

8. Afromontane single-dominant *Hagenia abyssinica* forest (Fd)

8.1. Description

Hagenia abyssinica is found on most of the higher mountains between Ethiopia and northern Malawi, including Mt. Kenya, Mt. Meru (Tanzania), the Nyika Plateau (Malawi) and the Virunga mountains (Rwanda). Characteristically, *Hagenia abyssinica* forms almost pure stands of 9 to 15 m tall in a narrow and often interrupted zone between the montane Ericaceous belt (E) and taller types of Afromontane rain forest (Fa) or Afromontane undifferentiated forest (Fbu). The best-developed stands are clearly forest, but other stands have a structure that is better described as woodland or scrub forest (White 1983 p. 166).

Some authors have suggested that Afromontane single-dominant *Hagenia abyssinica* forest is a climax vegetation type where low night temperatures exclude other trees. However, even at high altitudes the dominance of *Hagenia abyssinica* is probably still the result from disturbance. The altitudinal range of this species is between 1800 and 3400 m. The abundance of this species does not seem to be related to moisture conditions, although the species is usually absent from Afromontane rain forest (Fa) and taller types of Afromontane undifferentiated forest (White 1983 p. 166).

Figure 8.1. Afromontane single-dominant *Hagenia abyssinica* forest between the Gisoke and Sabyinoyo volcanoes in the Volcanoes National Park (Rwanda).
Photograph by V. Minani (July 2008)



Figure 8.2. Flowering *Hagenia abyssinica* tree against a background of Afromontane bamboo (*Sinarundinaria alpina*, synonym: *Arundinaria alpina*) in Volcanoes National Park (Rwanda). *Hagenia abyssinica* is also present in other types of Afromontane forest such as Afromontane single-dominant *Juniperus procera* forest (Fbj).
Photograph by V. Minani (July 2008).



8.2. Species composition

(Please check the methodology and information from Volumes 2 - 5 for more details on how the information on species composition for the different manifestations of this potential natural vegetation type was compiled. In composition tables, "x" indicates that the species is expected to be present, "C" indicates that the species was identified as characteristic species and "f" indicates a species that was not listed in the documentation that we consulted although it is known to occur in the specific country).

Table 8. Species composition of Afromontane single-dominant *Hagenia abyssinica* forest (Fd)

SPECIES	Regional status	Ethiopia (FbuE subtype)	Kenya	Malawi	Rwanda	Tanzania	Uganda
<i>Hagenia abyssinica</i>	dominant	D	C	D	D	D	C
<i>Hypericum revolutum</i>	indicator species	f	C	f	C	f	x
<i>Apodytes dimidiata</i>	characteristic species	f	f	x	f	f	f
<i>Ilex mitis</i>	characteristic species	f	f	C	f	f	f
<i>Kiggelaria africana</i>	characteristic species (species that does not extend as far north as Ethiopia)			C		f	
<i>Nuxia congesta</i>	characteristic species	f	f	x	f	f	f
<i>Nuxia floribunda</i>	characteristic species		f	x	f	f	f
<i>Podocarpus latifolius</i>	characteristic species (species that does not extend as far north as Ethiopia)		f	C	f	f	f
<i>Prunus africana</i>	characteristic species	f	f	C	f	f	x
<i>Rapanea melanophloeos</i>	characteristic species	f	f	C	f	f	x
<i>Xymalos monospora</i>	characteristic species (species that does not extend as far north as Ethiopia)		f	x	f	f	f
<i>Cassipourea malosana</i>	not characteristic	f	f	C		f	f
<i>Cornus volkensis</i>			C	f	f	f	C
<i>Cussonia spicata</i>			f	C		f	f
<i>Lepidotrichilia volkensis</i>		f	C	x	f	f	f
<i>Olea capensis</i>	not characteristic	f	f	C	f	f	f
<i>Olinia rochetiana</i>		f	f	C	f	f	f
<i>Pittosporum viridiflorum</i>		f	f	C	f	f	f
<i>Schefflera volkensis</i>		f	C			f	f

9. Afromontane moist transitional forest (Fe)

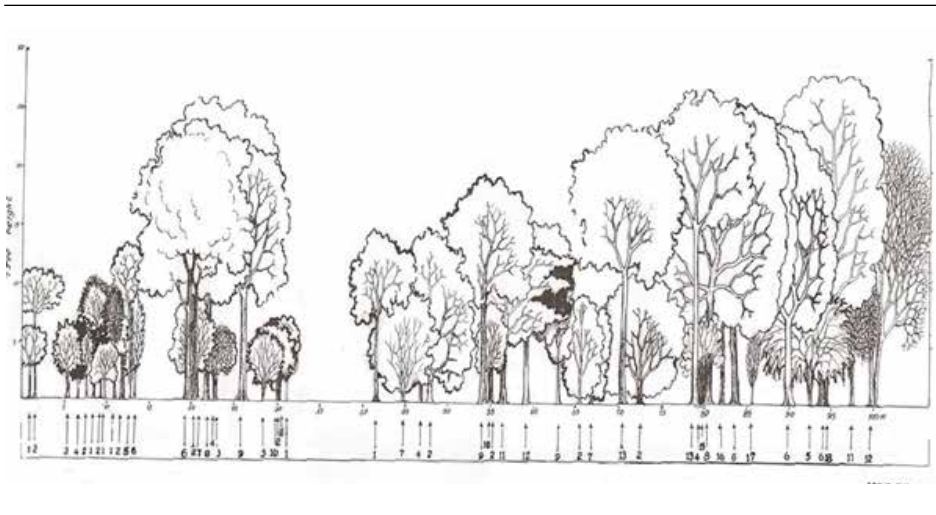
9.1. Description

Afromontane moist transitional forest was the only VECEA forest vegetation type that could not be directly related to forest types listed for the Vegetation Map of Africa (White 1983). However, in the description of Afromontane dry transitional forest, White listed two characteristic species that occur near streams (White 1983 pp. 166 - 167). We hypothesize that these two species, *Albizia gummifera* and *Newtonia buchananii*, could be potential indicators of Afromontane moist transitional forest. *Albizia gummifera* is also a characteristic species of Lake Victoria transitional rain forest (Ff; White 1983 p. 181). *Newtonia buchananii* was also listed as characteristic species for Lake Victoria transitional rain forest (Ff; White 1983 p. 181), Zanzibar-Inhambane lowland rain forest (Fo; White 1983 p. 186), Zanzibar-Inhambane transitional rain forest (Fg; White 1983 p. 187) and evergreen and semi-evergreen Zambebian riparian forest (fr; White 1983 p. 91). However, since these two indicator species are not listed for Ethiopia, they are effectively indicators for the Kenyan manifestation of this vegetation type (FeK).

Figure 9.1. Canopy and forest margins of Afromontane moist transitional rain forest (synonym transitional rain forest) in Ethiopia. Approximate altitude of 1200 m. Photograph by I. Friis and Sebsebe Demissew (January 2009). Reproduced from *Biologiske Skrifter of the Royal Danish Academy of Sciences and letters*, Vol. 58, Fig. 28A. 2010.



Figure 9.2. Profile diagram of Afromontane moist transitional forest in the Kambakia area north-east of Mt. Kenya (0° 04.498' N; 37° 37.671' E). Altitude 1612 m. This forest was classified by Trapnell *et al.* (1966, 1969, 1976, 1986) as moist intermediate forest. Species shown are: *Bersama abyssinica* (15); *Casearia battiscombei* (13); *Celtis africana* (8); *Celtis gomphophylla* (12); *Cordia africana* (6); *Croton sylvaticus* (9); *Diospyros abyssinica* (10); *Ehretia cymosa* (5); *Erythrocca bongensis* (3); *Flacourtia indica* (7); *Olea capensis* (16); *Pittosporum viridiflorum* (11); *Ritchiea albersii* (14); *Rothmannia urcelliformis* (1); *Trilepisium madagascariense* (4) and *Xymalos monospora* (2). Obtained from Matingi (2011).



9.2. Species composition

(Please check the methodology and information from Volumes 2 - 5 for more details on how the information on species composition for the different manifestations of this potential natural vegetation type was compiled. In composition tables, "x" indicates that the species is expected to be present, "C" indicates that the species was identified as characteristic species and "f" indicates a species that was not listed in the documentation that we consulted although it is known to occur in the specific country).

Table 9 Species composition of Afromontane moist transitional forest (Fe)

SPECIES	Regional status	Ethiopia	Kenya
<i>Acacia abyssinica</i>		f	x
<i>Albizia coriaria</i>		x	f
<i>Albizia grandibracteata</i>		x	f
<i>Albizia gummifera</i>	(probable indicator species as near streams in Afromontane dry transitional forest)	f	C
<i>Albizia schimperiana</i>		C	f
<i>Allophylus abyssinicus</i>		f	x
<i>Allophylus rubifolius</i>		f	x
<i>Alstonia boonei</i>		C	
<i>Anthocleista grandiflora</i>			C
<i>Antiaris toxicaria</i>		C	f
<i>Antidesma venosum</i>		f	x
<i>Aphania senegalensis</i>		x	f
<i>Apodytes dimidiata</i>		f	x
<i>Baphia abyssinica</i>		x	
<i>Bersama abyssinica</i>		f	C
<i>Blighia unijugata</i>		x	C
<i>Bridelia micrantha</i>		f	C
<i>Buddleja polystachya</i>		f	x
<i>Caesalpinia decapetala</i>			x
<i>Caesalpinia volkensii</i>			x
<i>Casearia battiscombei</i>			C
<i>Cassipourea malosana</i>		f	C
<i>Catha edulis</i>		f	x
<i>Ceiba pentandra</i>		x	
<i>Celtis africana</i>		f	x
<i>Celtis gomphophylla</i>		C	C
<i>Celtis mildbraedii</i>			x
<i>Celtis toka</i>		C	
<i>Clausena anisata</i>		f	x
<i>Cordia africana</i>		x	C
<i>Craibia brownii</i>			x
<i>Crateva adansonii</i>		x	f
<i>Crotalaria agatiflora</i>		f	x
<i>Croton macrostachyus</i>		f	C
<i>Croton megalocarpus</i>			C
<i>Croton sylvaticus</i>		C	C
<i>Diospyros abyssinica</i>		C	C
<i>Dombeya torrida</i>		f	x
<i>Dovyalis abyssinica</i>		f	x
<i>Dovyalis macrocalyx</i>			x
<i>Dracaena fragrans</i>		x	f
<i>Dracaena steudneri</i>		x	C
<i>Ehretia cymosa</i>		f	C
<i>Ekebergia capensis</i>		f	C
<i>Elaeodendron buchananii</i>		x	f
<i>Embelia schimperii</i>		f	x
<i>Englerophytum natalense</i>			x
<i>Erythroxylum fischeri</i>		x	f
<i>Eugenia capensis</i>		x	f
<i>Fagaropsis angolensis</i>		x	C
<i>Ficus exasperata</i>		C	C
<i>Ficus mucuso</i>		C	f
<i>Ficus natalensis</i>			x
<i>Ficus platyphylla</i>		x	
<i>Ficus sur</i>		x	C
<i>Ficus thonningii</i>		f	C
<i>Funtumia africana</i>			x
<i>Hagenia abyssinica</i>		f	x
<i>Harungana madagascariensis</i>			C
<i>Kigelia moosa</i>			C
<i>Lannea welwitschii</i>		x	f
<i>Lecaniodiscus fraxinifolius</i>		C	f
<i>Lepidotrichilia volkensii</i>		f	x
<i>Lovoa swynnertonii</i>			C
<i>Macaranga capensis</i>		f	x
<i>Maesa lanceolata</i>		f	x
<i>Manilkara butugii</i>		C	C
<i>Margaritaria discoidea</i>		x	x

SPECIES	Regional status	Ethiopia	Kenya
<i>Markhamia lutea</i>			C
<i>Maytenus undata</i>		f	x
<i>Milicia excelsa</i>		C	C
<i>Mimusops bagshawei</i>			C
<i>Mimusops kummel</i>		f	C
<i>Morus mesozygia</i>		C	f
<i>Myrianthus holstii</i>			C
<i>Neoboutonia macrocalyx</i>			C
<i>Newtonia buchananii</i>	(probable indicator species as near streams in dry transitional forest)		C
<i>Nuxia congesta</i>		f	C
<i>Olea capensis</i>		f	C
<i>Olyra latifolia</i>		x	f
<i>Oncoba spinosa</i>		x	f
<i>Phoenix reclinata</i>	(palm species)	f	x
<i>Phytolacca dodecandra</i>		f	x
<i>Pittosporum viridiflorum</i>		f	x
<i>Plectranthus barbatus</i>		f	x
<i>Polyscias fulva</i>		x	f
<i>Pouteria adolfi-friedericii</i>		f	x
<i>Pouteria altissima</i>		C	f
<i>Premna maxima</i>			C
<i>Prunus africana</i>		f	x
<i>Psychotria mahonii</i>			x
<i>Psyrax parviflora</i>		f	C
<i>Pterolobium stellatum</i>		f	x
<i>Rapanea melanophloeos</i>		f	x
<i>Rauvolfia caffra</i>			C
<i>Rhamnus prinoides</i>		f	x
<i>Rhoicissus revoilii</i>		f	x
<i>Ritchiea albersii</i>		x	f
<i>Rothmannia urcelliformis</i>		x	C
<i>Rubus apetalus</i>		f	x
<i>Rubus volkensii</i>		f	x
<i>Schefflera abyssinica</i>		f	x
<i>Schefflera volkensii</i>		f	x
<i>Scutia myrtina</i>		f	x
<i>Senna didymobotrya</i>		f	x
<i>Senna septemtrionalis</i>			x
<i>Shirakiopsis elliptica</i>		x	C
<i>Smilax anceps</i>		x	f
<i>Solanum aculeastrum</i>			x
<i>Strombosia scheffleri</i>			C
<i>Strychnos mitis</i>		C	f
<i>Syzygium guineense</i>		f	x
<i>Tabernaemontana pachysiphon</i>			C
<i>Tabernaemontana stapfiana</i>			x
<i>Trema orientalis</i>		f	C
<i>Trichilia dregeana</i>		C	f
<i>Trichilia emetica</i>		f	C
<i>Trilepisium madagascariense</i>		C	f
<i>Vepris dainellii</i>		x	
<i>Vepris nobilis</i>		f	C
<i>Vernonia auriculifera</i>		f	x
<i>Vernonia myriantha</i>		f	x
<i>Warburgia ugandensis</i>		f	C
<i>Xylopia parviflora</i>		x	f
<i>Xymalos monospora</i>			x
<i>Zanha golungensis</i>		C	f
<i>Zanthoxylum gillettii</i>		x	C
<i>Zanthoxylum rubescens</i>			C
<i>Ziziphus pubescens</i>		x	f

10. Lake Victoria transitional rain forest (Ff)

10.1. Description

White describes two types of Lake Victoria transitional rain forest: (i) transitional rain forests occurring between 1600 and 1900 m in western Burundi, western Rwanda and eastern Kivu (DRC); and (ii) Kakamega forest in Kenya (1520 to 1680 m). Kakamega forest is described as containing a mixture of Guineo-Congolian lowland rain forest species (that reach their easternmost limits in distribution in Kakamega forest) and Afromontane species, but containing fewer Afromontane species than the other Lake Victoria transitional rain forests (White 1983 p. 181).

Regional indicator species (characteristic species listed by White (1983) [1983] that were only provided for Lake Victoria transitional rain forest and no other Lake Victoria forest types) that were listed as characteristic species for one or several national maps include *Alangium chinense* (Afromontane species, also a indicator for Zanzibar-Inhambane transitional rain forest [Ff]), *Anthonotha pynaertii*, *Apodytes dimidiata* (Afromontane species, also characteristic of Afromontane undifferentiated forest [Fbu] and Afromontane dry transitional forest [Fh]), *Carapa procera*, *Chrysophyllum gorungosanum* (also a indicator of Afromontane rain forest [Fa]), *Cordia millenii* (Guineo-Congolian lowland rain forest species), *Diospyros gabunensis*, *Macaranga capensis* (synonym: *Macaranga kilimandscharica*; Afromontane species), *Monodora myristica* (Guineo-Congolian lowland rain forest species), *Neoboutonia macrocalyx* (Afromontane species), *Newtonia buchananii* (also a characteristic species of Afromontane moist transitional forest [FeK], Afromontane dry transitional forest [Fh; near streams], Zanzibar-Inhambane lowland rain forest [Fo] and Zanzibar-Inhambane transitional rain forest [Fg; upland species]), *Parinari excelsa* (also an indicator of Afromontane rain forest [Fa]), *Prunus africana* (Afromontane species, also characteristic of Afromontane rain forest [Fa] and Afromontane undifferentiated forest [Fbu]), *Strombosia scheffleri* (Afromontane species, also a indicator of Afromontane rain forest [Fa]), *Symphonia globulifera*, *Syzygium guineense* (also an indicator of Afromontane rain forest [Fa]), *Turraea holstii* (Afromontane species) and *Xymalos monospora* (also characteristic of Afromontane rain forest [Fa] and Afromontane undifferentiated forest [Fbu]).

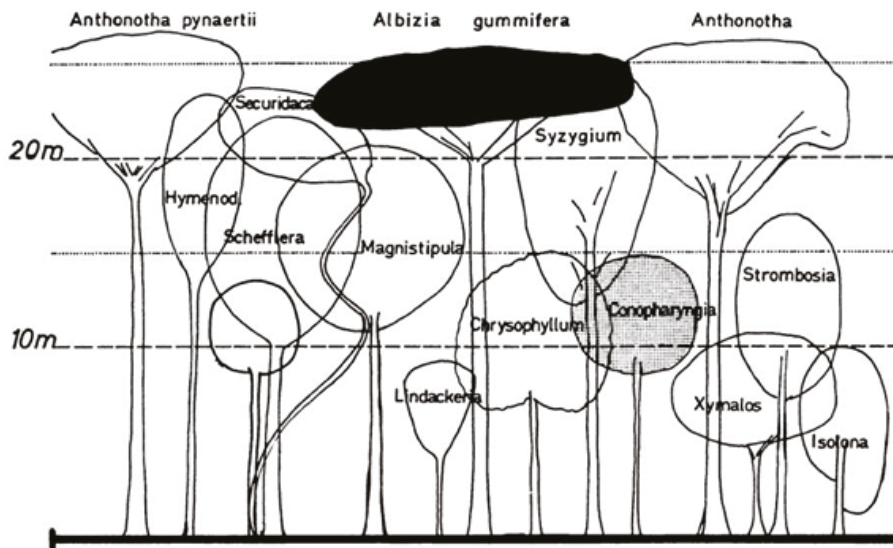


Figure 10.1. Profile diagram of Lake Victoria transitional rain forest in Burundi. Although White (1983 p. 164) listed this profile diagram for the description of Afromontane rain forest (Fa), the altitude range for this forest type of 1600 – 1900 m were described by White (1983 p. 181) for Lake Victoria transitional rain forest (Ff) and also corresponded to the altitude range of the “horizon inférieur” mentioned with the original publication of this profile diagram (Lewalle 1972). Figure obtained from URL:

<http://www.jstor.org/stable/3667406>.



Figure 10.2. Lake Victoria transitional rain forest in South Nandi forest. Photograph by F. Gachathi.

10.2. Species composition

(Please check the methodology and information from Volumes 2 - 5 for more details on how the information on species composition for the different manifestations of this potential natural vegetation type was compiled. In composition tables, "x" indicates that the species is expected to be present, "C" indicates that the species was identified as characteristic species and "f" indicates a species that was not listed in the documentation that we consulted although it is known to occur in the specific country).

Table 10. Species composition of Lake Victoria transitional rain forest (Ff)

SPECIES	Regional status	Kenya	Rwanda
<i>Alangium chinense</i>	indicator species (Afromontane species)	x	f
<i>Anthonotha pynaertii</i>	indicator species		x
<i>Apodytes dimidiata</i>	indicator species (Afromontane species)	x	x
<i>Carapa procera</i>	indicator species		C
<i>Chrysophyllum gorungosanum</i>	indicator species (Afromontane species)	f	C
<i>Cordia millenii</i>	indicator species (Guineo-Congolian species)	C	
<i>Diospyros gabunensis</i>	indicator species		x
<i>Macaranga capensis</i>	indicator species (Afromontane species)	x	x
<i>Monodora myristica</i>	indicator species (Guineo-Congolian species)	C	
<i>Neoboutonia macrocalyx</i>	indicator species (Afromontane species)	C	C
<i>Newtonia buchananii</i>	indicator species	f	C
<i>Parinari excelsa</i>	indicator species (Afromontane species)		C
<i>Prunus africana</i>	indicator species (Afromontane species)	x	x
<i>Strombosia scheffleri</i>	indicator species (Afromontane species)	C	x
<i>Symphonia globulifera</i>	indicator species		C
<i>Syzygium guineense</i>	indicator species (Afromontane species [<i>Syzygium guineense</i> ssp. <i>afromontanum</i>])	x	x
<i>Turraea holstii</i>	indicator species (Afromontane species)	C	
<i>Xymalos monospora</i>	indicator species (Afromontane species)	x	x
<i>Albizia gummifera</i>	characteristic species	C	C
<i>Entandrophragma angolense</i>	characteristic species (Guineo-Congolian species)	C	
<i>Maesopsis eminii</i>	characteristic species (Guineo-Congolian species)	C	f
<i>Pouteria altissima</i>	characteristic species (Guineo-Congolian species)	C	x
<i>Acacia abyssinica</i>		x	f
<i>Acacia lahai</i>		x	
<i>Acacia mearnsii</i>		f	x
<i>Agauria salicifolia</i>		f	x
<i>Albizia grandibracteata</i>		C	f
<i>Albizia zygia</i>		C	
<i>Alchornea hirtella</i>		x	x
<i>Allophylus abyssinicus</i>		x	x
<i>Allophylus rubifolius</i>		x	f
<i>Anthocleista grandiflora</i>		C	
<i>Antiaris toxicaria</i>	not characteristic	C	f
<i>Antidesma venosum</i>		x	
<i>Beilschmiedia ugandensis</i>		x	
<i>Bersama abyssinica</i>		C	f
<i>Blighia unijugata</i>		C	f
<i>Bridelia brideliifolia</i>			x
<i>Bridelia micrantha</i>		C	f
<i>Buddleja polystachya</i>		x	
<i>Caesalpinia decapetala</i>		x	f
<i>Caesalpinia volkensii</i>		x	
<i>Casearia battiscombei</i>		C	
<i>Cassipourea malosana</i>		C	
<i>Cassipourea ruwensoriensis</i>		C	x
<i>Celtis africana</i>		x	f
<i>Celtis gomphophylla</i>		C	C
<i>Celtis mildbraedii</i>		C	
<i>Chrysophyllum albidum</i>	not characteristic	C	
<i>Clausena anisata</i>		x	C
<i>Cordia africana</i>		C	f
<i>Craibia brownii</i>		x	f
<i>Crotalaria agatiflora</i>		x	f
<i>Croton macrostachyus</i>		C	x
<i>Croton megalocarpus</i>		C	x
<i>Croton sylvaticus</i>		C	
<i>Cyathea manniana</i>		x	x
<i>Diospyros abyssinica</i>		C	f
<i>Dombeya torrida</i>		x	x
<i>Dovyalis abyssinica</i>		x	
<i>Dovyalis macrocalyx</i>		x	x
<i>Dracaena fragrans</i>		x	f
<i>Dracaena steudneri</i>		C	x

SPECIES	Regional status	Kenya	Rwanda
<i>Ehretia cymosa</i>		C	C
<i>Ekebergia capensis</i>		C	x
<i>Embelia schimperi</i>		x	x
<i>Ensete ventricosum</i>		f	x
<i>Entada abyssinica</i>		x	f
<i>Entandrophragma excelsum</i>			C
<i>Eugenia capensis</i>		f	x
<i>Fagaropsis angolensis</i>		C	x
<i>Ficalhoa laurifolia</i>			x
<i>Ficus exasperata</i>		C	x
<i>Ficus natalensis</i>		x	f
<i>Ficus sur</i>		C	x
<i>Ficus thonningii</i>		C	f
<i>Funtumia africana</i>		C	
<i>Galiniera saxifraga</i>		x	x
<i>Garcinia buchananii</i>		C	f
<i>Hagenia abyssinica</i>		x	x
<i>Harungana madagascariensis</i>		C	C
<i>Hypericum revolutum</i>		f	x
<i>Ilex mitis</i>		f	x
<i>Kigelia africana</i>		f	x
<i>Kigelia moosa</i>		C	
<i>Lecaniodiscus fraxinifolius</i>		C	
<i>Lepidotrichilia volkensis</i>		x	x
<i>Lovoa trichilioides</i>			x
<i>Maesa lanceolata</i>		x	x
<i>Manilkara butugii</i>		C	
<i>Margaritaria discoidea</i>		x	
<i>Markhamia lutea</i>		C	f
<i>Maytenus acuminata</i>		f	x
<i>Maytenus undata</i>		x	x
<i>Milicia excelsa</i>	not characteristic	C	f
<i>Mimusops bagshawei</i>		C	f
<i>Mimusops kummel</i>		C	
<i>Mondia whitei</i>		x	
<i>Morus mesozygia</i>	not characteristic	C	
<i>Nuxia congesta</i>		C	x
<i>Nuxia floribunda</i>		f	x
<i>Ocotea kenyensis</i>		f	x
<i>Ocotea usambarensis</i>		f	x
<i>Olea capensis</i>		C	f
<i>Olinia rochetiana</i>		f	x
<i>Peddiea fischeri</i>		f	x
<i>Phoenix reclinata</i>	(palm species)	x	f
<i>Phytolacca dodecandra</i>		x	f
<i>Pittosporum viridiflorum</i>		x	x
<i>Plectranthus barbatus</i>		x	
<i>Pleiocarpa pycnantha</i>		f	x
<i>Podocarpus falcatus</i>		f	x
<i>Podocarpus latifolius</i>		f	x
<i>Polyscias fulva</i>		C	x
<i>Pouteria adolfi-friedericii</i>		x	f
<i>Pseudospondias microcarpa</i>		C	x
<i>Psychotria mahonii</i>		x	x
<i>Psydrax parviflora</i>		C	f
<i>Pterolobium stellatum</i>		x	f
<i>Rapanea melanophloeos</i>		x	x
<i>Rhamnus prinoides</i>		x	x
<i>Rinorea angustifolia</i>		f	x
<i>Ritchiea albersii</i>		x	x
<i>Rothmannia urcelliformis</i>		C	
<i>Rubus apetalus</i>		x	x
<i>Rubus volkensis</i>		x	

SPECIES	Regional status	Kenya	Rwanda
<i>Schefflera abyssinica</i>		x	
<i>Schefflera volkensii</i>		x	
<i>Schrebera alata</i>		fh	x
<i>Scutia myrtina</i>		x	f
<i>Senna didymobotrya</i>		x	f
<i>Senna septemtrionalis</i>		x	f
<i>Shirakiopsis elliptica</i>		C	C
<i>Smilax anceps</i>		f	x
<i>Solanum aculeastrum</i>		x	x
<i>Spathodea campanulata</i>		C	f
<i>Sterculia dawei</i>		x	
<i>Tabernaemontana pachysiphon</i>		C	
<i>Tabernaemontana stapfiana</i>		x	x
<i>Trema orientalis</i>		C	x
<i>Trichilia dregeana</i>		C	
<i>Trichilia emetica</i>		C	
<i>Trilepisium madagascariense</i>		C	
<i>Vangueria apiculata</i>		f	x
<i>Vepris nobilis</i>		C	x
<i>Vernonia amygdalina</i>		x	f
<i>Vernonia auriculifera</i>		x	f
<i>Vernonia myriantha</i>		x	x
<i>Warburgia ugandensis</i>		C	
<i>Zanthoxylum gilletii</i>		C	x
<i>Zanthoxylum rubescens</i>		C	

11. Afromontane dry transitional forest (Fh)

11.1. Description

Afromontane dry transitional forest occurs on the drier lower slopes of those East African mountains and uplands which rise from the plains covered with Somalia-Masai bushlands (Bd and Be, volume 4). Afromontane and non-afromontane species occur together within these forests. Only small fragments remain and there is little published information (White 1983 p. 166).

Remnants of Afromontane dry transitional forest occur near Nairobi at altitudes between 1650 and 1800 m and annual rainfall around 800 mm (White 1983 p. 166).

Regional indicator species (characteristic species listed by White (1983) that were only provided for Afromontane dry transitional rain forest and no other Afromontane forest types) that were listed as characteristic species for one or several national maps ('indicators', see section 3.2) include ***Calodendrum capense*** (a species that also occurs as stunted individuals at higher altitudes in evergreen bushland [Be]), ***Cassipourea malosana***, ***Chaetacme aristata***, ***Chrysophyllum viridifolium***, ***Croton megalocarpus***, ***Euclea divinorum***, ***Fagaropsis angolensis***, ***Markhamia lutea***, ***Olea europaea* subsp. *cuspidata***, (synonym: *Olea africana*), ***Schrebera alata*** (a species that also occurs as stunted individuals at higher altitudes in evergreen bushland [Be]), ***Strychnos usambarensis***, ***Suregada procera***, ***Trichocladus ellipticus***, ***Uvariadendron anisatum*** and ***Warburgia ugandensis***. ***Albizia gummifera*** and ***Newtonia buchananii*** were listed as characteristic species that occur near streams. We hypothesize that these can therefore be categorized as indicator species for Afromontane moist transitional forest (FeK).

White (1983 p. 129) also describes rain-fed dry evergreen forest that occurs as relicts within the greater Serengeti region. The main canopy of this forest consists of *Diospyros abyssinica* (also characteristic of Afromontane dry transitional forest near Nairobi), *Drypetes gerrardii* (also characteristic of Afromontane dry transitional forest near Nairobi), *Elaeodendron buchananii*, *Lecaniodiscus fraxinifolius*, ***Suregada procera*** (an indicator for Afromontane dry transitional forest near Nairobi), and *Vepris nobilis* (White mentions that *Vepris* [syn. *Teclea*] species are characteristic of Afromontane dry transitional forest near Nairobi). Less frequent constituents of the main canopy include ***Chaetacme anisata*** (an indicator of Afromontane dry transitional forest near Nairobi), ***Euclea divinorum*** (an indicator of Afromontane dry transitional forest near Nairobi), ***Olea europaea* subsp. *cuspidata*** (synonym: *Olea africana*, an indicator of Afromontane dry transitional forest near Nairobi) and ***Schrebera alata*** (an indicator of Afromontane dry transitional forest near Nairobi). *Capparis erythrocarpos*, *Croton dichogamus* and *Vepris trichocarpa* are the most common species of the understorey. This similarity in species composition and environmental conditions lead us to include this forest into Afromontane dry transitional forests.

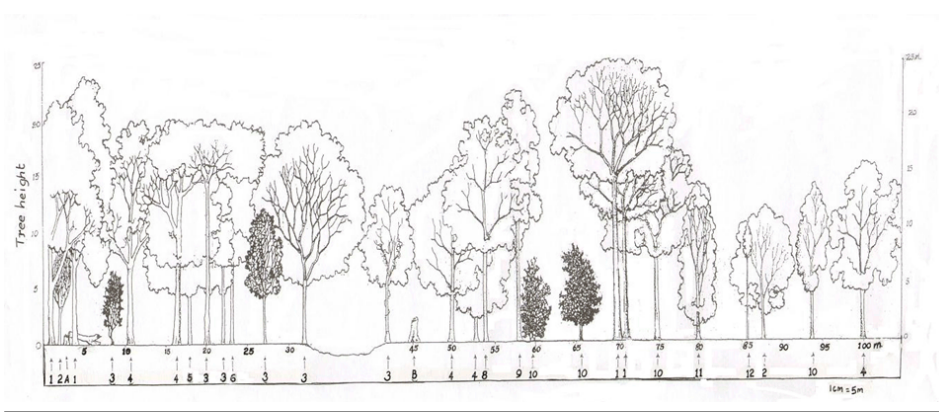


Figure 11.1. Profile diagram of Afromontane dry transitional forest in the Kithoka area north-east of Mt. Kenya (0° 08.065' N; 37° 39.564' E). Altitude 1514 m. This forest was classified by Trapnell *et al.* (1966, 1969, 1976, 1986) as dry intermediate forest. Species shown are: *Calodendrum capense* (4); *Celtis africana* (1); *Croton megalocarpus* (8); *Ehretia cymosa* (11); unidentified *Ficus* sp (9); *Olea europaea* (10, B); *Pittosporum viridiflorum* (3, A); *Ritchiea albersii* (5); *Strychnos henningsii* (12); *Uvariadendron anisatum* (2); *Vepris simplicifolia* (7) and *Vepris trichocarpa* (6). Obtained from Matingi (2011).

11.2. Species composition

(Please check the methodology and information from Volumes 2 - 5 for more details on how the information on species composition for the different manifestations of this potential natural vegetation type was compiled. In composition tables, "x" indicates that the species is expected to be present, "C" indicates that the species was identified as characteristic species and "f" indicates a species that was not listed in the documentation that we consulted although it is known to occur in the specific country).

Table 11. Species composition of Afromontane dry transitional forest (Fh)

SPECIES	Regional status	Kenya	Tanzania
<i>Albizia gummifera</i>	indicator species (but near streams)	C	C
<i>Calodendrum capense</i>	indicator species	C	f
<i>Cassipourea malosana</i>	indicator species	C	f
<i>Chaetachme aristata</i>	indicator species	x	f
<i>Chrysophyllum viridifolium</i>	indicator species	C	
<i>Croton megalocarpus</i>	indicator species	C	f
<i>Euclea divinorum</i>	indicator species	C	f
<i>Fagaropsis angolensis</i>	indicator species	C	f
<i>Margaritaria discoidea</i>	indicator species	C	C
<i>Markhamia lutea</i>	indicator species	C	f
<i>Newtonia buchananii</i>	indicator species (but near streams)	x	f
<i>Olea europaea</i>	indicator species (<i>Olea europaea</i> ssp. <i>cuspidata</i> , synonym: <i>Olea africana</i>)	C	f
<i>Schrebera alata</i>	indicator species	C	f
<i>Strychnos usambarensis</i>	indicator species	x	f
<i>Suregada procera</i>	indicator species	x	f
<i>Trichocladus ellipticus</i>	indicator species	x	f
<i>Uvariadendron anisatum</i>	indicator species	C	
<i>Warburgia ugandensis</i>	indicator species	C	f
<i>Apodytes dimidiata</i>	characteristic species	x	f
<i>Diospyros abyssinica</i>	characteristic species	C	f
<i>Drypetes gerrardii</i>	characteristic species	C	C
<i>Elaeodendron buchananii</i>	characteristic species (dry evergreen forest in the greater Serengeti region)	C	f
<i>Vepris trichocarpa</i>	characteristic species in dry evergreen forest in the greater Serengeti region	C	f
<i>Acacia brevispica</i>		x	f
<i>Acokanthera oppositifolia</i>		x	
<i>Acokanthera schimperi</i>		C	f
<i>Albizia schimperiana</i>		C	f
<i>Allophylus abyssinicus</i>		x	f
<i>Allophylus rubifolius</i>		x	f
<i>Antidesma venosum</i>		x	f
<i>Aphania senegalensis</i>		x	f
<i>Bersama abyssinica</i>		C	x
<i>Blighia unijugata</i>		x	f
<i>Brachylaena huillensis</i>		C	f
<i>Bridelia micrantha</i>		C	f
<i>Bridelia scleroneura</i>		x	f
<i>Caesalpinia decapetala</i>		x	f
<i>Caesalpinia volkensii</i>		x	f
<i>Carissa spinarum</i>		x	f
<i>Catha edulis</i>		x	f
<i>Celtis africana</i>		x	f
<i>Clausena anisata</i>		x	f
<i>Clerodendrum myricoides</i>		x	f
<i>Combretum schumannii</i>		x	f
<i>Commiphora eminii</i>		x	f
<i>Cordia africana</i>		x	f
<i>Cornus volkensii</i>		x	f
<i>Craibia brownii</i>		C	f
<i>Crateva adansonii</i>		x	f
<i>Crotalaria agatiflora</i>		x	f
<i>Croton macrostachyus</i>		C	f
<i>Cussonia spicata</i>		x	f
<i>Dodonaea viscosa</i>		x	f
<i>Dombeya kirkii</i>		x	f
<i>Dovyalis abyssinica</i>		x	f
<i>Dovyalis macrocalyx</i>		x	f
<i>Dracaena steudneri</i>		C	f
<i>Ehretia cymosa</i>		C	
<i>Ekebergia benguelensis</i>		x	f
<i>Ekebergia capensis</i>		C	f
<i>Englerophytum natalense</i>		x	f
<i>Euclea racemosa</i>		x	f
<i>Euphorbia abyssinica</i>		x	f
<i>Euphorbia candelabrum</i>		x	f
<i>Ficus natalensis</i>		x	f
<i>Ficus sur</i>		C	f
<i>Ficus thonningii</i>		C	f
<i>Filicium decipiens</i>		x	f
<i>Flacourtia indica</i>		x	f

SPECIES	Regional status	Kenya	Tanzania
<i>Flueggea virosa</i>		x	f
<i>Grewia similis</i>		x	f
<i>Ilex mitis</i>	not characteristic	x	f
<i>Indigofera swaziensis</i>		x	f
<i>Juniperus procera</i>		x	f
<i>Kigelia moosa</i>		x	f
<i>Lannea schweinfurthii</i>		x	f
<i>Lepidotrichilia volkensis</i>		x	f
<i>Manilkara sulcata</i>		x	f
<i>Maytenus arbutifolia</i>		x	f
<i>Maytenus undata</i>		x	f
<i>Meyna tetraphylla</i>		x	f
<i>Mimusops bagshawei</i>		C	f
<i>Mimusops kummel</i>		C	f
<i>Myrsine africana</i>		x	f
<i>Nuxia congesta</i>	not characteristic	C	f
<i>Nuxia floribunda</i>	not characteristic	x	f
<i>Olea capensis</i>	not characteristic	x	f
<i>Olinia rochetiana</i>		x	f
<i>Osyris lanceolata</i>		x	f
<i>Pappea capensis</i>		x	f
<i>Pavetta oliveriana</i>		x	f
<i>Phoenix reclinata</i>	(palm species)	x	f
<i>Phytolacca dodecandra</i>		x	f
<i>Pistacia aethiopica</i>		x	f
<i>Pittosporum viridiflorum</i>		x	f
<i>Plectranthus barbatus</i>		x	f
<i>Podocarpus falcatus</i>	not characteristic	x	f
<i>Podocarpus latifolius</i>	not characteristic	x	f
<i>Podocarpus usambarensis</i>		x	f
<i>Psydrax schimperiana</i>		C	f
<i>Pterolobium stellatum</i>		x	f
<i>Rapanea melanophloeos</i>	not characteristic	x	f
<i>Rhamnus staddo</i>		x	f
<i>Rhoicissus revouilii</i>		x	f
<i>Rhus natalensis</i>		x	f
<i>Rhus vulgaris</i>		x	f
<i>Ritchiea albersii</i>		x	f
<i>Rothmannia urcelliformis</i>		C	f
<i>Rubus apetalus</i>		x	f
<i>Rubus volkensis</i>		x	f
<i>Schefflera volkensis</i>		x	f
<i>Scutia myrtina</i>		x	f
<i>Senecio hadiensis</i>		x	f
<i>Senna didymobotrya</i>		x	f
<i>Senna septemtrionalis</i>		x	f
<i>Shirakiopsis elliptica</i>		C	f
<i>Solanecio cydoniifolius</i>		x	f
<i>Solanecio manii</i>		x	f
<i>Solanum aculeastrum</i>		x	f
<i>Sorindeia madagascariensis</i>		x	f
<i>Stereospermum kunthianum</i>		x	f
<i>Strychnos henningsii</i>		C	f
<i>Strychnos innocua</i>		x	f
<i>Strychnos mitis</i>		C	x
<i>Synsepalum brevipes</i>		x	f
<i>Syzygium guineense</i>	not characteristic	x	f
<i>Tarenna graveolens</i>		x	f
<i>Trema orientalis</i>		C	f
<i>Uvaria scheffleri</i>		x	f
<i>Vangueria apiculata</i>		x	f
<i>Vangueria infausta</i>		x	f
<i>Vangueria madagascariensis</i>		x	f
	characteristic genus, characteristic species in dry evergreen forest in the greater Serengeti region	C	f
<i>Vepris nobilis</i>		C	f
<i>Vepris simplicifolia</i>		C	f
<i>Vernonia auriculifera</i>		x	f
<i>Zanthoxylum chalybeum</i>		x	f