Clarinets, Oboes & African Blackwood *Dalbergia melanoxylon*

African Blackwood, *Dalbergia melanoxylon*
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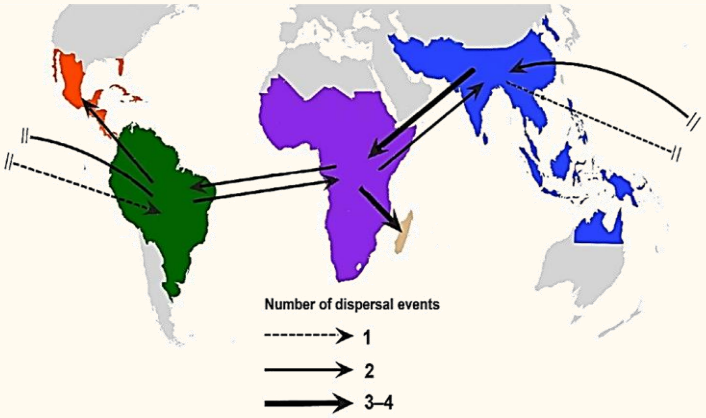
African Blackwood, *Dalbergia melanoxylon*, has long been recognised as the finest timber for woodwind instruments, particularly clarinets, oboes and wooden concert flutes. The clarinet was developed in the late 17th century from an older instrument, the *chalumeau*. Changes and improvements through the 18th and 19th centuries to the early 20th century produced the modern clarinet as we know it today. Chalumeaux and early clarinets were made from Boxwood, *Buxus sempervirens*, a dense, fine-grained European hardwood but when makers sought harder, denser timber, Ebony (*Diospyros* species) and African Blackwood came into use. African Blackwood eventually became the

dominant and preferred material by the beginning of the 20th century because its high density and stability produced a more resonant and consistent tone, with excellent acoustics.

Natural distribution of African Blackwood, *Dalbergia melanoxylon,* in Africa. https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:490328-1

African Blackwood, also known as Grenadilla and Mpingo, is a small, slow growing tree in the pea family (Fabaceae). The timber is much sought after, not only for musical instruments but also for fine furniture and carved ornaments. The heartwood is black, the outer sapwood creamy. The high-quality timber is one of the most valuable timbers in the world, leading to illegal and unsustainable harvesting in Kenya, Tanzania and Mozambique.

There are about 250 *Dalbergia* species worldwide, growing in diverse habitats in tropical and subtropical regions as trees, vines or shrubs. According to a team of botanists led by Fabien Rahaingoson, the genus *Dalbergia* originated in South America 22.9 Ma in the Early Miocene then dispersed throughout the Pan-tropics in multiple 'recent' trans-oceanic long-distance dispersals. They identified *Centres of Diversity* in South and Central America, Africa, Madagascar and Asia. However, the assumptions related to long-distance dispersal are considered by some to be tenuous and recommend more consideration be given to the potential for vicariance, together with a more comprehensive inclusion of fossils of Fabaceae genera.

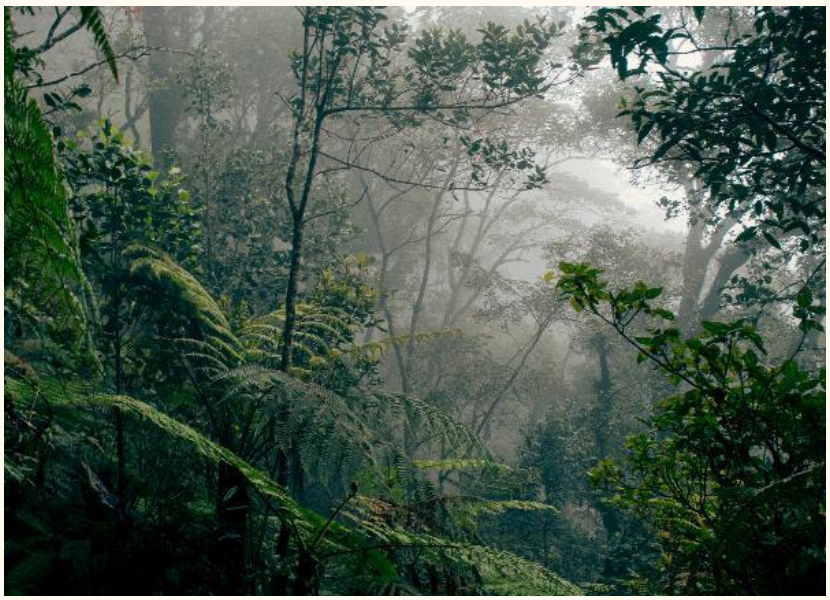


Dalbergia is considered to have originated in South America during the Early Miocene (c. 22.9 Ma) and it current pantropical distribution achieved through multiple recent transoceanic long-distance dispersals. Rahaingoson et al. 2022.

African Blackwood is not the only economically important *Dalbergia* species, with many other *blackwoods* prized for their slow-growing, hard timber. *Dalbergia rosewoods* are also valued for

their fragrance and pink/red timber, leading to illegal logging and overexploitation. Because of the similarity in appearance and difficulty of identifying individual species in the genus, recent conservation efforts now require **all *Dalbergia* species** to be protected under the **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).** However, African Blackwood is so important for instruments that *finished musical instruments* were recently exempted from the ban.

The timber from *Dalbergia* trees is dense because cells are filled with resin. Unsurprisingly, the logs don't even float, posing a problem for foresters worldwide where it has been the norm to float harvested logs along rivers to the point of export. In Madagascar, foresters float *Dalbergia* timber on rafts constructed of lighter, buoyant tree trunks. In the 1960s, Ray Clamback managed forests in Borneo where *Dalbergia* was cut for export to China (Borneo has 21 species, including 8 endemics). To deal with the 'floating problem', before a log was dropped into the Rajang River, chips were first cut from the heartwood and sapwood to check whether they sank.



Rainforest in Borneo – Mount Kinabalu. Photograph: Dukeabruzzi, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0>, via Wikimedia Commons

Four species of *Dalbergia* are found in Australia, three of these are native to Australia but also variously occur in Papua New Guinea, Indonesia, Philippines and more. One species, *Dalbergia sissoo*, a native of the Indian sub-continent, has become naturalised in Queensland and the Northern Territory where it spreads by suckers and forms dense thickets that inhibit the growth of native vegetation.

Dalbergia species in Australia: modified from Atlas of Living Australia:

Dalbergia sissoo in Pakistan. Photograph: Khalid Mahmood, CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/3.0>. via Wikimedia Commons

Chalumeau: Statens musikverk (Swedish Performing Arts Agency). Photographer: Sofi Sykfont, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0>, via Wikimedia Commons

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Atlas of Living Australia: Dalbergia | Atlas of Living Australia

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Weeds Australia: Dalbergia, Indian Dalbergia, Himalayan Raintree, Indian Rosewood, Sissoo. https://weeds.org.au/profiles/dalbergia-indian-himalaya/

Wikipedia: https://en.wikipedia.org/wiki/Dalbergia

Wikipedia: https://en.wikipedia.org/wiki/Dalbergia_melanoxylon

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