

Celtis japedi Unger (Cannabaceae)

Leaf description

- **morphology:**
leaves chartaceous; **organisation:** simple; **petiole:** present, long, but rarely preserved; **shape:** ovate to elliptic, often strongly asymmetrical but sometimes also rather symmetrical; **leaf base:** base angle widely acute; strongly asymmetrical, both sides may be different; shape convex, concavo-convex to almost straight; **leaf apex:** apex angle narrow acute; both sides often different; shape convex, concave to almost straight; **margin:** entire near the base then simple serrate; teeth widely spaced; distinct, tooth shape variable; tooth apex sharply acute; tooth sinus mainly acute; **1°-vein framework:** pinnate to acrodromous, midvein often bent; **2°-vein framework:** semicraspedodromous, the basal pair of secondaries arising directly at the base of the lamina, secondaries ascending often steeply and in wide loops towards the margin, sending numerous veinlets towards the margin which form further loops with the adjacent veinlets, further veinlets run into the teeth; intersecondaries present and common; **3°-vein framework:** reticulate.
 - **cuticle:**
not specified
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Paleocology

- **habitat:** ?
 - **vegetation type:** ?
 - **life form:** tree
 - **foliage persistence:** deciduous leaves
 - **flower ecology (pollination):** ?
 - **fruit ecology (dispersal):** animal-dispersed (zoochorous)
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Stratigraphy / Distribution

- **stratigraphy:** Miocene to Pliocene
 - **distribution:** Europe to Western Asia
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Miscellaneous

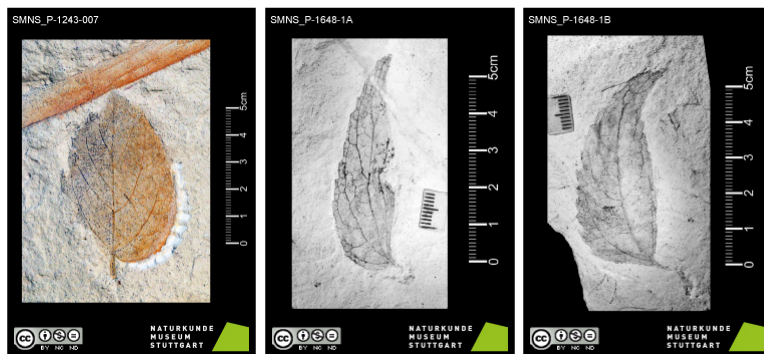
- **synonyms:** *Celtis begonioides* GOEPPERT, *Celtis trachytica* ETTINGSHAUSEN
 - **modern relationship:** Leaf morphology resembles different modern species of *Celtis* as *C. australis* L. which occurs from the Mediterranean eastwards to mountain regions of the Himalaya, and *C. tournefortii* LAM., an endemic species in southeastern Europe.
 - **remarks:** Leaves of *Celtis* are very distinct by their asymmetry, marginal teeth and venation pattern while the distinction between species is difficult. *C. pirskenbergensis* (KNOBLOCH) KVACEK & WATHER, recorded from the Early Oligocene of Saxony, differs by the long attenuate apex and secondary veins which ascend steeply and over longer distance paralleling the margin (Walther & Kvaček 2007). In the fossil record, the calcareous stones of the drupes are much more common than leaves.
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28 macroscopic leaf traits are stored in *Digiphyll*

#	trait code	trait: charcters state
1	A-1.2	petiole: present
2	A-1.2.2	petiole, present: long
3	A-2.1	leaf organisation: simple
4	A-3.1	leaf shape: elliptic
5	A-3.3	leaf shape: ovate
6	A-4.1	leaf base angle: acute
7	A-5.1	leaf base shape: without basal extension
8	A-5.1.1	leaf base shape, without basal extension: cuneate (straight)
9	A-5.1.4	leaf base shape, without basal extension: concavo-convex
10	A-6.1	leaf apex angle: acute
11	A-7.1	leaf apex shape: attenuate (straight)
12	A-7.2	leaf apex shape: acuminate
13	A-7.7	leaf apex shape: convex
14	A-8.2	leaf margin: toothed
15	A-8.2.2	leaf margin, toothed: dentate
16	A-9.1.1	leaf teeth, order number of teeth: simple order (first order)
17	A-9.2.2	leaf teeth, tooth density: not dense
18	A-9.3.1	leaf teeth, tooth size: small
19	A-9.4.1	leaf teeth, tooth apex shape: acute
20	A-9.5.1	leaf teeth, tooth sinus shape: acute
21	B-1.1	primary vein framework: pinnate
22	B-1.2	primary vein framework: palmate
23	B-1.2.3	primary vein framework, palmate: acrodromous
24	B-2.1	secondary vein framework: 2° veins reach margin
25	B-2.1.2	secondary vein framework, 2° veins reach margin: semicraspedodromous
26	B-3.2	intramarginal vein: absent
27	B-4.1	intersecondaries: present
28	B-5.2	tertiary vein framework: reticulate

For a detailed description of the leaf traits see menu *Manuals*.

Fossil images



References

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