***Salix varians* Goeppert (Salicaceae)**

Leaf description

- **morphology:**
  leaf texture membranaceous; **organisation:** simple; **petiole:** leaves petiolate; **shape:** oblong to oblong-ovate, often longer than 100 mm and up to 30–40 mm wide; leaf texture membranaceous; **leaf base:** angle wide acute, shape rounded to cuneate; **leaf apex:** angle narrow acute, shape attenuate to acuminate; **margin:**simple serrate, teeth densely spaced, teeth may be indistinct; tooth apex rounded, glanduliferous (?), sinus acute; **1°-vein framework:** pinnate, midvein straight to bent; **2°-vein framework:** secondaries, already distinctly weaker than the mid vein, arising at about 45–65° from the midvein, curved, brochidodromous, looping near the margin with the adjacent secondaries; about 1–3 intersecondaries between two adjacent secondaries; **3°-vein framework:** tertiaries percurrent, higher order venation polygonal.
- **cuticle:**
  cuticles of either side medium thick, abaxially thinner than adaxially; epicuticular striation more or less distinct adaxially and faint to absent abaxially, above veins running parallel to the cell length and the vein course, striation around trichome bases radially arranged; **adaxial cuticle:** anticlines straight, forming polygonal cell outlines; trichome bases present, abundance variable from almost absent to scattered, slightly raised, consisting of small, strongly thickened, sometimes radially elongated cells surrounding the small, round, one-celled trichome foot, poral rim thickened; **abaxial cuticle:**shape of the cells polygonal, only faintly, if at all, visible; anticlines straight; stomatal complexes paracytic to brachyparacytic, shape butterfly-like due to broad subsidiary cells, mainly a narrow part of the guard cells and the conspicuous cuticular ledges forming the spindle-shaped front cavity are visible; length of the guard cells rather variable (about 12–24 µm); trichome bases (as those on the adaxial cuticle) present, density variably to almost glabrous.

Palecology

- **habitat:** on wet soils along rivers and in swamps
- **vegetation type:** broad-leaved deciduous, mixed mesophytic forests
- **life form:** tree or shrub
- **foliage persistence:** deciduous leaves
- **flower ecology (pollination):** animal-(insect-)pollinated (entomophilous)
- **fruit ecology (dispersal):** wind-dispersed (anemochorous)

Stratigraphy / Distribution

- **stratigraphy:** Lower Oligocene to Miocene
- **distribution:** Europe

Miscellaneous

- **synonyms:** –
- **modern relationship:** *Salix varians* is compared to Sekt. Pleiandrae ANDRAE (Knobloch & Kvaček 1976), *S. bonplandiana* KUNTH (Bůžek 1971, Mai & Walther 1978).

- **remarks:** The leaves of *S. varians* are very variable in size. As difference to *Salix lavateri* the larger width of the lamina (up to 40 mm) may be relevant but the relevance of this feature is disputable. The cuticle features, the shape and the variability in size of the stomata along with the shape of the trichome bases are characteristic of *Salix*. The density of the indumentum and the epicuticular striation may be very variable. (Compare also *S. lavateri*)

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24 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-3.3	leaf shape: ovate
5	A-3.4	leaf shape: oblong
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-5.1.2	leaf base shape, without basal extension: rounded
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-8.2	leaf margin: toothed
14	A-9.2.1	leaf teeth, tooth density: dense
15	A-9.3.1	leaf teeth, tooth size: small
16	A-9.4.2	leaf teeth, tooth apex shape: rounded
17	A-9.4.3	leaf teeth, tooth apex shape: glandular
18	A-9.5.1	leaf teeth, tooth sinus shape: acute
19	B-1.1	primary vein framework: pinnate
20	B-2.3	secondary vein framework: 2°-veins form loops and do not reach margin
21	B-2.3.1	secondary vein framework, 2°-veins form loops and do not reach margin: brochidodromous
22	B-3.2	intramarginal vein: absent
23	B-4.1	intersecondaries: present
24	B-5.1	tertiary vein framework: percurrent

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

? microscopic leaf traits are stored in *Digiphyll*

comming soon

Fossil images

images not yet available !

References

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