AFROCARPUS GRACILIOR

Description

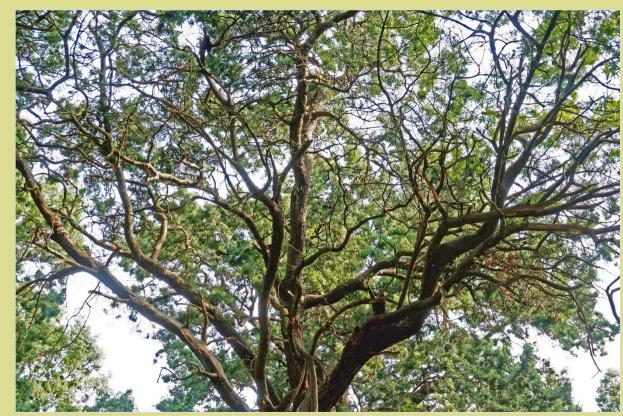


Figure 1. Treetop of *Afrocarpus gracilior*.

Afrocarpus gracilior (Thunb.) (synonymously also called *Podocarpus falcatus*, *Afrocarpus falcatus*) is one of the only two conifer species known to be native to Ethiopia. It is commonly called as yellow wood, African fern pine (in English) and Zigba (in Ethiopia). It is a an evergreen climax species that grow slowly to a height of up to 40m, and it is characterized by a complicated lobate stem nature (MAATEN-HAUSTON ET AL., 2011; ADIE 2010). It is member of the *Podocarpaceae* family.

Distribution

Afrocarpus gracilior naturally grows in mountain forests of the Eastern and South Eastern Africa starting from Ethiopia through Kenya, Tanzania and Mozambique to South Africa including Swaziland and Lesotho (Figure 2). It is also planted as ornamental tree outside its natural distribution in Australia, the United Satates, and India (LOUPE ET AL., 2008).



Figure 2. Natural distribution of *Afrocarpus gracilior*. (LOUPE ET AL., 2008).

Management and growth habit

Afrocarpus gracilior generally has very low germination and recruitment than other *podocarpus* species. This is due to its strategy of dispersal and propagation in which it produces a heavy fruit, but invests mostly in dispersal (with a yellow flesh pulp or epimatium enclosing the seed) and protective tissue (stony shell or sclerotesta) and very little into endosperm food reserves for the embryo (GELDENHUYS, 1993). As a result germination of the species at nursery is very difficult, and thus wildings (germinants collected under mother trees from a natural forest) are usually collected and replanted in a nursery. Vegetative propagation of the species from cuttings of stock plants to the age of two years was found to perform better than seedlings (NEGASH, 2003).



As climax species, establishment and early growth of *Afrocarpus gracilior* require shade from a nurse tree. Regeneration and fast growth of *Afrocarpus gracilior* was observed even under plantations of exotic species such as eucalypts and pines (SENBETA ET AL., 2002). *Afrocarpus gracilior* is therefore suitable species for mixed plantations with exotic species in which it can also compromise the opinion of exotic tree plantations are generally detrimental. Of course there is no any better management to *Afrocarpus gracilior* than preserving and sustainably utilizing it in its natural environment

Figure 3. Fruits of *Afrocarpus gracilior*.

Uses and ecosystem services of Afrocarpus gracilior

Products

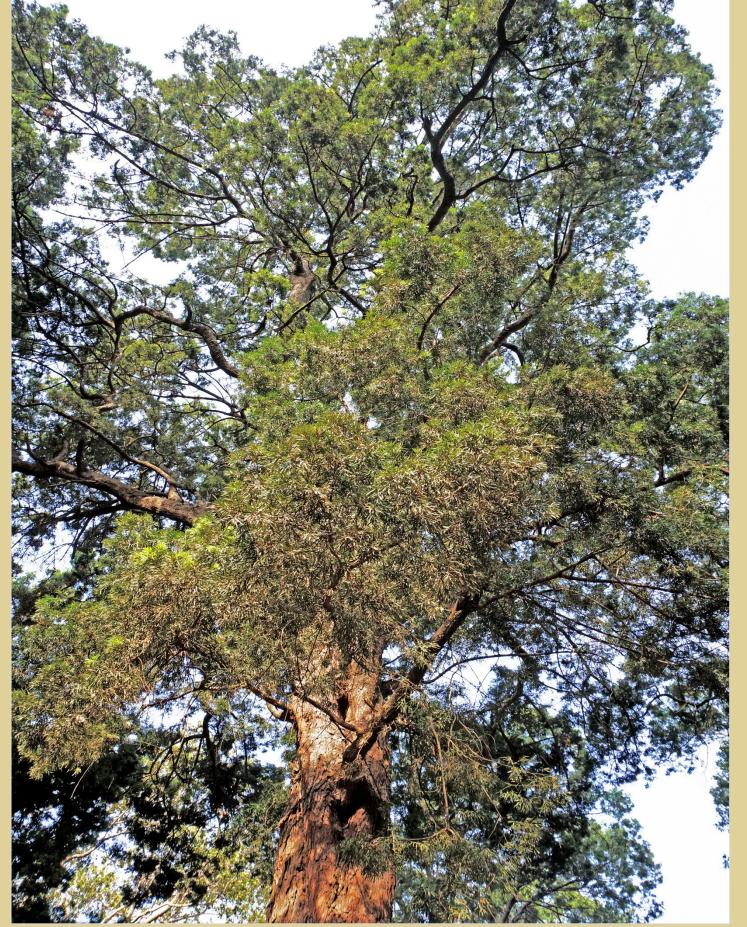
The wood of *Afrocarpus gracilior*, which normally is called podo, is a favoured timber for industrial purposes such as for lumber, veneer, panel products. It is particularly suitable for flooring and roofing and other interior purposes. It is also preferred species for fuel wood. Furthermore it is used for traditional medication in Ethiopia and Kenya.



Figure 4. Afrocarpus gracilior in Rift Valley, Ethiopia.

Ecosystem services

Afrocarpus gracilior forms a large crown that provides food and shelter to wild animals like birds, mammals, insects and micro organisms. It is also vital for maintaining soil quality through huge amount of litter production and its significant effect on the nutrient dynamics of the soil (YESHANEW AND WOLFGANG, 2013, ASHAGRIE ET AL., 2005).



Conservation status

Afrocarpus gracilior is not currently included under the IUCN threat category. But some other species that grow in association with it such as *Echinops ellenbekii* (O.Hoffin) are endangered (VIVERO ET AL., 2005). Hence ongoing deforestations that are undergoing in the *Afrocarpus gracilior* forests (ASHAGRE ET AL., 2004) will be catastrophic to the biodiversity of the country. In southwestern highlands of Ethiopia, *podocarpus* dominates some forests where it can be considered as keystone species.

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Conclusion:

- ➡ Afrocarpus gracilior is one of the most valuable tree species in the mountain areas of Ethiopia.
- It is, however, undergoing under rapid rate of deforestation as like other tree species the highlands of Ethiopia.
- Owing to its economical, ecological and environmental benefits to the country, *Afrocarpus gracilior* needs urgent conservation in its habitat and further reclamation of its former areas through plantations and assisted regeneration has predominant importance.

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