

3. In the basal connective layer, alkaline and acid phosphatase activity was confirmed at the site of the opening of the invaginated canal onto the bladder surface, this being due to the positive activity of both phosphatases in the subtegumentary cells the extensions of which pass through this layer; phosphatase activity was not present in the remaining portions of the bladder.

4. The subtegumentary cells of the bladder, throughout its periphery, gave reactions of the same intensity for mucosubstances (Table 1), proteins (Table 2) and lipids (Table 3), but displayed marked differences in their histochemical reactions for alkaline and acid phosphatase (Table 4). This was high in the subtegumentary cells of the bladder zone at the opening of the invaginated portion, but could not be confirmed in the cells of the remaining bladder portions.

DISCUSSION

The microtrix border on the scolex and in the spiral canal is morphologically different from that in the transitory portion and on the bladder. Microtriches on the scolex and in the spiral canal were short, underlaid by a narrow, outer, homogeneous layer, while those of the transitory portion, and mainly on the bladder, were long and not underlaid by an outer, homogeneous, layer. In our opinion, the outer homogeneous layer on the scolex and in the spiral canals is the proximal part of the microtriches, although we could not distinguish it in the light microscope. We succeeded only in distinguishing the distal part of the microtriches by careful inspection with the light microscope, i.e., the individual triches mainly on the suckers and in the folds of the spiral canal, while in the straight parts of the spiral canal, even the distal parts of the microtriches frequently coalesced into a continuous layer.

A different type of microtriches to those on the scolex and in the spiral canal were found on the bladder. These microtriches could be seen clearly with the light microscope. The difference of microtriches on the bladder and scolex was noted also by Baron (1968) in *Cysticercus longicollis* (= *crassiceps*). The microtriches on the scolex portion were similar to those of the adult cestode. The inner homogeneous layer was maximally developed in the spiral canal, but thin on the bladder.

Histochemical tests showed no differences in the content of acid mucosubstance with HSO_3 groups in the microtrix border on the scolex, in the spiral canal (this refers only to the distal portion of the microtriches), in the transitory portion and on the bladder. Differences, however, were disclosed in the content of some amino acids and hydrophilic lipids of these portions.

The outer homogeneous layer (substantially the proximal part of the microtriches) contained neutral mucosubstances and proteins with tyrosine, tryptophan and SH groups both on the scolex and in the spiral canal. The inner homogeneous layer on the scolex and in the spiral canal contained also arginine in addition to the proteins present in the outer homogeneous layer. It reacted for acid mucosubstances, hydrophilic and hydrophobic lipids, and indicated a weak activity of unspecific esterase. Baron (1971) detected the presence of neutral mucosubstances (PAS positive—ptyalinresistant) in the scolex tegument of the cysticercoid of *Raillietina cesticillus*, but did not disclose arginine.

The typical sensory endings in the inner homogeneous layer of *C. bovis* gave positive reactions for alkaline phosphatase and cholinesterase. Their shape and location were consistent with those in *C. longicollis* (Baron 1968).

The homogeneous layer of the bladder differed from the inner homogeneous layer of the spiral canal and the scolex in the activity of alkaline and acid phosphatase. This