



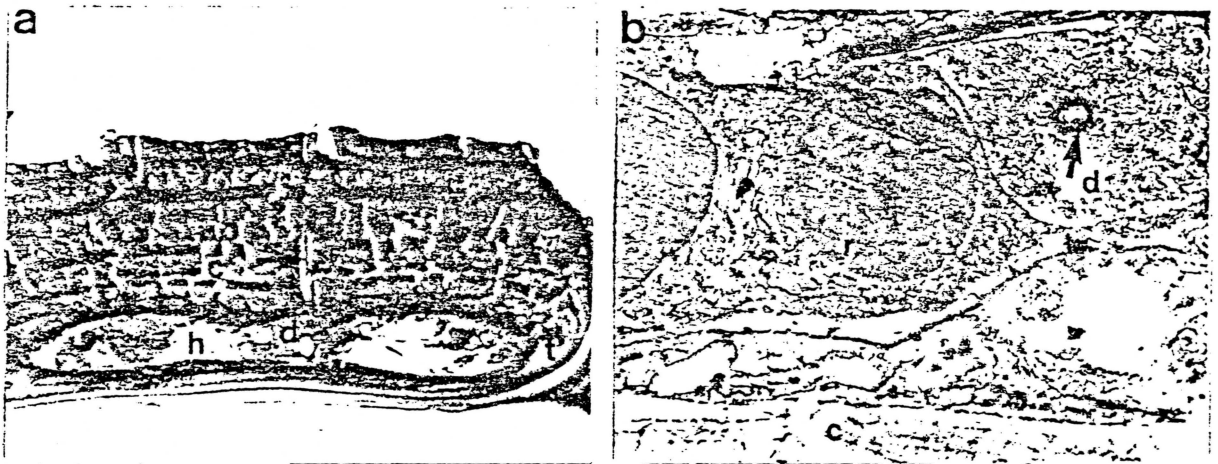
Haemocytes were seldom found.

Elytra of beetles killed late in the season possessed a thick distinctly laminated cuticle. The epithelium was reduced to a very attenuated structure with few if any organelles present in the cell cytoplasm. Gland structures remained but were reduced in size and lacked secretory product.

These results show that the epithelium continued its usual function of cuticle secretion, however as a result of this activity the blood spaces became greatly reduced in size possibly reducing the efficiency of the blood circulation. Reduction in ability to renew blood production apparently resulted from the reduced number of haemocytes conveying materials to the gland structures as well as a decline in cell activity. Both these features probably represent progressive senescence.

#### References

1. Henwood, K. (1975) *Ecology* 56, 1329.
2. Wigglesworth, V.B. (1970) *Tissue Cell* 2, 155.



T.S. of elytron of midseason adult *C. phalangium*

- a. General view
- b. Detail of dermal gland

c = cuticle  
h = blood space  
r = reservoir of secretion  
d = duct cell of gland  
= duct  
t = trabeculum