



Sunken woods from the Vanuatu Islands: identification of wood substrates and preliminary description of associated fauna

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Two trawl samples of natural sunken wood collected near Vanuatu were identified based on histological studies. Detailed descriptions were made and microphotographs of the cell types were taken, using the three classical sections (cross, tangential, and radial). The botanical characters were compared first to the native flora of Vanuatu, then also to the introduced species. The possibility of transportation by ocean currents with a mainly southern and eastern direction is discussed. The first sample lacks apparent colonization marks. Its main histologic character is the presence of “Paedomorphic type I rays” which relates it to the shrubby genera *Fitchia* (Asteraceae) and *Fuchsia* (Onagraceae): both are known in Polynesia but they seem not to be recorded from Vanuatu. The second wood sample is densely colonized by molluscs and other fauna. It comes from a tree close to the Fabaceae-Mimosoideae, possibly belonging to the genera *Leucaena* or *Serianthes*, both known from Vanuatu. Our work shows for the first time that, even after prolonged submergence in water at substantial depth (> 500 m), the wood structure may be well preserved. Therefore, the botanical identification and the determination of the origin of the sunken woods were possible. The two selected samples show completely different colonization patterns, which could be related to differences in chemical composition or to time elapsed since sinking.