

WATER FLOW THROUGH THE GILLS OF PORT JACKSON SHARKS

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SUMMARY

1. It has been said that the presence of interbranchial septa in elasmobranchs prevents counter-current flow of water and blood at the respiratory surface.
2. In contesting this opinion, attention is drawn to the importance of the septal canals as ducts carrying respiratory water in the Port Jackson shark.
3. Observations made on the passage of dye through the gills and on water pressures in the orobranchial cavity, septal canals and parabronchial cavity, indicate that water flows unidirectionally between the secondary lamellae and into the septal canals.
4. This provides a counter-current flow between water and blood at the respiratory surfaces.

Citation:

Grigg GC (1970) Water flow through the gills of Port Jackson sharks. *Journal of Experimental Biology* 52:565-68.