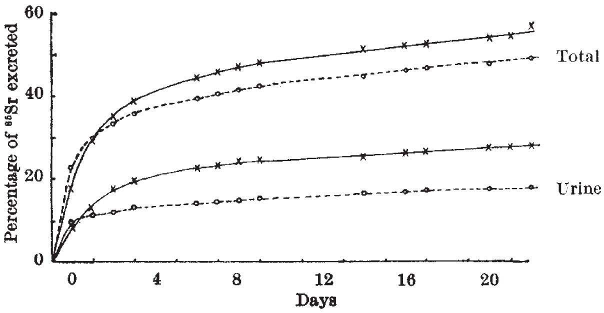

Fig. 1. Cumulative urinary and total excretion of strontium-85 from control (○) and salicylate-treated (×) rats

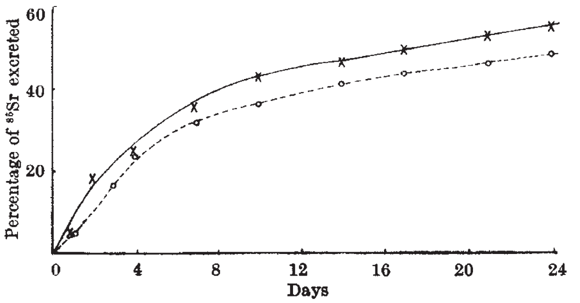

Fig. 2. Cumulative excretion of strontium-85 from control (○) and salicylate-treated (×) mice

tion in drinking water. After 7 days each animal was given an intraperitoneal injection of 1 μc. strontium-85. Salicylate treatment was continued for a further 24 days. Fig. 2 shows the combined excreta levels compared with control animals.

Table 1. Effect of Sodium Salicylate on Excretion of Strontium-85 from Female Rats expressed as Ratios of Amounts from Treated Animals to Amounts from Controls at Periods following Administration of the Isotope

Period (days)	Urine ratio	Faeces ratio
0–1	0·89	0·69
1–2	3·26	1·08
2–3	3·75	1·03
3–4	3·51	0·88
4–7	2·20	1·13
7–8	2·01	0·96
8–9	1·57	1·10
9–10	1·66	0·99
10–15	1·37	1·20
	Rest period	
15–17	0·74	0·68
17–18	1·38	0·96
18–21	1·60	0·80
	Rest period	
21–22	1·12	0·61

The effectiveness of salicylate in improving excretion of radioactive strontium is thus established in rats and mice. The salicylate does not appear to be maximally effective until 48 h have elapsed, which would indicate that salicylate is not playing the part of a chelating agent. Since a diuresis was observed, it is suggested that renal tubular resorption processes are affected. Renal output of strontium-85 from treated animals is increased after 24 h. The ratio of the levels of activity in excreta from treated rats relative to those from controls (Table 1) indicates an improvement in renal output by a factor greater than 3, while the faecal output is unchanged. Furthermore, a preferential excretion is maintained for several days, is lost after withdrawal of salicylate treatment and is restored again after further treatment.

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BIOLOGY

Degradation of Arci in a Fossil *Alnus* Pollen Grain

Recognizable biological degradation of fossil Tertiary palynomorphs has generally been limited to or most evident on structurally simple or smooth-walled pollen or spores[1]. Moore[2–5] described the effects of microbiological attack on Palaeozoic fossils and also noted that "some degree of selectivity of the saprophyte upon the host is demonstrated, and the structural features of the various spores are shown to exert considerable control over the distribution and manner of attack; the organism follows these features to a great extent. In spores where there is no marked structural differentiation the ornament of the exine, particularly in thick-walled forms such as *Convolutispora* (p. 364), plays an important part in controlling the distribution of the attack and the manner in which it is carried out"[6].

Goldstein[7], using extant pollen and spores as bait, observed that saprophytic phycomycetes attack different plant groups unequally. The difference in susceptibility may be due to variations in the chemistry of pollen and spore exines from one plant group to another. Various exine layers within a plant group may have different chemical composition[8]. It follows that layers of exine restricted in distribution over the pollen or spore, that is, ornamentation, might reflect differential chemical characteristics.

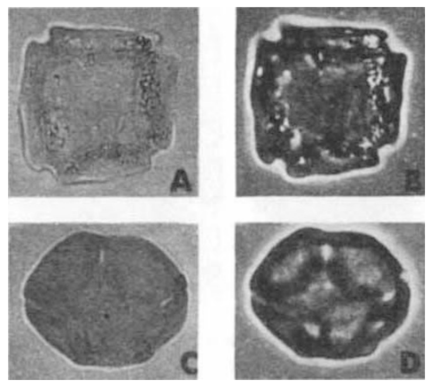

Fig. 1. Photomicrographs of fossil *Alnus* spp. pollen. *A–B*, Exhibiting biological or physico-chemical degradation of the arci; *A*, median focus under bright field; *B*, median focus, phase contrast (× 1,000). *C–D*, Well-preserved grain with no apparent degradation; *C*, bright field; *D*, phase contrast (× 1,000)

A Tertiary *Alnus* pollen grain exhibiting marked degradation along the arci is further evidence of selective attack on the host (Fig. 1*A–B*). The causative nature of the degradation, whether biological or physico-chemical, remains unknown. It is believed, however, that the presence of the arci controlled the distribution of the process.

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