

Figure A
Dugesia tigrina
Diagrammatic representation

- 1 Ocellus
- 2 Auricle
- 3 Anterior branch of intestine
- 4 Gut diverticula
- 5 Areas of dispersed and concentrated pigment
- 6 Mouth
- 7 Everted pharynx (proboscis)
- 8 Posterior branch (2) of intestine

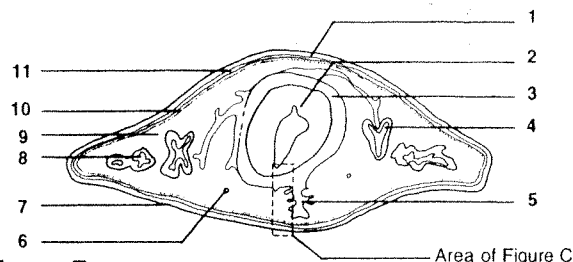


Figure B
Planarian
Section through pharynx

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|--|-------------------------------|
| 1 Dorsal epidermis with many rhabdites | 7 Ciliated ventral epidermis |
| 2 Pharynx (proboscus) | 8 Diverticula of intestine |
| 3 Pharyngeal pouch | 9 Parenchyma |
| 4 Posterior branch of intestine | 10 Longitudinal muscle fibers |
| 5 Mouth, obliquely cut | 11 Circular muscle layer |
| 6 Nerve Cord | |

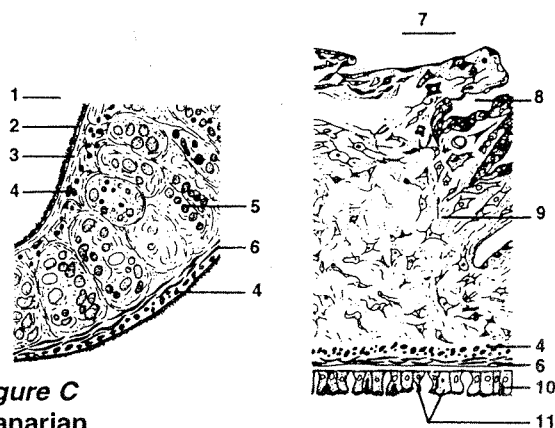


Figure C
Planarian

Cross-section greatly magnified diagrammatic

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|---|--|
| 1 Lumen of pharynx | 7 Pharyngeal pouch |
| 2 Cilia of epithelial cells lining lumen | 8 Mouth, cut obliquely |
| 3 Longitudinal muscle fibers (longitudinal section) | 9 Parenchyma (mesenchyme cells) |
| 4 Longitudinal muscle fibers (cross section) | 10 Rhabdite (rod-shaped structure present in epidermis of flatworms) |
| 5 Glandular cells | 11 Ciliated ventral epidermis |
| 6 Circular muscle fibers | |

Care and Feeding

Keep planaria in a covered shallow enamel pan; covered dishes may also be used. (Most species will also thrive in an aquarium.) Use pond or spring water; salts in tap water make it toxic to planaria. If tap water is used, remove salts with a water conditioner such as WARD'S Water Conditioner, 88 W 7100. Change the water every day or at least every other day. While planaria can survive in standing water, the water should be aerated. Keep water at approximately 21°C or lower. If necessary, store the container with planaria on the bottom shelf of a refrigerator. To help the planaria avoid light, add cover such as slate or broken pieces of flower pots to the container. Clean the container once a week.

Feed the planaria beef liver approximately three times a week; the liver can be stored frozen. They will also eat earthworm fragments and chopped mealworms. *Proctotyla fluviatilis* is an exception; this species requires small living crustaceans. Remove any food that has not been eaten two or three hours after feeding, then change the water.

Note: An interesting result of heavy feeding is the spontaneous "tail dropping" described above. If no food is available, a healthy planaria can survive for up to three months without harmful effects.