



Natural and experimental sunken wood: analysis of substrates and associated fauna

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Samples of natural sunken wood collected near Vanuatu (>500 m-depth) are identified based on histological observations in order to know their diversity, to infer their geographical origin and to appreciate their degradation state. Diversity of the associated fauna is also studied. Investigation of eventual specific associations between wood species and organisms constitute the second step of the study. Preliminary results concern two wood samples: they belong to two different families (Asteraceae or Onagraceae for the first sample; Fabaceae for the second one); they may have a local geographical origin as sample 1 may come from Polynesia and sample 2 may be endemic from Vanuatu; no degradation in their histological structure was observed. The two selected samples showed completely different colonization patterns, which could be due to differences in chemical composition, to a selection of wood by fauna or to time elapsed since sinking. To bring comparative data, an *in-situ* experiment was established off the Nouméa coast. Four species of wood and three monocots were immersed at a depth of 900-1000 m during 20 months. The seven samples did not equally respond to the immersion. One of them housed the most abundant and diversified fauna, the other samples were mostly colonised by two taxa. Major cell-wall degradation was also noticed on the densely colonized sample.