

***Carya* Primary Diagnostic Features** (from Leopold et al. 1998; Trees of the Central Hardwood Forests of North America, out of print)

Species	Bark	Twig	Bud	Leaf	Fruit	Habitat
<i>C. cordiformis</i> (bitternut)	Smooth then shallowly fissured, tight interlacing ridges	Pith brownish-white continuous; moderately stout	Terminal 0.5", bright sulfur yellow and Valvate	6 – 10" long; green shiny above; lightly hairy beneath; 7 – 11 sessile leaflets	1" diameter; thin 4-winged husk, splits at sutures	Moist deep soils
<i>C. glabra</i> (pignut)	Light to dark gray; deeply furrowed at maturity with narrow interlacing ridges	Moderately stout; reddish brown, continuous pith	0.25 – 0.5"; outer scales deciduous; inner scales tan or gray; rounded bud with sharp apex	6 – 12" long; 5 or rarely 7 leaflets; rachis smooth (glabrous?)	1.5" diameter; thin husk splitting to ¾ length; unridged nut; seed sweet to bitter	Upland forests and dry ridges; wood for fence posts
<i>C. illinoensis</i> (pecan)	Light gray to brown, thick narrow fissures and scaly ridges	Stout, lightly hairy, large leaf scars with many vascular bundles; continuous pith	Terminal 0.5" long; yellowish brown with powdery pubescence; Valvate; laterals divergent	12 – 20" long; pale and slightly hairy below; 9 to 17 oblong-lanceolate leaflets; curved	1.5 to 2" diameter; typically clusters of 3 to 12; thin shelled, thin 4-winged to the base of husk	Rich moist soils; lower Mississippi valley to southern IN and IA.
<i>C. laciniosa</i> (shellbark)	Slate gray, becoming broken into long narrow straight plates	Light-orange-brown, hairy, orange lenticels, large triangular leaf scars	Terminal 0.75"; brown with 3 -5 persistent loose outer scales; laterals 0.5" and divergent	12 – 24" long; hairy below; 5 – 9 usually 7 sessile leaflets; rachis stout and hairy	2.5" diameter; thick 4 – 6 ribbed husk that splits easily; nut is sweet and often pointed at both ends	Moist soils from NY to GA
<i>C. ovalis</i> (red)	Similar to pignut	Slender, smooth with small lenticels, continuous pith	0.25 to 0.5" long; outer scales deciduous; somewhat rounded with sharp point	8 – 12" long; rachis smooth or lightly hairy in spring; 5 – 9 leaflets, usually 7.	1 – 1.25" long, spherical; thin husk splits tardily to base; nut 4-ribbed above the middle; seed is sweet	Best on cool moist soils. May hybridize with <i>C. glabra</i> and many do not consider a distinct species.
<i>C. ovata</i> (shagbark)	Slate-gray; breaking into long, curved, rough plates	Dark reddish brown, orange lenticels, slight pubescence on new growth, stout; heart shaped leaf scar	0.75 – 1" long; 5 – 8 loose persistent dark outer scales; scale tips divergent; laterals 0.5" and divergent	8 – 16" long; smooth or hairy above; hairy below; 5 or sometimes 7 leaflets; stout and usually hairy rachis	2" diameter; thick, 4-ribbed husk, meat sweet	Upland or bottomland sites; generally drier upland sites
<i>C. tomentosa</i> (mockernut)	Tight and steel blue when young, becomes blue gray with chocolate brown beneath the surface; interlacing ridges, rough but not shaggy	Very stout, pale lenticels, initially tomentose becoming slightly pubescent; continuous pith	0.5 – 0.75 long; ovoid shaped terminal, yellow to tan and silky hairy, deciduous out bud scales	8 – 20" long; 7 – 9 leaflets; hairy beneath; stout and hairy rachis	Nut is 4-angled from downward view; round in husk; splits nearly to base, 1/8 – ¼" thick husk; strongly fragrant, small sweet seed.	Dry upland forests