

Plant collections from Ethiopia

Desalegn Desissa & Pierre Binggeli

List of plants collected by Desalegn Desissa and Pierre Binggeli as part of the [biodiversity assessment of church and monastery vegetation in Ethiopia](#) in 2001-2002. The information presented is a slightly edited version of what appears on the herbarium labels (an asci-delimited version of the information is available from pierre_binggeli@yahoo.co.uk). Sheets are held at the Addis Ababa and Geneva herberia.

Abutilon longicuspe Hochst. ex A. Rich Malvaceae

Desalegn Desissa & Pierre Binggeli DD416

Date: 02-01-2002

Location: Ethiopia, Shewa, Zena Markos

Map: 0939A1 *Grid reference:* EA091905

Lat. 09°52' N *Long.* 39°04' E *Alt.* 2560 m

Site: Debir and Dey Promontary is situated 8 km to the West of Inewari Town. The Zena Markos Monastery is located just below the ridge and overlooks the Derek Wenz Canyon River by 1200 m. The woodland is right below the cliff on a scree slope. Growing on a large rock. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Grazed relict open woodland with in many places a limited shrub layer. Canopy species dominated by large *Olea europaea* spp *cuspidata* covered with lichen (*Usnea* sp.), *Ekebergia capensis* and formerly *Juniperus communis*. *Dombeya* common in subcanopy. Ground and shrub layer consisting of *Hypostes*, *Vernonia* spp and *Leonotis*.

Lifeform: Shrub to 3m outcompeted by *Dombeya* to one side.

Canopy in full light. Leaves highly variable in size, heavily grazed by insects.

Acacia decurrens Willd. Fabaceae

Desalegn Desissa & Pierre Binggeli DD314

Date: 10-11-2001

Location: Ethiopia, Shewa, Mt Menagesha

Map: 0938D3 *Grid reference:*

Lat. 09°02' N *Long.* 38°35' E *Alt.* 2900 m

Site: Menagesha Medhane Alem forest is an Area of semi-natural vegetation just below the summit of Mt Menagesha. Gentle slope (5°) facing NE. Tree at the edge of a gap. For site details go to: <http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Surrounding trees included *Cupressus lusitanica* and *Juniperus procera*. The gap vegetation was dominated by a mosaic of grass (*Andropogon abyssinica*) and herbs, and shrubs (mainly *Myrsine africana*, *Erica arborea*, *Helichrysum* and *Rosa abyssinica*). Many self-sown

seedlings and saplings observable below mature *A. decurrens* trees. The species is spreading throughout the surrounding forest and scrub.

Lifeform: Small (7 m tall) but spreading (8 m in diameter) tree. Very heavy flowering and fruiting. No mature pods observed but these were present on some individuals in the vicinity. Flower heads light yellow.

Acacia etbaica Schweinf. Fabaceae

Desalegn Desissa & Pierre Binggeli DD432

Date: 25-01-2002

Location: Ethiopia, Tigray, Mekele

Map: 1339C2 *Grid reference:*

Lat. 13°29' N *Long.* 39°29' E *Alt.* 2150 m

Site: Debre Genet Medihane Alem is situated at the edge of Mekele Town at the base of a small escarpment. The site is dissected by a stream that was dry at the time of the visit. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Secondary scrubby vegetation dominated by *Hibiscus*, *Opuntia*, *Justicia*, *Rumex*, *Euphorbia*. This acacia is mostly found in the upper part of the church compound.

Lifeform: Scrambling shrub over *Opuntia ficus-indica* to 1.5 m high, multi-stemmed. Showy flowers, but few in numbers.

Acacia negrii Pic.-Serm. Fabaceae

Desalegn Desissa & Pierre Binggeli DD382

Date: 22-12-2001

Location: Ethiopia, Wello, Neab-Kutelab

Map: 1239C3 *Grid reference:*

Lat. 09°N *Long.* 39°E *Alt.* 1920 m

Site: Neab-Kutelab. SW facing slope (30°). Steep (35°) embankment by riverbed with much bare soil. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Dominant trees included *Olea europea* subsp *cuspidata*, *Rhus glutinosa* subsp *glutinosa*, *Rhus vulgare*, and under canopy shrubs *Calpurnia aurea*, *Carissa edulis* and *Becium grandiflorum*.

Lifeform: Large leaning tree 10 m long and 5 m high with one branch below the root collar. Flowering profusely with canopy mostly white. Leaves alternate with 2 spines at base of each. Flowers white and dusty. Stem hairy and pale green when young, later dark brown with small fruits.

Uses: Fuelwood and beeforage.

Acacia polyacantha? Fabaceae

Desalegn Desissa & Pierre Binggeli DD379

Date: 22-12-2001

Location: Ethiopia, Wello, Neab-Kutelab

Map: 1239C3 *Grid reference:* EC761535

Lat. 12°00' N *Long.* 39°04' E *Alt.* 1920 m

Site: Neab-Kutelab monastery extends mainly in one water catchment above and below a rock overhang. The area is a patchwork of forest, woodland, grassland, and bare ground with severe soil erosion in places. SW facing slope (30°). For site details

go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Heavily-grazed open woodland which is eroding severely in places. Area heavily logged during the 20th century and many trees (especially *Juniperus procera* and *Olea europaea*) have suffered from the 1980s drought. Other occurring species included *Carissa edulis*,

Maytenus spp (DD380) and *Oncobua*.

Lifeform: Tree 4 m high. Heaving flowering which is at an early stage. Stem bark cracking into large pieces. Large horizontal branches covered with grey lichen. Crown rounded and 8 m in diameter. On older shoots sharp thorns.

Acanthus eminens L. Acanthaceae

Desalegn Desissa & Pierre Binggeli DD361

Date: 05-12-2001

Location: Ethiopia, Shewa, Mehur Eyesus

Map: 0838C3 *Grid reference:* DV10 01

Lat. 08°14' N *Long.* 38°05' E *Alt.* 2400 m

Site: Mehur Eyesus Monastery forest. Relict stand in an agricultural landscape suffering from severe erosion. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: *Podocarpus falcatus* and *Juniperus procera* monastery forest. In recent decades much of the *J. procera* has been selectively felled resulting in many large gaps in the canopy. Most of the forest shrub layer is dominated by *Acanthus eminens*. Ground vegetation grass and *Solanum nigrum*. *Maesa* is the main shrub.

Lifeform: Shrub 0.5-1.5+m high with large prickly leaves. Flowers are 3cm across, blue-purple with white-yellowish stamens.

Inflorescences are terminal.

Achyranthes aspera L. Amaranthaceae

Desalegn Desissa & Pierre Binggeli DD366

Date: 14-12-2001

Location: Ethiopia, Shewa, Debrelibanos

Map: 0938B4 *Grid reference:* DA832739

Lat. 08°32' N *Long.* 38°51' E *Alt.* 2380 m

Site: The relict Debrelibanos Monastery Forest is located on the upper part of the northern escarpment (Tertiary basalt) overlooking River Abay. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: The forest canopy (c. 20m high) is composed of *Prunus africana* and *Milletia ferruginea* with *Olea europaea* and *Juniperus communis* in the vicinity. The 2-3m tall shrub layer is dominated by *Carissa edulis* and the ground vegetation mostly consists in *Hypoestes*.

Lifeform: Herb to over 2m tall forming small patches among the woody shrubs.

Acokanthera schimperi Apocynaceae

Desalegn Desissa & Pierre Binggeli DD356

Date: 04-12-2001

Location: Ethiopia, Shewa, Midrekebd

Map: 0838D1 *Grid reference:* DV590293

Lat. 08°16' N *Long.* 38°36' E *Alt.* 2390 m

Site: Midrekebd Hill 10km East of Bui on the Addis Ababa – Butajira road. This hill dominates the rift valley. Relict church forest covers part of the top of the hill and some of the western steep slopes. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Midrekebd churchyard surrounded by graveyard forest dominated by *Podocarpus falcatus*, *Juniperus procera* and *Eucalyptus globulus*. Open grassy ground surrounded by tall (30+ m trees).

Lifeform: Small tree: 5m high. Sten dark brown. Leaves obovate, opposite. Flowers whitish orange.

Alepidea longifolia E. Mey Apiaceae

Desalegn Desissa & Pierre Binggeli DD299

Date: 04-11-2001

Location: Ethiopia, Shewa, Wechecha

Map: 0838B1 *Grid reference:* DV551901

Lat. 08°55' N *Long.* 38°35' E *Alt.* 3200 m

Site: South of Addis Ababa, Cheleleka (Mogle) on gentle slope just below the summit in a sacred grove. Under the shade of *Erica arborea* just below the sacred site.

Vegetation: *Erica arborea* woodland mixed with medium-sized trees of *Juniperus procera*. *Rosa abyssinica* and *Hypericum* sp. are the understory shrubs. Ferns, *Bidens* sp. and *Geranium* sp. cover the ground.

Lifeform: Herb. Flowers with green calyx and corolla white and showy. Leaves lanceolate, alternate, serrate with hair like on each teeth. The stem is pale green.

Allophylus abyssinicus (Hochst.) Radlkofer Sapindaceae

Desalegn Desissa & Pierre Binggeli DD318

Date: 15-11-2001

Location: Ethiopia, Shewa, Itisa

Map: 0939C3 *Grid reference:* EA195095

Lat. 09°07' N *Long.* 09°10' E *Alt.* 7381 ft

Site: Itisa Abune Teklehaymanot monastery is situated just below the highland plateau at the base of the upper cliff on a small plateau.

For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Associated vegetation: *Carissa edulis*, *Celtis africana*, *Euclea schimperi*, *Calpurnia aurea* and *Lagera tomentosa*.

Lifeform: A medium sized tree c. 5m high. Bark grey. Leaves compound with three leaflets, toothed margin. Fruits green unripe, subglobose, 5mm in diameter.

Uses: Leaves used for baking bread.

Aloe berthana? Aloaceae

Desalegn Desissa & Pierre Binggeli DD386

Date: 23-12-2001

Location: Ethiopia, Wello, Lalibela

Map: 1239C3 *Grid reference:* ED073312

Lat. 12° N *Long.* 39° E *Alt.* 2580 m

Site: Mountainside East of Lalibela Town. Westerly facing valley with steep slopes on either side. Mixture of agricultural and scrub lands with many boulders scattered. Tef and barley cultivation resulting in much soil erosion.

Vegetation:

Lifeform: A herb with prostrate stem. Leaves arranged in dense rosette, toothed margin. Flowers red, arranged in branched racemes.

Aloe vera? Aloaceae

Desalegn Desissa & Pierre Binggeli DD419

Date: 02-01-2002

Location: Ethiopia, Shewa, Zena Markos

Map: 0939A1 *Grid reference:* EA091905

Lat. 09°52' N *Long.* 39°04' E *Alt.* 2560 m

Site: Debir and Dey Promontary is situated 8 km to the West of Inewari Town. The Zena Markos Monastery is located just below the ridge and overlooks the Derek Wenz Canyon River by 1200 m. Slope severely degraded consisting of rock and stones, and some soil. Area formerly cultivated above some homesteads. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Vegetation sparse and dominated by *Aloe vera* with heavily grazed grasses in between.

Lifeform: Succulent showy plant. Leaves very smelly, green with top third and edges redish. Edges with spines bending forward. Flesh juicy and green. Flowering stems to 1m with very conspicuous red flowers. Species common and occurring in patches.

Anogeissus leiocarpa (A. DC.) Guill. & Perr. Combretaceae

Desalegn Desissa & Pierre Binggeli DD

Date: 06-02-2002

Location: Ethiopia, Gondar, near Tara Gedam Monastery

Map: 1237D4 Grid reference:

Lat. 12°08' N Long. 37°45' E Alt. ca 2300 m

Site: Flat promontory leading to Zelalem Silasse church. Steep slopes on either sides. For site details of the nearby Zelalem Silasse site go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Vegetation: Agricultural land dotted with variety of tree and shrub species, including *Dovyalis abyssinica*, *Combretum*.

Ground vegetation dominated by *Tagetes minuta*.

Lifeform: Tree, 10 m high, partly pollarded. Heavy fruiting. Stem and shoots grey. Leaves alternate, slightly wavy, lanceolate. Petiole 1 cm long. Fruits terminal and axillary (base of leaf) singly and up to 1.5 cm in diameter.

Argemone mexicana L. Papaveraceae

Desalegn Desissa & Pierre Binggeli DD367

Date: 14-12-2001

Location: Ethiopia, Shewa, Debrelibanos

Map: 0938B4 Grid reference: DA818745

Lat. 08°32' N Long. 38°51' E Alt. 2440 m

Site: Roadside East of Wusha Gedel between Debrelibanos Monastery and the main Addis Ababa - Fichte road. Upper part of escarpment (Tertiary basalt) overlooking River Abay. Steep slope facing southeast. For site details of nearby Debrelibanos Monastery go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Bare soil and rock with little vegetation. Large number of *Argemone mexicana* scattered along the embankment. Plant also observed in fields and degraded grasslands.

Lifeform: Prickly herb to over 1m tall.

Argyrobium ramosissimum Bak. Fabaceae

Desalegn Desissa & Pierre Binggeli DD336

Date: 30-11-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV84 44

Lat. 08°32' N Long. 38°51' E Alt. 2940 m

Site: Extinct volcano 30km from Debreziet Town. The slopes of the crater (1.5 km in diameter) harbour the last native forest of the region. At the edge of the grassland on the lower slopes NE of the lake. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Grassland forest boundary. Grasses to 30-70cm high dominated by *Hypericum revolutum*, *Maytenus arbutifolia*, *Discopodium*, *Strobilus*.

Lifeform: A shrub 50cm high. Leaves obovate and hairy. Flowers yellow.

Aspilia africana (Pers) C.Adams Asteraceae

Desalegn Desissa & Pierre Binggeli DD305

Date: 04-11-2001

Location: Ethiopia, Shewa, Wechecha

Map: 0838B1 Grid reference: DV555895

Lat. 08°55' N Long. 38°35' E Alt. 2920 m

Site: Along the track between the Meta brewery and Mogle mountain on eroded land.

Vegetation: Shrubby clumps of *Rosa abyssinica*, *Carissa edulis* and *Dodonaea angustifolia* standing here and there.

Lifeform: A woody perennial herb c. 80cm high. Leaves alternate, lanceolate and rough. Flowers yellow actinomorphic.

Asplenium monanthes L. Aspleniaceae

Desalegn Desissa & Pierre Binggeli DD279

Date: 08-10-2001

Location: Ethiopia, Shewa, Wonchi

Map: 0837B2 Grid reference: CV774708

Lat. 08°46' N Long. 37°52' E Alt. 2940 m

Site: 34km from Ambo in Wonchi Crater in Kibate Forest. In the lower part of a small valley with grey light soil. The forest disturbed for the purpose of cutting pole, gathering firewood and cattle grazing.

Vegetation: *Olea europaea* ssp *cuspidata*, *Salix subseratta*, *Maesa lanceolata* are the dominant tree species. *Rubus apetalus* and *discopodium* sp are shrubs under the canopy. *Erica arborea* and *Hagenia abyssinica* are seen sometimes at the top of the valley. The stem of most trees is covered with some epiphytes.

Lifeform: Perennial fern with black stem. The spores are pale red.

Asplenium stuhlmani Hieron Aspleniaceae

Desalegn Desissa & Pierre Binggeli DD290

Date: 15-10-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV846441

Lat. 08°32' N Long. 38°51' E Alt. 2940 m

Site: Extinct volcano, 30km from Debreziet Town on the slope facing the crater lake. Located along the path from church to the lake. Rocky area with black soil. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: *Juniperus procera*, *Olea europaea* ssp *cuspidata*, *Myrsine africana*, *Inula confertiflora*, *Clutia abyssinica*, *Hypericum revolutum* and *Osyris quadripartata* are the area's dominant species. *Juniperus procera* and *Olea europaea* reach a height of c. 15-25m.

Lifeform: Perennial fern, fronds with brown sori, pinnae opposite.

Balanites aegyptiaca (L.) Del. Balanitaceae

Desalegn Desissa & Pierre Binggeli DD430

Date: 23-01-2002

Location: Ethiopia, Wello, Kobo, Mendefra Kidanemihret

Map: 1239D3 Grid reference: ED719498

Lat. 12°12' N Long. 39°39' E Alt. 1490 m

Site: Lowland hill near Kobo, site of the Mendefra Kidanemihret Church. Area very dry. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Tree isolated in an open woodland mainly dominated by *Euphorbia tirucalli* and *Acacia* spp (chiefly *A. etbaica*). Most of the euphorbias having been vegetatively propagated on graves.

Lifeform: Tree to 5 m and uncommon in the area. Stem with rough dark bark. Shoot: green with no spines when young and eventually with large (5 cm long) sharp spines. Fruit: green (unripe) with a fleshy exocarp and a hardening stone.

Bidens macroptera Asteraceae

Desalegn Desissa & Pierre Binggeli DD278

Date: 08-10-2001

Location: Ethiopia, Shewa, Wonchi

Map: 0837B2 Grid reference: CV758733

Lat. 08°47' N Long. 37°52' E Alt. 3380 m

Site: 30km from Ambo town along the road to Wonchi, rocky area on steep slope with grey light soil, grazed land which is also disturbed by human for firewood. Near an old trench dug by military.

Vegetation: Shrub land dominated by *Erica arborea* and *Phyllipia trimera* ssp *abyssinica*. The shrubs are c. 3m high with white flowers. The stem is grey in colour without many epiphyte/parasites. *Salix subseratta* and *Osyris quadripartita* also seen standing among the shrub. *Hagenia abyssinica* and *Rumex nervosus* are common along the road.

Lifeform: Perennial herb 20cm. High. The flowers are yellow and aggregated to form a head or capitulum. The leaves are broadly ovate in outline.

Brucea antidysenterica J.F. Mill. Simaroubaceae

Desalegn Desissa & Pierre Binggeli DD364

Date: 07-12-2001

Location: Ethiopia, Shewa, Mehur Eyesus

Map: 0838C3 Grid reference: DV10 01

Lat. 08°14' N *Long.* 38°05' E *Alt.* 2400 m
Site: Mehur Eyesus Monastery forest. Relict stand in an agricultural landscape suffering from severe erosion. For site details go to: <http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>
Vegetation: Open grassland near homesteads and near (250m) monastery forest. Relict from *Podocarpus falcatus* and *Juniperus procera* monastery forest.
Lifeform: Small (5m) isolated tree. Stem pale brown, shoot green. Leaves oblong and crowded at the end of branches. Fruit berry, green and in clusters.
Uses: Medicinal, used to treat diarrhoea.

Buddleja polystachya Fresen. Buddlejaceae

Desalegn Desissa & Pierre Binggeli DD339

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 *Grid reference:* DV84 44

Lat. 08°32' N *Long.* 38°51' E *Alt.* 2940 m

Site: Extinct volcano 30km from Debreziet Town. The slopes of the crater (1.5 km in diameter) harbour the last native forest of the region. To the south of the crater lake lies the Oromo sacred site. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: The sacred grove is an open woodland dominated by *Olinia*, *Juniperus procera*, *Hypericum revolutum* and *Maesa*. The ground vegetation is highly disturbed consisting mostly of bare ground

Lifeform: Large specimen 13m tall and diameter of c. 40cm. Many inflorescences and anthesis has started. Flowers small, bright yellow.

Caesalpinia decapetala (Roth) Alston Fabaceae

Desalegn Desissa & Pierre Binggeli DD401

Date: 28-12-2001

Location: Ethiopia, Wello, Medage

Map: 1239C3 *Grid reference:* ED081326

Lat. 12° N *Long.* 39° E *Alt.* 2560 m

Site: Valley, 4 km North-East of Lalibela. Agricultural area in a partially irrigated valley. Field boundary on either side of a path.

Vegetation: Tef field, hedge also containing *Rosa abyssinica*.

Lifeform: Sprawling shrub to 3 m high with arching stems up to 7 m. Branching from close to the stem base. Stem brown grey with many sharp straight spines. Young stems reddish brown with many small sharp spines. Leaves are pinnate and large (to 40-50 cm long). Plants with many fruits (immature/green and mature/light brown) as well as open pods from the previous fruiting season.

Calpurnia aurea ssp aurea (Ait.) Benth. Fabaceae

Desalegn Desissa & Pierre Binggeli DD344

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 *Grid reference:* DV84 44

Lat. 08°32' N *Long.* 38°51' E *Alt.* 2940 m

Site: Extinct volcano 30km from Debreziet Town. Northern slope of the mountain along a path half way to the summit. Gentle slope (c 10°). For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Secondary scrub community with a few relict large *Acacia* sp. trees. Shrubs to 2-2.5 m high, dominated by *Myrsine africana*, *Carissa edulis*, *Dodonaea angustifolia* and a few young *Juniperus procera*.

Lifeform: Shrub 1m high. Stem grey green. Pods 7cm long with flat rounded seeds.

Carissa edulis (Forssk.) Vahl Apocynaceae

Desalegn Desissa & Pierre Binggeli DD319

Date: 15-11-2001

Location: Ethiopia, Shewa, Itisa

Map: 0939C3 *Grid reference:* EA195095

Lat. 09°07' N *Long.* 09°10' E *Alt.* 2220 m

Site: Itisa Abune Teklehaymanot monastery is situated just below the highland plateau at the base of the upper cliff on a small plateau. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Associated vegetation: *Carissa edulis*, *Celtis africana*, *Euclea schimperii*, *Calpurnia aurea* and *Lageria tomentosa*.

Lifeform: A shrub 3m high. Stem grey. Leaves simple and opposite, pale green. Flowers pinkish white. Fruit small and dark purple and to black when ripe.

Cassia Fabaceae

Desalegn Desissa & Pierre Binggeli DD436

Date: 26-01-2002

Location: Ethiopia, Tigray

Map: 1339C2 *Grid reference:*

Lat. ca 13°19' N *Long.* ca 39°25' E *Alt.* estimated ca 2300 m

Site: Open scrub along road South of Mekele.

Vegetation: *Acacia* sp., *Maytenus arbutifolia*, *Otostegia integrifolia*.

Lifeform: A shrub with brown stem. Flowers yellow and showy. Fruit green and curved and pointed at the tip.

Caylusea abyssinica (Fresen.) Fisch. & Mey. Resedaceae

Desalegn Desissa & Pierre Binggeli DD411

Date: 31-12-2001

Location: Ethiopia, Wello, Jara

Map: 1039B4 *Grid reference:* FB043627

Lat. 10°31' N *Long.* 39°54' E *Alt.* 1480 m

Site: Growing in fallow land 5km from Kemise along the road to Addis Ababa located to Jara river on a hill facing to north.

Vegetation: Grassland and former agricultural land recently (past decade) infested by the invasive *Lantana camara*.

Lifeform: Annual herb 80cm high. Leaves lanceolate. Flowers small, white in racemes.

Christella dentata Forssk. Thelypteridaceae

Desalegn Desissa & Pierre Binggeli DD291

Date: 15-10-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 *Grid reference:* DV846441

Lat. 08°32' N *Long.* 38°51' E *Alt.* 2940 m

Site: Extinct volcano, 30km from Debreziet Town on the slope facing the crater lake. Located along the path from church to the lake. Rocky area with black soil. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: *Juniperus procera*, *Olea europaea ssp cuspidata*, *Myrsine africana*, *Inula confertiflora*, *Clutia abyssinica*, *Hypericum revolutum* and *Osyris quadripartata* are the area's dominant species. *Juniperus procera* and *Olea europaea* reach a height of c. 15-25m.

Lifeform: Fern with lamina narrowly elliptic. Sori round, indusium hairy and venation free.

Cissus? Vitaceae

Desalegn Desissa & Pierre Binggeli DD372

Date: 21-12-2001

Location: Ethiopia, Wello, Abune Eyessus Moa

Map: 1139D1 *Grid reference:* EC762534

Lat. 11°20' N *Long.* 39°41' E *Alt.* 1920 m

Site: Eastern end of Abune Eyessus Moa Peninsula. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Field boundary consisting of one row of eucalypts and a band of *Rhus* sp. Other species present included *Carissa edulis*, *Olea europaea* and *Athadoda*.

Lifeform: Vine to 3 m high scrambling in canopies of *Rhus* sp, *Carissa edulis* and eucalypts. Fruiting with most fruit green and a few dull red. Pulp is yellowish with one hard stone. Leaves trifoliate.

Clausena anisata Rutaceae

Desalgen Desissa & Pierre Binggeli DD457

Date: 10-02-2002

Location: Ethiopia, Gondar

Map: 1237D3 Grid reference:

Lat. 12°08' N Long. 37°45' E Alt. 2220m

Site: Zelalem Sillase Church Woodland covering a small hill and surrounded by farmland to the South of Tara Gedam Monastery Forest.

Western side of hill. Light brown soil with many stones, slope 20°.

For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Semi-deciduous woodland with grassy ground

vegetation to West. Dominant species: Trees: Euphorbia

candelabrum, Grewia ferruginea, Olea europaea ssp cuspidata.

Shrubs: Calpurnia aurens, Justicia schimperiana, Maytenus obscura.

Lifeform: Tree, 10 m high, partly pollarded. Heavy fruiting. Stem

and shoots grey. Leaves alternate, slightly wavy, lanceolate. Petiole

1 cm long. Fruits terminal and axillary (base of leaf) singly and up

to 1.5 cm in diameter.

Clematis simensis Fresen. Ranunculaceae

Desalgen Desissa & Pierre Binggeli DD288

Date: 15-10-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV844442

Lat. 08°32' N Long. 38°51' E Alt. 2900 m

Site: 30km from Debreziet town in the south west on the slope facing to the lake. Along the path from church to the lake. Rocky area with black soil. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Juniperus procera, Olea europaea ssp cuspidata, Myrsine

africana, Inula confertiflora, clutia abyssinica, Hypericum revolutum

and Osyris quadripartata are the dominant species of the area.

Juniperus procera and Olea are the trees with height c. 15-25m.

Lifeform: A climber with white flower. The flowers are axillary and form at the tip of the pedicel. The leaves with petioles and are opposite, imparipinnate, cordate and with serrated margin.

Clematis simensis Fresen. Ranunculaceae

Desalgen Desissa & Pierre Binggeli DD423

Date: 03-01-2002

Location: Ethiopia, Shewa, Gedam Teklehaymanot

Map: 1039B3 Grid reference: EA752583

Lat. 09°34' N Long. 39°41' E Alt. 2550 m

Site: The Dabo Bele Valley is situated 20 km to the SW of Debre Bihran. It runs from the plateau towards the plain with steep mountainsides on both sides. SE-facing stream side just at the top of the Gedam Teklehaymanot Monastery Forest. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: River-side vegetation consisting of Vernonia adoensis

(4m tall), Buddleja polystachya and Tephrosia sp.

Lifeform: Common climber on Vernonia aduensis to 6+ m long.

Brown woody stem. Leaves opposite, trifoliolate with long petiole (4

cm), each leaflet on 3cm long stalk. Lamina: cordate, serrated,

narrow pointed tip. 25-30 young fruits on infructescence at base of

each leaf. Main stalk 4 cm long. Greenish-white fruit (3-)-5(-)6

seeded each with one 2-3 cm long hair

Clutia abyssinica? Jaub. & Spach. Euphorbiaceae

Desalgen Desissa & Pierre Binggeli DD390

Date: 25-12-2001

Location: Ethiopia, Wello, Ymreha Forest

Map: 1239C3 Grid reference:

Lat. 12° N Long. 39° E Alt. 3080 m

Site: Ymreha Gebriel Kirkos Church Forest in the North facing valley of the NW end of the Dagwesay Ridge (12 km North of Lalibela). Ridge at the top of the forest. Mainly a mixture of bare

soil, bare rock and crumbling stones. North-westerly facing slope c 20-35°.

Vegetation: Species rich vegetation consisting of herbs and shrubs many of which are flowering in stark contrast to the surrounding vegetation. Adjacent to the Juniperus procera forest with a few Eucalypts planted here and there. Common species included Erica arborea.

Lifeform: Shrub to 1 m, multi-stemmed, leaves restricted to the shoot tips. Fruiting and flowering.

Clutea lanceolata? Forssk. Euphorbiaceae

Desalegn Desissa & Pierre Binggeli DD453

Date: 09-02-2002

Location: Ethiopia, Gondar, Tara Gedam Monastery

Map: 1237D4 Grid reference: CD638429

Lat. 12°08' N Long. 37°44' E Alt. 2360 m

Site: Tara Gedam Monastery Forest situated on the top of a hill NE of Lake Tana. NW facing slope close to a ridge. Ground rocky with light brown soil covered by much leaf litter. Slope 15°. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Large gap in Olea europaea dominated logged forest.

Subcanopy: Rhus glutinosa. Clutea dominated gap other shrub

species included Dombeya torrida, Nuxia congesta, Lageria sp.,

Hyposotes trifoliata and Myrsine africana.

Lifeform: Multi-stemmed shrub to 3.5 m. Branching sparsely (few

2nd order branches). Stem dark brown, shoot grey-green with a

tinges of red. Leaves lanceolate, alternate and clustered at tip of

shoots. Petiole to 1 cm. Flowers axillary at base of leaf. Up to three

flowers per leaf. Flower stalk reddish, flower dull light green. Fruit:

capsule to 4 mm with 6 compartments. Shrub common but few

individuals flowering or fruiting as many are drying out.

Croton macrostachyus Del. Euphorbiaceae

Desalegn Desissa & Pierre Binggeli DD428

Date: 22-01-2002

Location: Ethiopia, Wello, Rama Ras Alula

Map: 1239D3 Grid reference:

Lat. 12°13' N Long. 39°43' E Alt. estimated ca 1800 m

Site: Western side of mountain below the Rama Ras Alula church.

Vegetation: Degraded woodland vegetation. For site details of

nearby Rama Ras Alula church go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Lifeform: Large tree, 10 m high, at the edge of the church forest.

Stem: rough grey. Leaves cordate crowded at the tip of the branches.

Fruit greyish woody capsules, 3-lobed with 3 flattened seeds.

Cordia africana Lam Boraginaceae

Desalgen Desissa & Pierre Binggeli DD378

Date: 21-12-2001

Location: Ethiopia, Wello, Abune Eyessus Moa

Map: 1139D1 Grid reference: EC760536

Lat. 11°20' N Long. 39°41' E Alt. 1920 m

Site: Abune Eyessus Moa Monastery ground. Only limited amount of the original woody vegetation remain. Most of the ground now devoted to agriculture. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Most of the area dominated by pasture or cultivation

(teff).

Lifeform: Tree c. 8 m high. Leaves cordate with long petiole. Stem

dark grey. Flower dry white in colour. Fruit dark green with a hard stone.

Uses: Species systematically looged because of its good timber.

Cyathula uncinulata (Schrad.) Schinz Amaranthaceae

Desalgen Desissa & Pierre Binggeli DD354

Date: 03-12-2001

Location: Ethiopia, Shewa, Kondaltiti

Map: 0838D1 Grid reference: DV590293

Lat. 08°24' N Long. 38°38' E Alt. 2390 m

Site: Kondaltiti Hill East of the road Addis Ababa - Butajira. This flat topped hill (c. 900 x 300 m) is delimited around its southern end by a small cliff (c. 5 m high). Relict church forest to the North of the hill. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Forest (to 30 m high) dominated by *Podocarpus falcatus*, *Euphorbia candelabrum* and *Croton macrostachyus* was formerly disturbed (e.g. tree cutting). In places it has a very dense shrub layer dominated by *Cyathula uncinulata*.

Lifeform: Large shrub to 3.5-4m tall when growing in large forest gaps otherwise to 1-1.5m. Forms monotypic stands in places. Mature fruiting heads stick to clothes and especially hair but are not prickly.

Dipcadi viride? Orchidaceae?

Desalegn Desissa & Pierre Binggeli DD405

Date: 30-12-2001

Location: Ethiopia, Shewa, Kemise

Map: 1039B4 *Grid reference:* EB959837

Lat. 10°42' N *Long.* 39°52' E *Alt.* 1470 m

Site: Kara Adami Hill, 2 km to the SE of Kemise. Small c. 60 m high hill with steep slopes protruding over the plain. West facing stony slope (25°) 2/3rd of the way up.

Vegetation: Secondary vegetation including grasses and *Tagetes minuta*. Nearby plenty of *Adhatoda*, *Hibiscus* sp., *Opuntia ficus-indica*, *Balanites aegyptiaca*, *Grewia ferugina* and *Jasminum abyssinica*

Lifeform: Clump c. 1m₂ (no others noted). Leaves to 1m 'folded', 2 cm across, grey-green. Leaf smelly and needle-shaped. Leaf base is thick (to 4 cm diam) remaining after leaf death. Inflorescence to 1-1.5 m, same colour with up to 60 large flowers. No flowers on the lower half of the stem then at first they are on side shoots and later flowers found singly.

Delphinium wellbyi Hemsl. Ranunculaceae

Desalegn Desissa & Pierre Binggeli DD292

Date: 26-10-2001

Location: Ethiopia, Shewa, Mt Menagesha

Map: 0938D3 *Grid reference:* DV546989

Lat. 09°32' N *Long.* 38°35' E *Alt.* 2820 m

Site: West Shewa, 40 km from Addis Ababa on Mount Menagesha on the road to Menagesha Medihane Alem church. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: *Maesa lanceolata*, *Acacia decurrens*, *Acacia abyssinica* ssp. *abyssinica* forest with tickets underneath. Shrubs include *Jasminum abyssinicum*, *Discopodium penninervium* *Vernonia* sp. *Climbers Clematis* sp. *Cucumis* sp.

Lifeform: Herb with leaves palmately lobed; flowers blue, sepals 5, the upper sepal enlarged and produced in to a spur; petals 2; stamens many with flattened filaments.

Desmodium repandum (Vahl) DC. Fabaceae

Desalegn Desissa & Pierre Binggeli DD

Date: 30-11-2001

Location: Ethiopia, Shewa, Ziquala

Map: DV84 44 *Grid reference:*

Lat. 08°32' N *Long.* 38°51' E *Alt.* 2940 m

Site: Extinct volcano 30km from Debreziet Town. The slopes of the crater (1.5 km in diameter) harbour the last native forest of the region. Forest on the eastern slope of the crater. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Tree canopy cover c. 75%, dominated by *Hypericum revolutum*, *Juniperus procera*, *Olea europaea* and *Rubiaceae*. Ground flora (c 50cm high) is ungrazed and composed of grass species, *Hypoestes*.

Lifeform: A herb 80cm long. Leaves pinnately trifoliate. Flowers

pink to red arranged in terminal.

Dicliptera laxata C.B. Cl. Acanthaceae

Desalegn Desissa & Pierre Binggeli DD352

Date: 03-12-2001

Location: Ethiopia, Shewa, Kondaltiti

Map: 0838D1 *Grid reference:* DV590293

Lat. 08°24' N *Long.* 38°38' E *Alt.* 2390 m

Site: Kondaltiti Hill East of the road Addis Ababa - Butajira. This flat topped hill (c. 900 x 300 m) is delimited around its southern end by a small cliff (c. 5 m high). Relict church forest to the North of the hill. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Forest (to 30 m high) dominated by *Podocarpus falcatus*, *Euphorbia candelabrum* and *Croton macrostachyus* was formerly disturbed (e.g. tree cutting). In places it has a very dense shrub layer dominated by *Cyathula uncinulata*.

Lifeform: Plant to 1m forming localised monotypic stands. End of flowering period.

Diospyros abyssinica Ebenaceae

Desalegn Desissa & Pierre Binggeli DD409

Date: 30-12-2001

Location: Ethiopia, Shewa, Kemise

Map: 1039B4 *Grid reference:* EB962836

Lat. 10°42' N *Long.* 39°52' E *Alt.* 1460 m

Site: Kara Adami Hill, 2 km to the SE of Kemise. Small c. 60 m high hill with steep slopes protruding over the plain. Lower part of the NE facing steep slope.

Vegetation: Secondary scrub vegetation with few small trees.

Dominant species: *Solanum incanum*, *Hibiscus*, *Opuntia*, *Agave*, *Calpurnia*, *Tagetes minuta* and *Maytenus*.

Lifeform: Small tree to 4 m. Leaves alternate, lanceolate and wavy. Shoot purplish brown. Terminal bud, *Ficus*-looking but very slender. Fruit 5mm across in clusters of 3 to 5 on previous year's shoots, deep brown 'cusp' green. Flesh white and juicy. Several specimen of this shrub/tree were found all of which were fruiting heavily although some had green fruits.

Uses: This species is of no use to local people.

Diospyros mespiliformis A.Dc. Ebenaceae

Desalegn Desissa & Pierre Binggeli DD460

Date: 12-02-2002

Location: Ethiopia, Gojam, Blue Nile Falls

Map: *Grid reference:*

Lat. 11°29' N *Long.* 37°34' E *Alt.* 1650 m

Site: Yemaytsura Abune Gebremenfes Kidus Andinat monastery. In stony (basalt) dry river bed separating two islands. 10 m away from one of the main channels of the Blue Nile River. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Open woodland with *Rhus natalensis*, *Mimusops kummel*.

Lifeform: Tree to 5 m, evergreen, very rough brown bark. Branching much at c. 2 m above ground. Shoots brown-grey. Leaves, alternate, stipulate, leathery, slightly wavy. Petiole short (<0.5 cm). Young leaves red. Fruits axillary to 2 cm in diam, round and green when young and dark yellow when mature. Limited amount of fruiting. No other tree of this species in the close vicinity.

Dipsacus pinnatifidus Stud. ex A. Rich. Dipsacaceae

Desalegn Desissa & Pierre Binggeli DD329

Date: 19-11-2001

Location: Ethiopia, Shewa, Debre Sina

Map: 0939B2 *Grid reference:* EA830892

Lat. 09°51' N *Long.* 39°45' E *Alt.* 2800 m

Site: Outskirts of Debre Sina (E of town), in farmland. Escarpment (c. 20 m²) between two fields. Slope c. 30° facing SE.

Vegetation: Scrub vegetation including, at the edge, many flowering

red pokers.

Lifeform: Herb to 2 m tall, with many branches at 45°. Plant is straggly looking with a limited number of small leaves. Flower heads, globose on stiff stems, were numerous and at various stages of development. Flowers are white and small.

Dodonaea angustifolia L.f. Sapindaceae

Desalegn Desissa & Pierre Binggeli DD343

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 *Grid reference*: DV84 44

Lat. 08°32' N *Long.* 38°51' E *Alt.* 2940 m

Site: Extinct volcano 30km from Debreziet Town. Northern slope of the mountain along a path half way to the summit. Gentle slope (c 10°). For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Secondary scrub community with a few relict large *Acacia* sp. trees. Shrubs to 2-2.5 m high, dominated by *Myrsine africana*.

Lifeform: Shrub 1.5m high. Stem brown. Winged fruit mature or maturing. Leaves elliptic to lanceolate.

Dovyalis? abyssinica Flacourtiaceae

Desalegn Desissa & Pierre Binggeli DD426

Date: 21-01-2002

Location: Ethiopia, Wello, Rama Kidanemihret Monastery

Map: 1239D1 *Grid reference*: ED808546

Lat. 12°15' N *Long.* 39°44' E *Alt.* 2180 m

Site: Rama Kidanemihret Monastery is a large logged juniper dominated forest. Slope 30°, NE-facing, grazed. Soil moist. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Canopy species: *Juniperus procera*, *Podocarpus falcatus*. Other woody plants: *Maytenus arbutifolius* and *Maytenus endata*. Ground vegetation dominated by *Hypoestes* spp, grass, moss and ferns.

Lifeform: Understorey shrub.

Dryopteris kilemensis (Kuhn) Kuntze Dryopteridaceae

Desalegn Desissa & Pierre Binggeli DD280

Date: 08-10-2001

Location: Ethiopia, Shewa, Wonchi

Map: 0837B2 *Grid reference*: CV774708

Lat. 08°46' N *Long.* 37°52' E *Alt.* 2940 m

Site: 34km from Ambo in Wonchi Crater in Kibate Forest. In the lower part of a small valley with grey light soil. The forest disturbed for the purpose of cutting pole, gathering firewood and cattle grazing.

Vegetation: *Olea europaea* ssp *cuspidata*, *Salix subseratta*, *Maesa lanceolata* are the dominant tree species. *Rubus apetalus* and *discopodium* sp are shrubs under the canopy. *Erica arborea* and *Hagenia abyssinica* are seen sometimes at the top of the valley. The stem of most trees is covered with some epiphytes.

Lifeform: Perennial fern.

Doryopteris krikii Adiantaceae

Desalegn Desissa & Pierre Binggeli DD285

Date: 15-10-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 *Grid reference*: DV846441

Lat. 08°32' N *Long.* 38°51' E *Alt.* 2940 m

Site: 30km from Debreziet town in the south west on the slope facing to the lake. Along the path from church to the lake. Rocky area with black soil. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: *Juniperus procera*, *Olea europaea* ssp *cuspidata*, *Myrsine africana*, *Inula confertiflora*, *clutia abyssinica*, *Hypericum revolutum* and *Osyris quadripartata* are the dominant species of the area.

Juniperus procera and *Olea* are the trees with height c. 15-25m.

Lifeform: Fern with sori marginal, fronds stuffed and indusium absent.

Englerina woodfordioides (Schweinf.) M. Gilbert

Loranthaceae

Desalegn Desissa & Pierre Binggeli DD351

Date: 03-12-2001

Location: Ethiopia, Shewa, Kondaltiti

Map: 0838D1 *Grid reference*: DV588287

Lat. 08°24' N *Long.* 38°38' E *Alt.* 2380m

Site: Kondaltiti Hill East of the road Addis Ababa - Butajira. This flat top hill (c. 900 x 300 m) is delimited around its southern end by a small cliff (c. 5 m high). SE facing slope (c. 10°) below the cliff and partly eroded. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Open secondary scrub vegetation. Area forested up to the early 1990s, with *Juniperus procera* as canopy dominant. Shrubs up to 3.5m high, main species: *Carissa edulis*, *Myrsine africana*, *Rosa abyssinica*, *Dodonaea angustifolia*, *Rhus glutinosa*, naturally regenerated *Juniperus procera* and other *Loranthus* species.

Lifeform: Parasite on *Carissa edulis* (3.5m tall). Stems to 0.9 m long growing strongly c. 1.3m above ground. Flower buds bright crimson, 0.5cm long and have yet to reach anthesis. Also observed to parasitise nearby spiny climber and *Acacia seyal*, and *Allophylus abyssinicus* at the Midrekebd Monastery (10km away).

Erica arborea L. Ericaceae

Desalegn Desissa & Pierre Binggeli DD360

Date: 05-12-2001

Location: Ethiopia, Shewa, Mehur Eyesus

Map: 0838C3 *Grid reference*: DV10 01

Lat. 08°14' N *Long.* 38°05' E *Alt.* 2400m

Site: Mehur Eyesus Monastery forest. Relict stand in an agricultural landscape suffering from severe erosion. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: *Podocarpus falcatus* and *Juniperus procera* monastery forest. Eastern edge of forest containing *Dodonaea angustifolia*, *Myrsine africana*, *Harrisonia abyssinica*, *Syzygium guineense* subsp *guineense* and *Ficus thonningii* adjoined by a gully and a young eucalypt plantation.

Lifeform: Shrub to 3.5m with dark brown stem. Leaves scale 1cm long. Flowers white to pale pink held at the end of branchlets and abundant as to appear in dense racemes.

Uses: Fuelwood, roofing and wall construction.

Erodium moschatum (L.) Ait. Geraniaceae

Desalegn Desissa & Pierre Binggeli DD395

Date: 27-12-2001

Location: Ethiopia, Wello, Lalibela-Asheten Ridge

Map: 1239C3 *Grid reference*:

Lat. 12° N *Long.* 39° E *Alt.* 3080 m

Site: (2 km East of Lalibela). Ridge leading from Lalibela to Asheten Mountain. Base of a 10 m North-facing cliff and on steep (25-40°) slope. Area moderately grazed by goats and cattle.

Vegetation: Species rich vegetation consisting of herbs and low shrubs many of which are flowering in stark contrast to the surrounding vegetation. Adjacent to the *Juniperus procera* forest with a few *Eucalypts* planted here and there. Common species, mainly widely distributed species, included *Erica arborea*, *Hypericum*, *Aloe*, *Rumex nervosus*, *Tephrosia*, *Vernonia* sp, *Clerodendron*, *Otostegia*, *Clutia*, *Rosa*, *Maytenus*, *Deciu*, *Cyathula*, *Lecuas*, *Lageria*, *Nulia*.

Lifeform: Herb to 50 cm long, scrambling. Stem pale brown to greenish brown, hairy. Leaves cordate, simple, long petiole (c. 10 cm) serrate hairy below. 8 red tinged veins, dark green above and pale green below. Flowers with long peduncle, opening bud pale yellow. Open flowers pale purple. Inflorescence is an umbel.

Euclea schimperi Ebenaceae

Desalgen Desissa & Pierre Binggeli DD357

Date: 05-12-2001

Location: Ethiopia, Shewa

Map: NC3714 Grid reference:

Lat. 08°14' N Long. 38°05' E Alt. 2000 m

Site:

Vegetation: Grassland with clumps of trees growing around and on earth mounds (no anthills currently observable). Hyperena is the dominant grass growing to 0.5m high.

Lifeform: Small tree to 5m. Bark grey. Leaves elliptic to lanceolate and many in number at the tip of the branch. Fruit green cluster and axillary.

Ficus thonnigii Blume Moraceae**Desalegn Desissa & Pierre Binggeli DD374**

Date: 21-12-2001

Location: Ethiopia, Wello, Abune Eyessus Moa

Map: 1139D1 Grid reference: EC757534

Lat. 11°20' N Long. 39°41' E Alt. 1920 m

Site: Growing just outside the Abune Eyessus Moa Monastery gate on a gentle slope. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Open mainly planted woodland composed of *Ficus vasta* (planted in 1957), *Acacia* sp and *Schinus molle*. Ground vegetation bare or grazed grasses. Surroundings dominated by cultivation.

Lifeform: 8m tall tree with spreading canopy. Fruiting heavily, fruits 4-6mm in diam green with some fruits having reddish dots. Only *Ficus* of this species observed to be fruiting.

Geranium arabicum Forssk. Geraniaceae**Desalegn Desissa & Pierre Binggeli DD338**

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV84 44

Lat. 08°32' N Long. 38°51' E Alt. 2940 m

Site: Extinct volcano 30km from Debreziet Town. The slopes of the crater (1.5 km in diameter) harbour the last native forest of the region. To the south of the crater lake lies the Oromo sacred site. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: The sacred grove is an open woodland dominated by *Olinia*, *Juniperus procera*, *Hypericum revolutum* and *Maesa*. The ground vegetation is highly disturbed consisting mostly of bare ground and large clumps of *Geranium*.

Lifeform: Clumps to 1m high and the many stems formed a dense tufts. Leaves orbicular, opposite and solitary. Flowers white with pink veins.

Gomphocarpus semilunatus Asclepiadaceae**Desalegn Desissa & Pierre Binggeli DD463**

Location: Ethiopia, Gojam, Blue Nile Falls

Map: Grid reference:

Lat. 11°29' N Long. 37°34' E Alt. 1650 m

Site: Yemaytsura Abune Gebremenfes Kidus Andinat monastery. In stony (basalt) small stream (part of the Blue Nile river network) separating two islands. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Open riparian forest with *Rhus*, *Mimusops*, *Marianthus*, *taro*, *Bersama*, *Maytenus*.

Lifeform: Multi-stemmed shrub to 2 m growing on a rock in the middle of a small stream. Old stems brown, young ones green. Leaves opposite/alternate, lanceolate, narrow and pointed. Buds: to 0.5 cm, white green with reddish streaks. Flower: very hairy at the margins and white. 5 petals, 5 gynoecium, female flower. Dioecious?

Hagenia abyssinica (Bruce) J. Gmelin Rosaceae**Desalegn Desissa & Pierre Binggeli DD348**

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV84 44

Lat. 08°32' N Long. 38°51' E Alt. 2940 m

Site: Extinct volcano 30km from Debreziet Town. Northern slope of the mountain. Along the upper part of the road leading to the crater.

For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Single tree at the edge of cereal field. Slope 25° facing North.

Lifeform: Female individual flowering profusely. Large inflorescence to c. 40cm with numerous flowers.

Uses: Flowers and fruits used against stomach parasites.

Hagenia abyssinica (Bruce) J. Gmelin Rosaceae**Desalegn Desissa & Pierre Binggeli DD431**

Date: 24-01-2002

Location: Ethiopia, Tigray, Wegelen, Alafe

Map: Grid reference:

Lat. 12°57' N Long. 39°31' E Alt. ? certainly above 2000 m

Site: Along main road from Kobo to Mekele. SW facing mountain side nearly totally deforested but for a few churchyards, although in next valley there is a large forest. Area either cultivated or consisting of low shrub on eroded slopes. Near main road on a slope facing SW.

Vegetation: Tree part of a hedge at the back of a homestead.

Vegetation: *Cordia*, *Sesbania sesban*, *Juniperus procera*, *Eucalyptus camaldensis*, *Euphorbia candelabrum*. Field with a crop of tomatoes.

Lifeform: Tree to 4 m slightly overtopped by a *Cordia*. Yellowish-green inflorescences are very striking by their large size, composed of numerous small male flowers.

Uses: None as opposed to female individuals (see DD348).

Helichrysum formosissimum (Sch. Bip) A. Rich.

Asteraceae

Desalegn Desissa & Pierre Binggeli DD327

Date: 18-11-2001

Location: Ethiopia, Shewa, Mt Wef Karly

Map: 0939B3 Grid reference: EA797705

Lat. 09°41' N Long. 39°43' E Alt. m

Site: NW facing stream running in the middle of a vast forestry plantation.

Vegetation:

Lifeform: Shrub to c. 50cm high. The lanceolate leaves are greyishwhite, sessile and hairy. Flower heads are large, with large white flowers, and arranged in terminal corymbs.

Uses: collected by Europeans in particular for dried flowers.

Heliotropium cinerascens D.C. Boraginaceae**Desalegn Desissa & Pierre Binggeli DD407**

Date: 30-12-2001

Location: Ethiopia, Shewa, Kemise

Map: 1039B4 Grid reference: EB962836

Lat. 10°42' N Long. 39°52' E Alt. 1480 m

Site: Kara Adami Hill, 2 km to the SE of Kemise. Small c. 60 m high hill with steep slopes protruding over the plain. NE facing steep slope near the summit.

Vegetation: Secondary scrub vegetation including grasses, *Maytenus*, *Senna*, *Balanytes*, grasses, *Dycrostachys cinerea*,
Lifeform: Multi-stemmed shrub to 1m. Brown-grey (stem) and young shoot is green. Leaves alternate, simple margin or double branches with 2-3 spikes each. Each spike has two rows of flowers. Flowers white and small (2 mm across). Single plant observed.

Hypericum quartianum A. Rich. Guttiferae**Desalegn Desissa & Pierre Binggeli DD399**

Date: 27-12-2001

Location: Ethiopia, Wello, Lalibela-Asheten Rid

Map: 1239C3 Grid reference:

Lat. 12°N Long. 39° E Alt. 3100m

Site: Asheten Mountain, 4 km East of Lalibela. Third cliff (5-10 m high) down from the summit. Severe soil erosion below cliff where most of the soil has been washed away but still suffering from heavy grazing.

Vegetation: Remnant vegetation on steep slopes is dominated by *Clusia*, which appear to be unpalatable, with *Inula*, *Echinops* *gigas*, *Peucedanum aculeolatum* (DD400), *Myrsine africana* and fern species. The cliff face is partly covered by mosses, algae (dry) and *Oxalis*. Inaccessible areas at the top of the cliff harbour *Portulaca*, *Aloe*, *Hypericum*, *Erica arborea*, *Euphorbia* sp., *Osyris* and *Otostegia*.

Lifeform: Multi-stemmed shrub to 2 m. Lanceolate leaves on new shoots opposite and alternate. Flowers are terminal, clustered, with many stamens, 1 pistil. Flowers yellow, very showy. large flowerbuds (1cm long) are yellow-green. Spicy smell. Early phase of flowering. Species common along the cliff and now restricted to it.

Hypoestes forskali (Vahl) R.sch Acanthaceae

Desalgen Desissa & Pierre Binggeli DD326

Date: 16-11-2001

Location: Ethiopia, Shewa, Chanco

Map: 0938D1 *Grid reference:* DA724285

Lat. 09°18' N *Long.* 38°44' E *Alt.* 7613 ft

Site: Chanco Egzabiherab church graveyard on a hill near Chanco town which is 40km from Addis Ababa along the Blue Nile road.

For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: dominant vegetation: *Olea europaea* subsp *cuspidata*, *Acacia abyssinica*, *Maytenus gracilipes* and *Juniperus procera* and *Ecalyptus*.

Lifeform: Subshrub with ascending branches c.1m high. Leaves ovate to lanceolate and dark green. Flowers white with purple at inner base arranged in racemes.

Inula confertiflora Asteraceae

Desalgen Desissa & Pierre Binggeli DD417

Date: 02-01-2002

Location: Ethiopia, Shewa, Zena Markos

Map: 0939A1 *Grid reference:* EA091905

Lat. 09°52' N *Long.* 39°04' E *Alt.* 2560 m

Site: Debir and Dey Promontary is situated 8 km to the West of Inewari Town. The Zena Markos Monastery is located just below the ridge and overlooks the Derek Wenz Canyon River by 1200 m. The woodland is right below the cliff on a scree slope. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Grazed relict woodland with in many places a limited shrub layer. Canopy species dominated by large *Olea europaea* sp *cuspidata* covered with lichen (*Usnea* sp.), *Ekebergia capensis* and formerly *Juniperus communis*. Other species included *Eucalyptus*, *Abutilon*

longicuspe (DD416). Ground and shrub vegetation dominated by *Hypoestes* (dominant) and *Maytenus*.

Lifeform: Isolated multi-stemmed shrub to 3m. Leaves: green at tip and a similar of dried ones below. Early flowering with most inflorescences with buds only. Species common but only flowering individual.

Ipomoea carica Convolvulaceae

Desalegn Desissa & Pierre Binggeli DD461

Date: 12-02-2002

Location: Ethiopia, Gojam, Blue Nile Falls

Map: *Grid reference:*

Lat. 11°29' N *Long.* 37°34' E *Alt.* 1650 m

Site: Yemaytsura Abune Gebremenfes Kidus Andinat monastery. In stony (basalt) dry river bed separating two islands. 10 m away from one of the main channels of the Blue Nile River. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Growing over the canopy of *Rhus*, to 2.5-3 m high. Tangle of shoots.

Lifeform: A climber 3m high. Leaves ovate and palmately divided to the base in to 7 lanceolate lobes. Flowers white with purple center, funnel shaped, sepals rounded with pale margins.

Jasminum abyssinica Oleaceae

Desalgen Desissa & Pierre Binggeli DD402

Date: 30-12-2001

Location: Ethiopia, Shewa, Kemise

Map: 1039B4 *Grid reference:* EB959837

Lat. 10°42' N *Long.* 39°52' E *Alt.* 1460 m

Site: Kara Adami Hill, 2 km to the SE of Kemise. Small c. 60 m high hill with steep slopes protruding over the plain. West facing stony slope (25°) half way up.

Vegetation: Secondary vegetation. Growing in a clump of *Opuntia ficusindica*, *Balanites aegyptiaca*, *Grewia ferugina*. Nearby plenty of *Adhatoda*, *Hibiscus* sp as well as man grasses.

Lifeform: Woody plant to 2 m scrambling. Leaves opposite, trifoliate with long 'petiole' on the central leaflet. Infructescence (umbel) lateral initiating at the base of each leaf and terminal. Fruit 5mm across and paired. Heavy fruiting. Fruits 99% green and 1% black (ripe). Fruit black with a 1mm thick flesh, very juicy with hard stone.

Jasminum abyssinica Oleaceae

Desalgen Desissa & Pierre Binggeli DD403

Date: 30-12-2001

Location: Ethiopia, Shewa, Kemise

Map: 1039B4 *Grid reference:* EB959837

Lat. 10°42' N *Long.* 39°52' E *Alt.* 1460 m

Site: Kara Adami Hill, 2 km to the SE of Kemise. Small c. 60 m high hill with steep slopes protruding over the plain. West facing stony slope (25°) half way up.

Vegetation: Secondary vegetation. Growing in a clump of *Opuntia ficusindica*, *Balanites aegyptiaca*, *Grewia ferugina* and *Jasminum abyssinica* by plenty of *Jasticia schimperiana* as well as many grasses.

Lifeform: Climber growing on *Opuntia* to 4 m high. Woody plant with long internodes. Leaves opposite, ovate, slightly serrated. Either leaf or inflorescence with leaves or an inflorescence. Inflorescence axillary, pale green, corymb. Flower bud conical. Flower, calyx 5, no corolla, calyx green-yellow. Pistil base dark green. Style orange-red.

Jasminum abyssinicum Hochst. ex. DC Oleaceae

Desalgen Desissa & Pierre Binggeli DD332

Date: 26-11-2001

Location: Ethiopia, Shewa, Mt Entoto

Map: 0838D4 *Grid reference:*

Lat. 09°0' N *Long.* 08°45' E *Alt.* m

Site: Just above Italian Embassy on hill slope (10°), fallow land abandoned for a few years.

Vegetation: Dominant trees of the area include *Ficus sur*, *Croton macrostacyus* with shrub layer *Calpurnia aurea* and *Vernonia amygdalina*.

Lifeform: A climber 3m long. Stem grey green, shoot green. Leaves trifoliate slightly pointed at the tip. Flowers white and showy.

Justicia sp? Acanthaceae

Desalgen Desissa & Pierre Binggeli DD454

Date: 09-02-2002

Location: Ethiopia, Gondar, Tara Gedam

Map: 1237D4 *Grid reference:* CD638429

Lat. 12°08' N *Long.* 37°44' E *Alt.* 2360 m

Site: Tara Gedam Monastery Forest situated on the top of a hill NE of Lake Tana. NW facing slope close to a ridge. Ground rocky with light brown soil covered by much leaf litter. Slope 15°. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation:

Lifeform: Multi-stemmed plant to 1(-2) m. Stem green with purplish lines. Leaves opposite, lanceolate, pointed tip, pubescent and with petiole. Early flowering, flowers large purple-blue inside and purple-grey outside, to 2 cm. Corolla 5 fused at base, two stamens and one pistil.

Justicia? Acanthaceae

Desalgen Desissa & Pierre Binggeli DD306

Date: 04-11-2001

Location: Ethiopia, Shewa, Wechecha

Map: 0838B1 *Grid reference:* DV556872

Lat. 08°55' N *Long.* 38°35' E *Alt.* 2740 m

Site: West of Meta brewery along track to Cheleleka (Mogle), on rocky slope.

Vegetation: Grows under the shade of *Dodena angustifolia* and *Carissa edulis* on sandy soil.

Lifeform: Herb c. 60cm high with ovate leaves. Stem woody and dark green. Flowers with bract and pale blue.

Kalanchoe densiflora Rolfe Crassulaceae

Desalegn Desissa & Pierre Binggeli DD317

Date: 15-11-2001

Location: Ethiopia, Shewa, Itisa

Map: 0939C3 *Grid reference:* EA195095

Lat. 09°08' N *Long.* 09°10' E *Alt.* 7613 ft

Itisa Abune Teklehaymanot monastery is situated just below the highland plateau at the base of the upper cliff on a small plateau. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Associated vegetation: *Carissa edulis*, *Celtis africana*, *Euclea schimperi*, *Calpurnia aurea* and *Lagera tomentosa*.

Lifeform: Herb 80cm high with succulent stem. Leaves opposite, ovate and crenate margins. Flowers yellow to orange and terminal.

Uses: Leaves used to bake bread.

Kalanchoe lanceolata (Forssk.) Pers. Crassulaceae

Desalegn Desissa & Pierre Binggeli DD420

Date: 03-01-2002

Location: Ethiopia, Shewa, Mitak Abune Teklehaymanot

Map: 1039B3 *Grid reference:* EA753581

Lat. 09°34' N *Long.* 39°41' E *Alt.* 2550 m

Site: The Dabo Bele Valley is situated 20 km to the SW of Debre Bihran. It runs from the plateau towards the plain with steep mountainsides on both sides. NW facing slope opposite the Mitak Abune Teklehaymanot Monastery Forest which is located c. 400 m below the plateau. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Patchwork of woodland and grassland on former forested land below grassland. Trees (to 5-10 m) dominated by *Juniperus procera*, *Podocarpus falcatus* and *Myrsine africana* and the shrub layer included *Acanthus hybridus*, *Laguna tomentosa* and *Inula confertiflora*. *Kalanchoe* occurring in patches or as isolated individuals.

Lifeform: Herb to 1.5 m high with large terminal inflorescences. Multistemmed but not forking. Large inflorescence (up to 50 cm high) with widely interspersed side-shoots. Large showy flowers clustered at the tip of the shoots.

Kniphofia schimperi Baker Asphodelaceae

Desalgen Desissa & Pierre Binggeli DD

Date: 08-10-2001

Location: Ethiopia, Shewa, Wonchi

Map: 0837B2 *Grid reference:* CV758733

Lat. 08°47' N *Long.* 37°52' E *Alt.* 3380 m

Site: 30km from Ambo town along the road to Wonchi, rocky area on steep slope with grey light soil, grazed land which is also

disturbed by human for firewood.

Vegetation: Shrub land dominated by *Erica arborea* and *Phyllipia trimera* ssp *abyssinica*. The shrubs are c. 3m high with white flowers. The stem is grey in colour without many epiphyte/parasites. *Salix subserata* and *Osyris quadripartita* also seen standing among the shrub. *Hagenia abyssinica* and *Rumex nervosus* are common along the road.

Lifeform: Annual herb c. 50cm high. The flowers are red. The leaves are linear and appear from the ground in cluster form. The stem hollow inside without pith.

Leonotes ocymifolia Burm. F. Labiatae

Desalgen Desissa & Pierre Binggeli DD418

Date: 02-01-2002

Location: Ethiopia, Shewa, Zena Markos

Map: 0939A1 *Grid reference:* EA091905

Lat. 09°52' N *Long.* 39°04' E *Alt.* 2560 m

Site: Debir and Dey Promontary is situated 8 km to the West of Inewari Town. The Zena Markos Monastery is located just below the ridge and overlooks the Derek Wenz Canyon River by 1200 m. The woodland is right below the cliff on a scree slope. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Grazed relict open scrub/woodland dominated by *Dombeya*, *Maytenus arbutifolia*, *Vernonia* sp and *Solanecio giga*.

Lifeform: Single stem shrub, not branching, to 2m high forming a c. 10m² pure stand.

Leucas abyssinica Lamiaceae

Desalegn Desissa & Pierre Binggeli DD434

Date: 25-01-2002

Location: Ethiopia, Tigray, Mekele

Map: 1339C2 *Grid reference:*

Lat. 13°29' N *Long.* 39°29' E *Alt.* 2140 m

Site: Debre Genet Medihane Alem is situated at the edge of Mekele Town at the base of a small escarpment. The site is dissected by a stream hat was dry at the time of the visit. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Secondary scrubby vegetation dominated by *Hibiscus*, *Opuntia*, *Justicia*, *Rumex*, *Euphorbia*.

Lifeform: A shrub 80cm high. Leaves grey green and obovate.

Flowers white and arranged in erect cymes.

Leucas martinicensis (Jacq) R.Br Lamiaceae

Desalgen Desissa & Pierre Binggeli DD323

Date: 16-11-2001

Location: Ethiopia, Shewa, Chanco

Map: 0938D1 *Grid reference:* DA724285

Lat. 09°18' N *Long.* 38°44' E *Alt.* 8738ft

Site: Chanco Eggzabiherab church graveyard just on a hill near Chanco town which is 40km from Addis Ababa along the Blue Nile road. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: The vegetation include *Olea europea* ssp *cuspidata*, *Juniperus procera*, *Maytenus* sp.

Lifeform: Shrub 1.50m high. Leaves ovate with toothed margin.

Flowers white with spiny calyces in whorls borne in the axils of the upper leaves.

Uses: Meskel fire.

Maytenus obscura (A. Rich.) Cuf. Celastraceae

Desalgen Desissa & Pierre Binggeli DD422

Date: 03-01-2002

Location: Ethiopia, Shewa, Gedam Teklehaymanot

Map: 1039B3 *Grid reference:* EA752582

Lat. 09°34' N *Long.* 39°41' E *Alt.* 2540m

Site: The Dabo Bele Valley is situated 20 km to the SW of Debre Bihran. It runs from the plateau towards the plain with steep

mountainsides on both sides. The Gedam Teklehaymanot Monastery Forest is located c. 400 m below the plateau and is adjacent to the river on a steep SE facing slope.

Vegetation: Narrow woodland strip separating the river from a small enclosed grassland. The strip contains many species including *Podocarpus falcatus*, *Juniperus procera*, *Myrsine africana*, *Rubiaceae*, *Bersama abyssinica*, *Vernonia* sp and *Inula*.

Lifeform: Shrub to 4 m at edge of grassland partly shaded by *Podocarpus falcatus*. Stem dark grey. Shoot brown, leaves lanceolate, slightly serrated, narrow at base, up to 4 cm long. Fruit: capsule with 3-4 compartment containing one brown-red seed each.

Maytenus obscura (A. Rich.) Cuf. Celastraceae

Desalgen Desissa & Pierre Binggeli DD446

Date: 02-02-2002

Location: Ethiopia, Tigray, Bokel Monastery Hill

Map: 1438D3 *Grid reference:*

Lat. 14°10' N *Long.* 38°36' E *Alt.* ca 2200 m

Site: SW facing slope at the base of Bokel Monastery Hill near a small stream (50 m away). For site details of Bokel Gedam go to: <http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Mixture of abandoned fields and secondary forest/scrub. Area partially terraced and formerly cultivated. Previously dominated by *Olea europaea* and probably also contained much *Juniperus procera* in former times. Main species are now *Euclia schimperiana*, *Dodonaea*, *Calpurnia*.

Lifeform: Shrub to 60 cm high. Bark grey-brown, shoot brown. Shoots bear slender 2 cm long spines. Leaves alternate and at base of a spine. Serrated. Short petiole ovate. Heavy fruiting. Small infructescence (on side-shoots) with two to three fruits. Fruit is a capsule, red when mature, but with white patches during maturation. Each capsule consists in three compartments each containing 2 red seeds.

Maytenus obscura (A. Rich.) Cuf. Celastraceae

Desalegn Desissa & Pierre Binggeli DD448

Date: 03-02-2002

Location: Ethiopia, Tigray, Abune Tedros

Map: 1438D3 *Grid reference:*

Lat. 14°07' N *Long.* 38°39' E *Alt.* 2170 m

Site: Abune Tedros Church along the main road from Axum to Wuckro. In agricultural land, next to a track/seasonal stream at the bottom of a wide valley. Close to the church. For site details go to: <http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: *Acacia* spp, *Euphorbia* spp, *Aloe* and *Rumex nervosa*.

Lifeform: Two flowering specimen in an area where all other plants are fruiting. Both individuals are below the canopy of isolated *A. lahi* and there is a new flush of growth. Both shrubs are about one metre tall. Bark grey-brown, shoot brown bearing slender 2 cm long spines. Leaves alternate and at base of a spine. Serrated. Short petiole ovate.

Maytenus senegalensis (Lam.) Exell Celastraceae

Desalegn Desissa & Pierre Binggeli DD433

Date: 25-01-2002

Location: Ethiopia, Tigray, Mekele

Map: 1339C2 *Grid reference:*

Lat. 13°29' N *Long.* 39°29' E *Alt.* 2130 m

Site: Debre Genet Medihane Alem is situated at the edge of Mekele Town at the base of a small escarpment. The site is dissected by a stream that was dry at the time of the visit. For site details go to: <http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Secondary scrubby vegetation dominated by *Hibiscus*, *Opuntia*, *Justicia*, *Rumex*, *Euphorbia*.

Lifeform: A shrub 2m high. Stem grey. Leaves alternate, oblanceolate with wavy leaf margins. Flowers white. Fruit globose and green when unripe.

Mikanoiopsis clematoides. (A. Rich.) M.Redh Asteraceae

Desalgen Desissa & Pierre Binggeli DD312

Date: 15-11-2001

Location: Ethiopia, Shewa, Itisa

Map: 0939C3 *Grid reference:* EA198093

Lat. 09°07' N *Long.* 39°10' E *Alt.* 7351 ft

Site: The Itisa Teklehaymanot relict church woodland nestles on the upper side of a canyon. Northeast facing. Area is heavily grazed by goats and cattle. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Canopy is chiefly constituted of *Juniperus procera*, the only remaining stand observable. The shrub layer is dominated by this shrub.

Lifeform: Small shrub (c. 0.5-1 m) growing under canopy or at forest edge. Fruiting with the majority of fruits unripe (green) and a few ripe ones (red).

Mimusops kummel Sapotaceae

Desalegn Desissa & Pierre Binggeli DD459

Date: 12-02-2002

Location: Ethiopia, Gojam, Robit Debresina Bata

Map: 1137A4 *Grid reference:*

Lat. 11°41' N *Long.* 37°27' E *Alt.* 1865m

Site: Robit Debresina Bata relict church forest on the plain East of Lake Tana. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Forest dominated by *Diospyros abyssinica*, *Milletia ferruginea* and *Mimusops kummel* in canopy: Main shrub species: *Clausena anisata*, *Coffea arabica*.

Lifeform: Large tree to 15 m high and diameter of 1.5 m. Free standing in inner churchyard. Bark rough, dark brown. Shoots brown. Leaves alternate, lanceolate, slightly wavy and shiny. Fruit orange when mature and green when unripe. Fruit fleshy with a light stone and one flat seed (up to 10 mm long). Peduncle to 4 cm. Inflorescence terminal with whitish green flowers. 6 calyx, and many stamens and one pistil.

Momordica foetida Schumach. Cucurbitaceae

Desalegn Desissa & Pierre Binggeli DD406

Date: 30-12-2001

Location: Ethiopia, Shewa, Kemise

Map: 1039B4 *Grid reference:* EB951836

Lat. 10°42' N *Long.* 39°52' E *Alt.* 1490 m

Site: Kara Adami Hill, 2 km to the SE of Kemise. Small c. 60 m high hill with steep slopes protruding over the plain. Top of the hill. Ground littered with lots of rocks.

Vegetation: Secondary scrub vegetation including grasses, *Maytenus*, *Senna*, *Balanites*, and *Dycrostachys cinerea*.

Lifeform: Creeper on ground to a length of 2m. Leaves alternate, cordate, with long petiole. Tendril at the base of each leaf. Fruit is green covered with soft prickles which are green-yellow. To 5 cm long and 4 cm across with many seeds (4mm in size) fleshy. Flesh green-white at first than turning partly red and finally red when mature. When ripe the fruit.

Olinia rochetiana A. Juss. Oliniaceae

Desalegn Desissa & Pierre Binggeli DD363

Date: 06-12-2001

Location: Ethiopia, Shewa, Mehur Eyesus

Map: 0838C3 *Grid reference:* DV10 01

Lat. 08°14' N *Long.* 38°05' E *Alt.* 2400m

Site: Mehur Eyesus Monastery forest. Relict stand in an agricultural landscape suffering from severe erosion. For site details go to: <http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Church forest edge. Stand dominated by *Podocarpus falcatus* and *Juniperus procera*

Lifeform: Tree (c. 10m) flowering. Leaves opposite and reddish when young; oblanceolate with pale pink midrib on the lower surface. Flowers white pinkish arranged in dense rounded heads.

Oreosyce africana? Hook. f. Cucurbitaceae

Desalegn Desissa & Pierre Binggeli DD362

Date: 05-12-2001

Location: Ethiopia, Shewa, Mehur Eyesus

Map: 0838C3 Grid reference: DV10 01

Lat. 08°14' N Long. 38°05' E Alt. 2400 m

Site: Mehur Eyesus Monastery forest. Relict stand in an agricultural landscape suffering from severe erosion. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Podocarpus falcatus and Juniperus procera monastery forest. In recent decades much of the J. procera has been selectively felled resulting in many large gaps in the canopy. Most of the forest shrub layer is dominated by Acanthus eminens. Ground vegetation grass and Solanum nigrum. Maesa lanceolata, Embelia schimperi are the main shrubs.

Lifeform: A climber growing to 4m long. Stem green, shoot pale green. Leaves cordate with 1cm long petiole. Fruits, green and unripe.

Osteospermum vaillantii (Decne) T.Norl. Asteraceae

Desalegn Desissa & Pierre Binggeli DD385

Date: 23-12-2001

Location: Ethiopia, Wello, Lalibela

Map: 1239C3 Grid reference: ED069312

Lat. 12°02' N Long. 39°04' E Alt. 2540 m

Site: Mountainside East of Lalibela Town. Westerly facing valley with steep slopes on either side. Mixture of agricultural and scrub lands with many boulders scattered. Tef and barley cultivation resulting in much soil erosion. Plant growing on the vertical stream embankment (south facing).

Vegetation: Associated vegetation: Rumex nervosus, Ichinops gigantum, Rubiaceae palgeria, Lageria, Rosa abyssinica.

Lifeform: Woody sub-shrub to 80 cm long, hanging, branching. Leaves lanceolate, stipulate, irregularly serrated, alternate, sticky with pleasant smell. With glands on upper surface. Stem with red spots, hairy. Flowers are bright yellow and showy. Corolla 8-12, calyx as well. Green fruit with a single seed has a red margin and is three-sided. When dry they open.

Osyris quadripartita Decn. Santalaceae

Desalegn Desissa & Pierre Binggeli DD349

Date: 10-11-2001

Location: Ethiopia, Shewa, Mt Menagesha

Map: 0938D3 Grid reference:

Lat. 09°02' N Long. 38°35' E Alt. 2900 m

Site: Area of semi-natural vegetation just below the summit of Mt Menagesha. Slope 25° facing NE. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Native scrub dominated by Erica arborea (3-6 m tall) with many gaps. These are dominated by grasses (mainly Hyperina hirta and Pennisetum setaceum), mosses and bare rocks. Other shrubs species included Osyris and Juniperus procera. Area was probably formerly dominated by Juniperus procera forest which was cut down. Area now invaded by Acacia decurrens which is spreading downhill from the summit with some Cupressus lusitanica also spreading.

Lifeform:

Otostegia? Labiatae

Desalegn Desissa & Pierre Binggeli DD452

Date: 09-02-2002

Location: Ethiopia, Gondar, near Tara Gedam Monastery

Map: 1237D4 Grid reference:

Lat. 12°08' N Long. 37°45' E Alt. 2400 m

Site: Tara Gedam Hill East of. Top of the hill, south facing. Ground very rocky with light brown soil. Highly disturbed by past military activity (trenches and stone walls. For site details of the nearby Tara Gedam Monastery go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Vegetation open scrub/woodland with much grass.

Woody plants: Carissa edulis, Rhus glutinosa, Rhus natalensis, Olea europaea, Jasminum abyssinica, Grewia bicolor, Dodonaea, Clutia, Croton, Acanthus, Myrsine.

Lifeform: Shrub to 2 m high with quadrangular stem. Stem and shoots grey. Spines. Leaves opposite at the base of spines, oblanceolate. Leaves grey-green above and slightly white, white grey below. Inflorescence green. Flowers: white. Stamens covered by hanging corolla.

Otostegia integrifolia Benth Lamiaceae

Desalegn Desissa & Pierre Binggeli DD347

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV84 44

Lat. 08°32' N Long. 38°51' E Alt. 2940 m

Site: Extinct volcano 30km from Debreziet Town. Northern steep upper slope of the mountain along a path.

Vegetation: Secondary scrub community on land formerly dominated by Juniperus procera forest. Impenetrable vegetation to 3m high and dominated by Erica arborea and Dodonaea angustifolia.

Lifeform: Branched shrub to 1.5m. Stem spiny. Leaves grey green and lanceolate. Flowers white, hairy and borne in erect racemes.

Uses: Fumigant for pots and houses.

Pavetta abyssinica Rubiaceae

Desalegn Desissa & Pierre Binggeli DD355

Date: 04-12-2001

Location: Ethiopia, Shewa, Midrekebd

Map: 0838D1 Grid reference: DV590293

Lat. 08°16' N Long. 38°36' E Alt. 2390 m

Site: Midrekebd Hill 10km East of Bui on the Addis Ababa – Butajira road. This hill dominates the rift valley. Relict church forest covers part of the top of the hill and some of the western steep slopes. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: The graveyard forest, dominated by Podocarpus falcatus, Juniperus procera and Eucalyptus globulus, is heavily grazed and in many places has no shrub layer. Where present shrub layer consisting of Solanum indicum, Maesa lanceolata and Vernonia auriculifera. Native trees overtopped and often partly shaded out by eucalypts planted about 30 decades ago.

Lifeform: A shrub 3m high. Stem grey green. Leaves ovate, opposite and pointed at the tip. Fruit terminal, cluster, green when unripe and black when ripe.

Pavonia urens Cav. Malvaceae

Desalegn Desissa & Pierre Binggeli DD340

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV84 44

Lat. 08°32' N Long. 38°51' E Alt. 2940 m

Site: Extinct volcano 30km from Debreziet Town. The slopes of the crater (1.5 km in diameter) harbour the last native forest of the region. On the lower slopes near the monastery. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Semi-open woodland dominated by Juniperus procera with some Hypericum revolutum. In the large gaps the vegetation is dominated by grasses and herbs and here and there by large clumps of Hibiscus (to 7 m in diameter).

Lifeform: Clump about 7 m across and to 3.5m high. Many stems, some sagging. Each stem bearing a few large pink flowers.

Pavonia urens Cav. Malvaceae

Desalegn Desissa & Pierre Binggeli DD443

Date: 29-01-2002

Location: Ethiopia, Tigray, Atsibi

Map: 1339B1 Grid reference:

Lat. 13°52' N Long. 39°44' E Alt. 2680 m

Site: Church woodland situated at the edge of Atsibi Town.

Woodland is patchy and heavily disturbed. It is an important source of artesian water. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Growing at the edge of the woodland mixed with mainly *Rubus* sp.

Lifeform: Multi-stemmed shrub with red stems to 3-4 m. Main stems with sort shoots growing upwards at an angle of c. 30°. Flowers towards the base of the stems and shoots, and many flower buds up to the tip of these. Early flowering stage.

Pelargonium multibracteatum Hochst. ex A. Rich.

Geraniaceae

Desalegn Desissa & Pierre Binggeli DD387

Date: 23-12-2001

Location: Ethiopia, Wello, Lalibela

Map: 1239C3 Grid reference: ED068311

Lat. 12°02' N Long. 39°04' E Alt. 2620 m

Site: NW facing cliff at the top of a valley above the path from Lalibela to Medage with steep slopes. Water dripping in one place whereas stream and grassland are very dry.

Vegetation: Single clump of geranium on cliff face (5m high) on sloping rock. Bare rock with few plants including *Portulaca* and grasses. Very steep slope above with grasses, *Aloe* and *Rumex*.

Lifeform: Herb to 70 cm falling over. Stem brown. Leaves opposite, long petiole, palmate, circular brown and with green centre. Stem hairy, regular nodes and at each node have a branch bearing flowers. Flowers have corolla 5, calyx 5 with red stripe at the base of corolla. 7 flowers / inflorescence. Fruit long hairy, green pistil.

Peucedanum aculeolatum Apiaceae

Desalegn Desissa & Pierre Binggeli DD287

Date: 15-10-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV844442

Lat. 08°32' N Long. 38°51' E Alt. 2900 m

Site: 30km from Debreziet town on the slope facing to the lake. Along the path from church to the lake. Rocky area with black soil. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: *Juniperus procera*, *Olea europaea* ssp *cuspidata*, *Myrsine africana*, *Inula confertiflora*, *clutia abyssinica*, *Hypericum revolutum* and *Osyris quadripartata* are the dominant species of the area. *Juniperus procera* and *Olea* are the trees with height c. 15-25m.

Lifeform: Herb c. 1m high. The stem hollow. Flower cream umbel, a whorl of bract forming an involucre and each flower developed from the axil of bract. Leaves petiolate, stipulate, imparipinnate or trifoliate, with ovate, toothed, lobed leaflets, fruit obovoid-ellipsoid.

Peucedanum aculeolatum Engl. Umbelliferae

Desalegn Desissa & Pierre Binggeli DD400

Date: 27-12-2001

Location: Ethiopia, Wello, Lalibela-Asheten Ridge

Map: 1239C3 Grid reference:

Lat. 12° N Long. 39° E Alt. 3100 m

Site: Asheten Mountain, 4 km East of Lalibela. Third cliff (5-10 m high) down from the summit. Severe soil erosion below cliff where most of the soil has been washed away but still suffering from heavy grazing.

Vegetation: Remnant vegetation on steep slopes is dominated by *Clutia*, which appear to be unpalatable, with *Inula*, *Echinops* and fern species. The cliff face is partly covered by mosses, DD399, algae (dry) and *Oxalis*. Inaccessible areas at the top of the cliff harbour *Portulaca*, *Aloe*,

Hypericum, *Erica arborea*, *Euphorbia* sp., *Osyris* and *Otostegia*.

Lifeform: Herb to 1.5 m tall, long stems with long internodes branching sparsely. Leaves opposite, pinnate, stipulate, leaflets

lanceolate and serrated. White flowers on terminal umbels. Fruit flat with pink stripe on both sides. Few individuals observed.

Plectocephalus varians Asteraceae

Desalegn Desissa & Pierre Binggeli DD289

Date: 15-10-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV844442

Lat. 08°32' N Long. 38°51' E Alt. 2900 m

Site: 30km from Debreziet town in the south west on the slope facing to the lake. Along the path from church to the lake. Rocky area with black soil. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: *Juniperus procera*, *Olea europaea* ssp *cuspidata*, *Myrsine africana*, *Inula confertiflora*, *Clutia abyssinica*, *Hypericum revolutum* and *Osyris quadripartata* are the dominant species of the area. *Juniperus procera* and *Olea europaea* are the trees with height c. 15-25m.

Lifeform: Herb c. 1m high with white and pale pink flower at the end of the stem. The leaves simple, alternate sessile and rough. Pistil inferior.

Plicosepalus robustus Wiens & Polhill Loranthaceae

Desalegn Desissa & Pierre Binggeli DD350

Date: 03-12-2001

Location: Ethiopia, Shewa, Kondaltiti

Map: 0838D1 Grid reference: DV588287

Lat. 08°24' N Long. 38°38' E Alt. 2380m

Site: Kondaltiti Hill East of the road Addis Ababa - Butajira. This flat top hill (c. 900 x 300 m) is delimited around its southern end by a small cliff (c. 5 m high). SE facing slope (c. 10°) below the cliff and partly eroded. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Open secondary scrub vegetation. Area forested up to the early 1990s, with *Juniperus procera* as canopy dominant. Shrubs up to 3.5m high, main species: *Carissa edulis*, *Myrsine africana*, *Rosa abyssinica*, *Dodonaea angustifolia*, *Rhus* sp., naturally regenerated *Juniperus procera* and *Englerina woodfordioides* (DD351).

Lifeform: Parasite on *Myrsine africana* (2m tall) and only specimen observed in vicinity. Few stems (to 0.4m) growing c. 1.3m above ground. Striking crimson flowers born on stems. End of flowering.

Pittosporum viridiflorum Sims Pittosporaceae

Desalegn Desissa & Pierre Binggeli DD375

Date: 21-12-2001

Location: Ethiopia, Wello, Hayk

Map: 1139D1 Grid reference: EC760536

Lat. 11°20' N Long. 39°41' E Alt. 1920 m

Site: Abune Eyessus Moa Monastery woodland 35km from Desse to the east and 5km from Hayk surrounded by Hayk lake. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Monastery woodland consists of *Dodonaea angustifolia*, *Grewia ferruginea*, *Olea europea* subsp *cuspidata*, *Cordia africana*, *Ficus vasta*, and *Pittosporum* sp.

Lifeform: Canopy tree to 10 m with spreading crown much of it at the woodland edge (lakeside). Tree fruiting heavily with most fruits being unripe (green), some ripe (yellowish-green) and a few capsule having split open. Each capsule contains 3 orange-red seeds.

Portulaca? Portulacaceae

Desalegn Desissa & Pierre Binggeli DD388

Date: 25-12-2001

Location: Ethiopia, Wello, Yimrana Kirstos

Map: 1239C3 Grid reference:

Lat. 12°07' N Long. 39°04' E Alt. 2760 m

Site: Yimrana Kirstos Church Forest in the North facing valley of the NW end of the Dagwesay Ridge (12 km North of Lalibela).

Ridge at the top of the forest, mainly a mixture of bare soil, bare rock and crumbling stones. North-westerly facing slope c. 20-35°.

For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Juniperus procera forest (trees to 30-35m), heavily grazed, and with no tree regeneration. One Dovyalis present nearby. Ground vegetation dominated by Justicia, Ocytmum and some Clutia and Geranium sp.

Lifeform: Herb forming a c. 1m² path with some Geranium sp. Partly overhanging embankment. Less than 5 cm high but shoots to 20-30 cm. Creeping and rooting at nodes. Mid-flowering. Flowers small and white.

Portulaca? Portulacaceae

Desalegn Desissa & Pierre Binggeli DD398

Date: 27-12-2001

Location: Ethiopia, Wello, Lalibela-Asheten Ridge

Map: 1239C3 *Grid reference:*

Lat. 12°02' N *Long.* 39°04' E *Alt.* 3100 m

Site: Asheten Mountain, 4 km East of Lalibela. Third cliff (5-10 m high) down from the summit. Severe soil erosion below cliff where most of the soil has been washed away but still suffering from heavy grazing. Lower cliff face slope 80-90°.

Vegetation: Remnant vegetation on steep slopes is dominated by Clutia, which appear to be unpalatable, with Inula, Echinops and fern species. The cliff face is partly covered by mosses, grasses, Hypericum quartianum (DD399), Helichrysum, Ostotegia and Oxalis. Inaccessible areas at the top of the cliff harbour Juniperus procera, Clematis simensis, Portulaca, Aloe, Hypericum, Erica arborea, Euphorbia sp., Osyris and Otostegia.

Lifeform: Succulent plant to 1m long, falling down with stem ends arching up. Stem thick (diameter 2-3 cm). Leaves succulent, clustered at the tips. Colour: dull green with reddish edges, oblanceolate, hairy edges. Flowering shoots at the end of leafless stems. Flowers terminal and clustered, 8 corolla, thick calyx (8) with red stripes, many stamens, yellow.

Primula verticillata

Desalegn Desissa & Pierre Binggeli DD445

Date: 01-02-02

Location: Ethiopia, Tigray, Bikot Giyorgis Church

Map: 1439C2 *Grid reference:* EF461776

Lat. 14°16' N *Long.* 39°26' E *Alt.* 2600 m

Site: Bikot Giyorgis Church Forest. Northerly facing cliff in an East-facing deep gorge with seasonal stream. 3 km West of Adigrat. Vertical cliff with many cracks.

Vegetation: Juniperus procera dominated open woodland.

Lifeform: A herb 20cm high. Leaves simple, several and crowded at the base of the inflorescence bearing stem, with powdery bloom covering both surface. The margins are toothed. Flowers bright yellow.

Primula verticillata Primulaceae

Desalegn Desissa & Pierre Binggeli DD397

Date: 27-12-2001

Location: Ethiopia, Wello, Lalibela-Asheten Ridge

Map: 1239C3 *Grid reference:*

Lat. 12°02' N *Long.* 39°04' E *Alt.* 3100 m

Site: Asheten Mountain, 4 km East of Lalibela. Third cliff (5-10 m high) down from the summit. Severe soil erosion below cliff where most of the soil has been washed away but still suffering from heavy grazing. Plant growing on vertical or overhanging rockface (basalt) 1-2m above ground. Growing in small cracks.

Vegetation: Remnant vegetation on steep slopes is dominated by Clutia, which appear to be unpalatable, with Inula, Echinops and fern species. The cliff face is partly covered by mosses, algae (dry) and Oxalis. Inaccessible areas at the top of the cliff harbour Portulaca, Aloe, Hypericum, Erica arborea, Euphorbia sp., Osyris and Otostegia.

Lifeform: Herb to 10 cm across, flowering stalk to 15 cm. Leaves oblong clustered close to the rock face. Some plants are very dusty while others are not. Leaf colour pale green. Flowers are few but showy, i.e. bright light yellow. Corolla 6, Calix 6.

Pterocephalus frutescens Dipsacaceae

Desalegn Desissa & Pierre Binggeli DD296

Date: 26-10-2001

Location: Ethiopia, Shewa, Mt Menagesha

Map: 0938D3 *Grid reference:* DV544988

Lat. 09°32' N *Long.* 38°35' E *Alt.* 2860 m

Site: West Shewa, 40 km from Addis Ababa on mount Menagesha on gentle slope along the road to Medihane Alem church.

Vegetation: Forestry plantation, plant found just above the track's embankment (slope c. 10°). Canopy was 80% and composed only of Cupressus lusitanica. C. 80% of the ground was bare or covered by Cupressus litter and mosses covered c. 10% of the ground. Large numbers of C. lusitanica seedlings (10-30 cm high) were present with a few individual of Myrsine africana and Acacia melanoxylon as well as some grass.

Lifeform: Annual herb c. 70 cm high; flower pink, in dense heads with hairy bristles in between; leaves opposite, entire, toothed margin and crowded at the base of the stem. Stem hairy and weak.

Pterolobium stellatum (Forssk.) Brenan Fabaceae

Desalegn Desissa & Pierre Binggeli DD427

Date: 22-01-2002

Location: Ethiopia, Wello, Rama Ras Alula

Map: 1239D3 *Grid reference:*

Lat. 12°13' N *Long.* 39°43' E *Alt.* ca 1950 m

Site: Western side of mountain near the Rama Ras Alula church. North facing, in small valley near a stream and next to a track. For site details of the nearby Rama Ras Alula Church go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Scrubby vegetation dominated by: Justicia schimperiana, Maytenus arbutifolia, Rumex nervosus, Hibiscus sp., Tagetes minuta, Kalanchoe desiflora, Verbascum sinaiticum.

Lifeform: Small arching shrub to 4 m. Plant fruiting with striking and showy terminal infructescences. Leaves pinnate, oblanceolate.

Rhus glutinosa A.Rich. Anacardiaceae

Desalegn Desissa & Pierre Binggeli DD456

Date: 09-02-2002

Location: Ethiopia, Gondar, near Tara Gedam Monastery

Map: *Grid reference:*

Lat. 12°08' N *Long.* 37°45' E *Alt.* ca 2200 m

Site: Steep (40°) slope just near Tara Gedam Monastery below the main road towards Gondar. Easterly facing with many rocks and stones, and light brown soil. For site details of the nearby Tara Gedam Monastery go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Open scrub with a mosaic of grass (heavily grazed) and shrubs such as Capparis tomentosa, Carissa, Croton, Maytenus, Ostotegia, Vernonia.

Lifeform: Shrub to 4 m high. Leaves trifoliate and each leaflet lanceolate and pointed at the tip. Fruit green and terminal to axillary cluster.

Rhus glutinosa A.Rich. Anacardiaceae

Desalegn Desissa & Pierre Binggeli DD307

Date: 04-11-2001

Location: Ethiopia, Shewa, Wechecha

Map: 0838B1 *Grid reference:* DV557878

Lat. 08°55' N *Long.* 38°35' E *Alt.* 2550 m

Site: Along the track between Cheleleka and Meta brewery, in a village just next to a house. In grazed, open area on gentle slope.

Vegetation: Dense Cyathula uncinulata grown under the Rhus with Clematis climbing on it.

Lifeform: Medium sized tree c. 5m high. Stem reddish brown.

Leaves alternate, trifoliate, leaflet oblong elliptic to lanceolate with a reddish midrib. Flowers, many and yellowish white, grouped in terminal or axillary panicles.

Rhus retinorrhoea Oliv. Anacardiaceae

Desalegn Desissa & Pierre Binggeli DD429

Date: 22-01-2002

Location: Ethiopia, Wello, Rama Ras Alula

Map: 1239D3 Grid reference:

Lat. 12°13' N Long. 39°03' E Alt. estimated ca 1700 m

Site: SW facing, gentle slope c. 1 km downhill from the Rama Ras Alula Church just below the track leading to the road. For site details of the nearby Rama Ras Alula church go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Open scrub with large boulders, planted with some young Eucalyptus. Dodonaea angustifolia, Euclea, Rumex nervosus, Tagetes minuta, Carissa edulis, Rhus vulgaris, Lageria pterodonata and grasses dominated by Hyperina sp.

Lifeform: Single stem shrub forking below 1 m. Stem: grey, shoot: brown. Lvs alternate, tripinnate with long (c. 5 cm) peduncle and reddish. Lvs green with red mid-ribs. Panicles: terminal. Fruit: round, stony, light green and c. 3 cm in diameter.

Uses: Leaves used to bake injera.

Rubus steudneri Schweinf. Rosaceae

Desalegn Desissa & Pierre Binggeli DD365

Date: 07-12-2001

Location: Ethiopia, Shewa, Ener Gedam

Map: 0838C3 Grid reference: DV10 01?

Lat. 08°14' N Long. 38°05' E Alt. 2400 m

Site: Near Ener Gedam monastery.

Vegetation: Overgrown hedge adjacent to homesteads. Maesa lanceolata, Vernonia urticifolia and Syzygium guineense subsp macrocarpa are some of the few plants growing around.

Lifeform: Shrub to 3m long. Stem prickly and furrowed. Leaves simple with three leaflets, obovate and toothed. Flowers pink in large panicles.

Uses: Fruits edible and stems sometimes used for a fence.

Satureja abyssinica (Benth.) Briq. Lamiaceae

Desalegn Desissa & Pierre Binggeli DD392

Date: 25-12-2001

Location: Ethiopia, Wello, Yimrana Kirstos

Map: 1239C3 Grid reference:

Lat. 12°07' N Long. 39°04' E Alt. 3080 m

Site: Yimrana Kirstos Church Forest in the North facing valley of the NW end of the Dagwesay Ridge (12 km North of Lalibela).

Ridge at the top of the forest, mainly a mixture of bare soil, bare rock and crumbling stones. North-westerly facing slope c 20-35°.

For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Species rich vegetation consisting of herbs and shrubs many of which are flowering in stark contrast to the surrounding vegetation. Adjacent to the Juniperus procera forest with a few Eucalypts planted here and there. Common species included Erica arborea, Hypericum, Aloe.

Lifeform: Herb c. 50 cm high. Leaves petiole, toothed margin, comes out in cluster from the ground and red at the bottom. Flowers white, arranged in spikes.

Senecio lyratus Asteraceae

Desalegn Desissa & Pierre Binggeli DD293

Date: 26-10-2001

Location: Ethiopia, Shewa, Mt Menagesha

Map: 0938D3 Grid reference: DV546987

Lat. 09°32' N Long. 38°35' E Alt. 2900 m

Site: West Shewa, 40 km from Addis Ababa on Mount Menagesha on gentle slope in woodland near Menagesha Medihane Alem

church. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Woodland with dominant tree species of Dombeya, Olea and Juniperus. Ground flora includes a number of grass species, Euphorbia depasperata, Rumex nepalensis and Kalanchoe sp.

Lifeform: Herb 90cm high; flowers yellow and clustered together in erect corymbs; leaves palmately lobed.

Senna multiglandulosa (Jacq.) Irwin & Barneby Fabaceae

Desalegn Desissa & Pierre Binggeli DD342

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV841444

Lat. 08°32' N Long. 38°51' E Alt. 2940 m

Site: Extinct volcano 30km from Debreziet Town. The slopes of the crater (1.5 km in diameter) harbour the last native forest of the region. In the grassland on the lower slopes NE of the lake. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Grassland interspersed by a variety of shrubs and tree species. Area being slowly invaded by this American species.

Lifeform: Spreading shrub to c. 3 m. Flowers are large (2-3 cm across) and bright yellow. Shrub bearing flower buds, flowers and unripe and ripe fruits.

Uses: Used by monastery and farmers as a live fence.

Smilax aspera L. (S. goetzeanaensi) Smilacaceae

Desalegn Desissa & Pierre Binggeli DD359

Date: 05-12-2001

Location: Ethiopia, Shewa, Mehur Eyesus

Map: 0838C3 Grid reference: DV10 01

Lat. 08°14' N Long. 38°05' E Alt. 2400m

Site: Mehur Eyesus Monastery forest. Relict stand in an agricultural landscape suffering from severe erosion. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Podocarpus falcatus and Juniperus procera monastery forest. Eastern edge of forest containing Dodonaea angustifolia, Carissa edulis, Olea europaea and Juniperus procera. Adjoined by a gully and a young eucalypt plantation.

Lifeform: A climber c 2. long. Stem green with a few number of prickles. Leaves cordate and slightly wavy. Flowers pale brown and axillary.

Solanum? Solanaceae

Desalegn Desissa & Pierre Binggeli DD455

Date: 09-02-2002

Location: Ethiopia, Gondar, Tara Gedam

Map: 1237D3 Grid reference: CD633427

Lat. 12°08' N Long. 37°44' E Alt. 2300 m

Site: Tara Gedam Monastery Forest situated on the top of a hill NE of Lake Tana. Gently sloping forest to the West of the hill near the main road. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Open forest dominated by Olea europaea and formerly logged (probably mostly Juniperus procera removed), shiret or donga. Subcanopy: Maytenus undata, Carissa edulis, Calpurnia, digitate leaf, Galinaria, Ekebergia, Justicia schimperiana. Ground flora: Hypoestes.

Lifeform: Shrub to 3 m high, single stem with many sharp prickles, grey-green, shoots grey. Limited amount of branching. Leaves oblanceolate up to 2 cm with petiole, green above and grey below, dusty. Fruits in terminal clusters, green-orange and red when ripe. 30-70 fruits per infructescence, fruit 5 mm in diameter containing many seeds.

Solanum mayense Solanaceae

Desalegn Desissa & Pierre Binggeli DD322

Date: 15-11-2001

Location: Ethiopia, Shewa, Itisa

Map: 0939C3 Grid reference: EA198093

Lat. 09°07' N Long. 39°10' E Alt. 7351 ft

Site: The Itisa Teklehaymanot relict church woodland nestles on the upper side of a canyon. Northeast facing. Area is heavily grazed by goats and cattle. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Canopy is chiefly constituted of *Juniperus procera*, the only remaining stand observable. The shrub layer is dominated by this shrub.

Lifeform: Small shrub (c. 0.5-1.5 m) growing at the forest edge, uncommon. Fruiting with the majority of fruits unripe (green) and a few ripe ones (red). Leaves are prickly.

Sparmannia ricinocarpa (Eckl. & Zeyh.) O. Ktze

Tiliaceae

Desalegn Desissa & Pierre Binggeli DD316

Date: 10-11-2001

Location: Ethiopia, Shewa, Mt Menagesha

Map: 0938D3 Grid reference:

Lat. 09°32' N Long. 38°35' E Alt. 2900 m

Site: Area of semi-natural vegetation just below the summit of Mt Menagesha. Slope 25° facing NE. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Native scrub dominated by *Erica arborea* (3-6 m tall) with many gaps. These are dominated by grasses (mainly *Hyperina hirta* and *Pennisetum setaceum*), mosses and bare rocks. Other shrub species included *Osyris* and *Juniperus procera*. Area was probably formerly dominated by *Juniperus procera* forest which was cut down. Area now invaded by *Acacia decurrens* which is spreading downhill from the summit with some *Cupressus lusitanica* also spreading.

Lifeform:

Spiniluma oxyacantha Sapotaceae

Desalegn Desissa & Pierre Binggeli DD353

Date: 03-12-2001

Location: Ethiopia, Shewa, Kondaliti

Map: 0838D1 Grid reference: DV590293

Lat. 08°24' N Long. 38°38' E Alt. 2390 m

Site: Kondaliti Hill East of the road Addis Ababa - Butajira. This flat topped hill (c. 900 x 300 m) is delimited around its southern end by a small cliff (c. 5 m high). Relict church forest to the North of the hill. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Forest (to 30 m high) dominated by *Podocarpus falcatus*, *Euphorbia candelabrum* and *Croton macrostachyus* was formerly disturbed (e.g. tree cutting). In places it has a very dense shrub layer dominated by *Cyathula uncinulata*.

Lifeform: Undercanopy tree (c. 10 m high), with drooping branches, growing under the shade of a large *Croton macrostachyus* and *Euphorbia candelabrum*. Fruiting, but fruit (c. 0.5cm in diam) green (unripe and uncommon).

Stegnotaenia araliaceae Apiaceae

Desalgen Desissa & Pierre Binggeli DD346

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV84 44

Lat. 08°32' N Long. 38°51' E Alt. 2940 m

Site: Extinct volcano 30km from Debreziet Town. Northern steep upper slope of the mountain along a path.

Vegetation: Secondary scrub community on land formerly dominated by *Juniperus procera* forest. Impenetrable vegetation to 3m high and dominated by *Erica arborea*, *Clutea abyssinica*, *Otostegia tomentosa* and *Dodonaea angustifolia*.

Lifeform: Shrub to 1.5m. Stem grey brown. Leaves crowded near the end of the branches and toothed. Flowers white in compound umbel clustered at the end of twigs.

Tephrosia interrupta Hochst. & Steud. ex Engl. Fabaceae

Desalegn Desissa & Pierre Binggeli DD345

Date: 01-12-2001

Location: Ethiopia, Shewa, Ziquala

Map: 0838B4 Grid reference: DV84 44

Lat. 08°32' N Long. 38°51' E Alt. 2940 m

Site: Mt Ziquala, extinct volcano 30km from Debreziet Town.

Northern steep upper slope of the mountain, along a path. For site details go to:

<http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Secondary scrub community on land formerly dominated by *Juniperus procera* forest. Impenetrable vegetation to 3m high and dominated by *Erica arborea* and *Dodonaea angustifolia*.

Lifeform: Shrub to 2m. Flower colour variable on different bushes, purple or white.

Terminalia brownii Fresen. Combretaceae

Desalegn Desissa & Pierre Binggeli DD410

Date: 30-12-2001

Location: Ethiopia, Shewa, Kemise

Map: 1039B4 Grid reference: EB962836

Lat. 10°42' N Long. 39°52' E Alt. 1460 m

Site: Kara Adami Hill, 2 km to the SE of Kemise. Small c. 60 m high hill with steep slopes protruding over the plain. Lower part of the NE facing steep slope.

Vegetation: Secondary scrub / open woodland. Dominant species: *Diospyros abyssinica* (DD409), *Solanum incanum*, *Hibiscus*, *Opuntia*, *Agave*, *Calpurnia*, *Tagetes*, *Maytenus* and one *Ricinus communis*.

Lifeform: Tree to 10 m high, only specimen present. Leaves oblanceolate and dark green, clustered at the tip of shoots. Tree fruiting heavily. Fruit is a green purplish samara with a single hard stone containing one seed. Inflorescences contain up to 10 samaras.

Trichodesma zeylanicum R. Br. Boraginaceae

Desalegn Desissa & Pierre Binggeli DD404

Date: 30-12-2001

Location: Ethiopia, Shewa, Kemise

Map: 1039B4 Grid reference: EB959837

Lat. 10°42' N Long. 39°52' E Alt. 1470 m

Site: Kara Adami Hill, 2 km to the SE of Kemise. Small c. 60 m high hill with steep slopes protruding over the plain. West facing stony slope (25°) 2/3rd of the way up.

Vegetation: Secondary vegetation including grasses and *Tagetes*. Nearby plenty of *Adhatoda*, *Hibiscus* sp, *Opuntia ficus-indica*, *Balanites aegyptiaca*, *Grewia ferugina* and *Jasminum*.

Lifeform: Herb c. 80 cm high. Stem covered with stiff hairs. Leaves lanceolate, opposite, simple. Flowers pale blue and hanging down.

Verbascum sinaiticum Benth. Scrophulariaceae

Desalegn Desissa & Pierre Binggeli DD334

Date: 26-11-2001

Location: Ethiopia, Shewa, Entoto

Map: 0838D4 Grid reference:

Lat. 09°0' N Long. 38°45' E Alt. m

Site: Just above Italian Embassy on hill slope (10°), fallow land abandoned for a few years.

Vegetation: Dominant trees of the area include *Ficus sur*, *Croton macrostachyus* with shrub layer *Calpurnia aurea* and *Vernonia amygdalina*.

Lifeform: A herb 3m high. Stem grey and dusty. Leaves large grey and covered with soft hairs oblong or lanceolate forming a basal rosette. Flowers yellow in erect and branched terminal racemes.

Vernonia biafrae Oliv. & Hiern. Asteraceae

Desalgen Desissa & Pierre Binggeli DD331

Date: 26-11-2001

Location: Ethiopia, Shewa, Mt Entoto

Map: Grid reference:

Lat. N Long. E Alt. m

Site: Western part of Mt Entoto, near the boundary of Addis Ababa, steep southern slope. In small pasture among Eucalyptus plantation.

Vegetation: Vegetation included Ficus sur, Calpurnia urea and Jasminum abyssinicum.

Lifeform: A shrub 2m high. Stem pale brown. Leaves elliptic and toothed margins. Flowers purple arranged in dense terminal corymbs.

Ziziphus spina-christi (L.) Desf. Rhamnaceae

Desalegn Desissa & Pierre Binggeli DD449

Date: 03-02-2002

Location: Ethiopia, Tigray, Abune Tedros

Map: 1438D3 *Grid reference:*

Lat. 14°07' N Long. 38°39' E Alt. 2170 m

Site: Abune Tedros Church along the main road from Axum to Wuckro. In agricultural land, next to a track/seasonal stream at the bottom of a wide valley. Close to the church. For site details go to: <http://members.lycos.co.uk/ethiopianplants/sacredgrove/woodland.html>

Vegetation: Grove of this species in the middle of farmland. Also Acacia spp, Croton, Maytenus.

Lifeform: Tree to 6 m. Trunk: bark fissured longitudinally. Shoots grey. Leaves alternate, ovate. Spines curved back below leaves and inflorescences borne at the base of leaves. Flowers small. Only tree of the cluster flowering.