

BLACK WILLOW

Salix nigra Marsh.

OTHER COMMON NAMES: Swamp willow, Crack willow.

FORM: Usually 30-40 feet high, with a diameter 10-20 inches, may reach a height of 120 feet, often with several medium sized trunks; thick spreading upright branches forming a broad somewhat open irregular head.

BARK: 1-1 1/4 inch thick, dark brown or nearly black, deeply divided into broad flat connected ridges, separating freely into plate-like scales, becomes shaggy on old trunks.

TWIGS: Pubescent when they first appear, soon glabrous, becoming reddish-brown to orange-colored, slender, drooping, easily separated at the joints.

LEAVES: Alternate, simple, lanceolate, long acuminate, often falcate, cuneate or rounded at base, finely serrate, thin, bright light green above, paler below.

FLOWERS: Appear before the leaves, dioecious, terminal, on short branchlets, borne in the axils of yellow, rounded scales; both staminate and pistillate flowers borne in drooping aments 1-3 inches long.

FRUIT: An ovoid-conic, reddish-brown capsule about 1/8 inch long, opening by 2 sutures at maturity to set free the minute seeds covered with tufts of fine long hairs.

WINTER BUDS: Terminal bud absent, lateral buds 1-scaled, acute, reddish-brown, about 1/16 inch long.

WOOD: Light, soft, weak, fine-grained, pale reddish-brown with nearly white sapwood.

USES: Pulp, cheap furniture, soil erosion. Historical uses: artificial limbs, excelsior, berry boxes, crates.

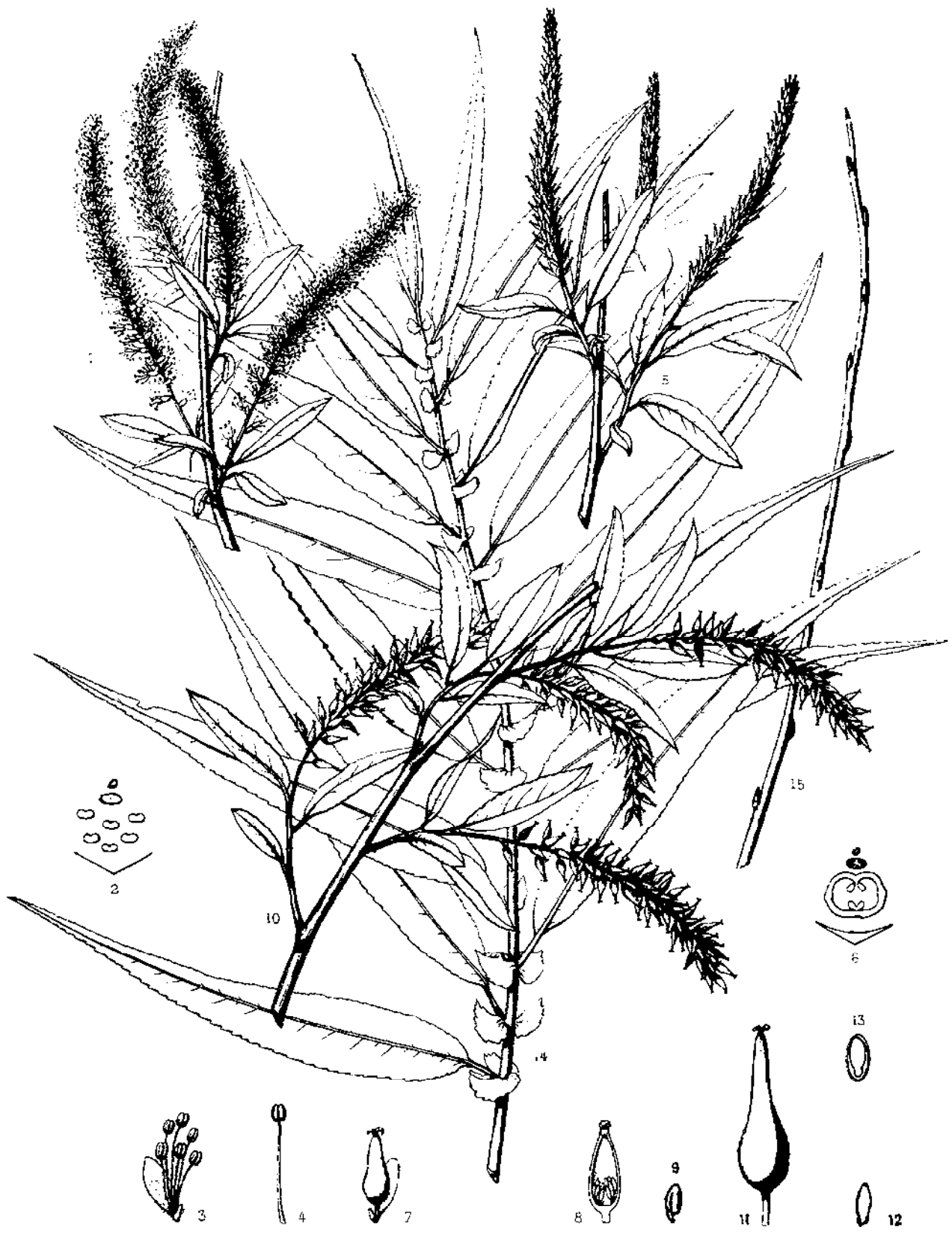
HABITAT: Wet sites along streams, shores of lakes, flat swampy areas.

DISTINGUISHING CHARACTERISTICS: Largest of our native willows; rough, thick-scaled, blackish-brown bark; narrowly lanceolate short petioled leaves; twigs easily separated at the joints.

DISTRIBUTION IN ALABAMA: Apparently grows in every county in the state.

EXPLANATION OF PLATE

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| 1. A flowering branch of the staminate tree | 8. Vertical section of a pistil |
| 2. Diagram of a staminate flower | 9. An ovule |
| 3. A staminate flower with its scale, front view | 10. A fruiting branch |
| 4. A stamen | 11. A capsule |
| 5. A flowering branch of the pistillate tree | 12. A seed |
| 6. Diagram of a pistillate flower | 13. Vertical section of a seed |
| 7. A pistillate flower with its scale, front view | 14. A summer branch |
| | 15. A winter branch |



Salix nigra Marsh.

WATER HICKORY

Carya aquatica (Michx. f.) Nutt.

OTHER COMMON NAMES: Swamp hickory, Bitter pecan, Pignut hickory.

FORM: Occasionally 80-100 feet high, rarely more than 2 feet in diameter with slender upright branches forming a narrow head.

BARK: 1/2-2/3 inch thick, separates into long loose plate-like scales tinged with red.

TWIGS: At first slightly glandular and coated with loose fine hair, finally red-brown, ultimately gray.

LEAVES: Alternate, compound, 9-15 inches long, with 7-13 leaflets that are ovate-lanceolate, long-pointed, somewhat sickle-shaped, base oblique, leaflets 3-5 inches long, 1/2-1 1/2 inch wide, covered with yellow glandular dots, thin, dark green and glabrous above, finely hairy below.

FLOWERS: Monoecious; staminate in solitary or fascicled hirsute aments 2 1/2-3 inches covered with yellow glandular pubescence; pistillate in several flowered spikes, oblong, slightly flattened, 4-angled, glandular-pubescent.

FRUIT Often in clusters of 3-4, somewhat flattened, usually broadest above the middle, slightly narrowed at the base, abruptly narrowed at the apex, conspicuously 4-winged, dark brown or nearly black, covered more or less thickly with bright yellow scales; 1 1/2 inch long, 1-1 1/4 inch wide; nut flattened, nearly as broad as long, abruptly pointed at the apex, dark reddish-brown, irregularly wrinkled, with a thin shell; seed very bitter.

WINTER BUDS: Slightly flattened, sharp-pointed, dark reddish-brown; terminal bud 1/2 inch long, hairy.

WOOD: Heavy, strong, close-grained, rather brittle, dark brown.

USES: Fuel.

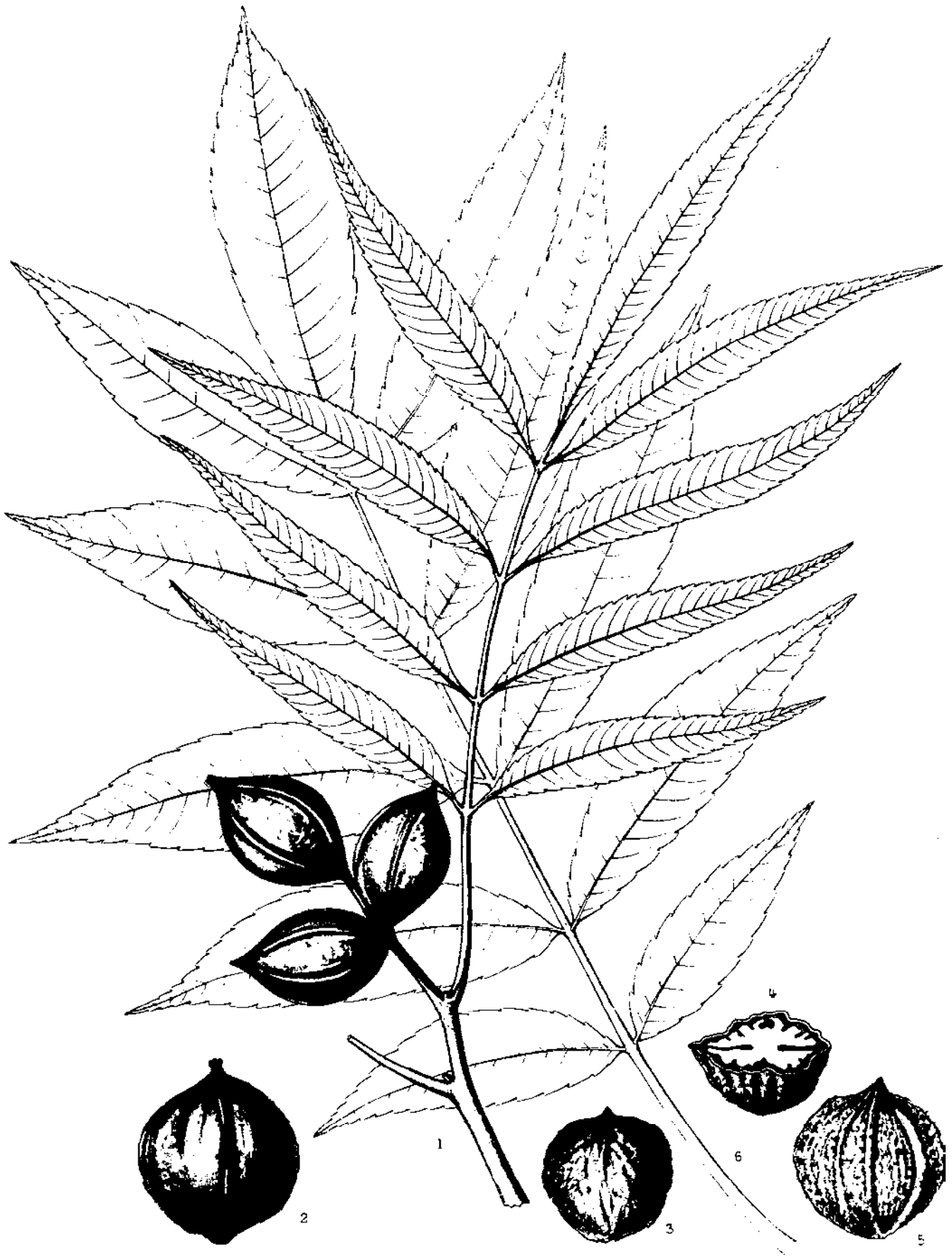
HABITAT: River swamps.

DISTINGUISHING CHARACTERISTICS: Inhabits swamps; nut wrinkled; bark separates into long plate-like scales; leaflets covered more or less thickly with yellow glandular dots.

DISTRIBUTION IN ALABAMA: Reported from Morgan and Tuscaloosa Counties, most common in the Black Belt and lime hills.

EXPLANATION OF PLATE

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| 1. A fruiting branch | 4. Cross section of a nut |
| 2. A fruit | 5. A nut |
| 3. A nut | 6. A leaf |



Carya aquatica (Michx. f.) Nutt.

BITTERNUT HICKORY

Carya cordiformis (Wangenh.) K. Koch.

OTHER COMMON NAMES: Swamp hickory, Pig hickory, Pignut, Bitter pecan tree, Bitter pignut, White hickory, Red-heart hickory.

FORM: Usually 50-75 feet high, diameter 1-2 feet, may reach a height of 100 feet, trunk long with little taper; crown round-topped, broadest near the top; lateral branches stout and ascending; small branches may be somewhat pendulous.

BARK: Light gray, rather thin, roughened by shallow fissures and narrow ridges, does not peel or shag off.

TWIGS: At first slender, smooth, glossy, often yellow glandular and hairy toward apex; later become grayish, orange-brown or reddish; at length light gray.

LEAVES: Alternate, 6-10 inches long, compound with 7-10 leaflets that are lanceolate to ovate-lanceolate, sharp-pointed at apex, finely toothed on the margin, obliquely tapering or heart-shaped at the base, dark yellow-green above, paler below.

FLOWERS: Appear when leaves are about half developed, monoecious; staminate green, in aments, 3-4 inches long; pistillate in small clusters on the new growth, about 1/2 inch long, somewhat angled and scurfy-hairy.

FRUIT: Egg-shaped or subglobose, 3/4-1 1/2 inches long, 4-winged along the sutures half way to the base, greenish-yellow, rough and finely hairy; husk thin; nut thin-shelled, reddish-brown; kernel very bitter.

WINTER BUDS: Covered by 4 yellowish, glandular dotted scales; terminal bud elongated, flattened, blunt-pointed.

WOOD: Heavy, hard, strong, tough, elastic, close-grained, dark brown.

USES: Tool handles, rough lumber, railroad ties, fuel, barbeque smoke. Historical uses: Wheel spokes.

HABITAT: Prefers low, wet sites, along sluggish streams, occasionally on limestone outcroppings.

DISTINGUISHING CHARACTERISTICS: Leaflets smaller than any native hickory, finely hairy on the underside; yellow buds, with 4-6 bud scales in valvate pairs; terminal bud flattened; lateral buds stalked and superposed; nut globular and thin-shelled.

DISTRIBUTION IN ALABAMA: Reported from Montgomery County and central part of the state, also from Dallas County.

EXPLANATION OF PLATE

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| 1. A fruiting branch | 4. Vertical section of a nut |
| 2. A nut | 5. An embryo |
| 3. Cross section of a nut | |



Carya cordiformis (Wangenh.) K. Koch.

PIGNUT HICKORY

Carya glabra (Mill.) Sweet

OTHER COMMON NAMES: Bitternut, Black hickory, Brown hickory, Red hickory.

FORM: Commonly a height of 80-90 feet, diameter 2-3 feet, occasionally 120 feet tall; trunk slender, slightly tapering, often clean and long; crown oblong, rather narrow, with short, spreading branches, lower somewhat pendulous.

BARK: Close, dark gray, shallow-fissured, narrowly ridged, 1/2-3/4 inch thick; rarely peels off.

TWIGS: Rather slender, usually smooth, yellowish-green, later brown.

LEAVES: Alternate, compound, 8-12 inches long, with 5-7 leaflets that are oblong to obovate-lanceolate, sharply pointed at the apex, finely toothed on the margin, tapering or obliquely rounded at the base, thick, smooth, dark green above, paler below.

FLOWERS: Appear when leaves about half developed, monoecious; staminate in aments 3-5 inches long in clusters of three on a common stalk; pistillate in 2-5 flowered spikes on the new growth.

FRUIT: Variable in shape and size, pear-shaped, globular, or obovoid, 1-3 inches long, tapering at the base, reddish-brown; nut oblong to oval, with thick bony shell; kernel at first sweet, later bitter.

WINTER BUDS: More than 2 ranked, reddish-brown to gray, blunt-pointed; terminal bud 1/4-1/2 inch long; outer bud scales reddish-brown to gray; inner scales of buds pale silky.

WOOD: Heavy, hard, very strong, tough, elastic, close-grained, a valuable grade of hickory timber.

USES: Tool handles, rough lumber, railroad ties, fuel, barbeque smoke. Historical uses: wheel spokes.

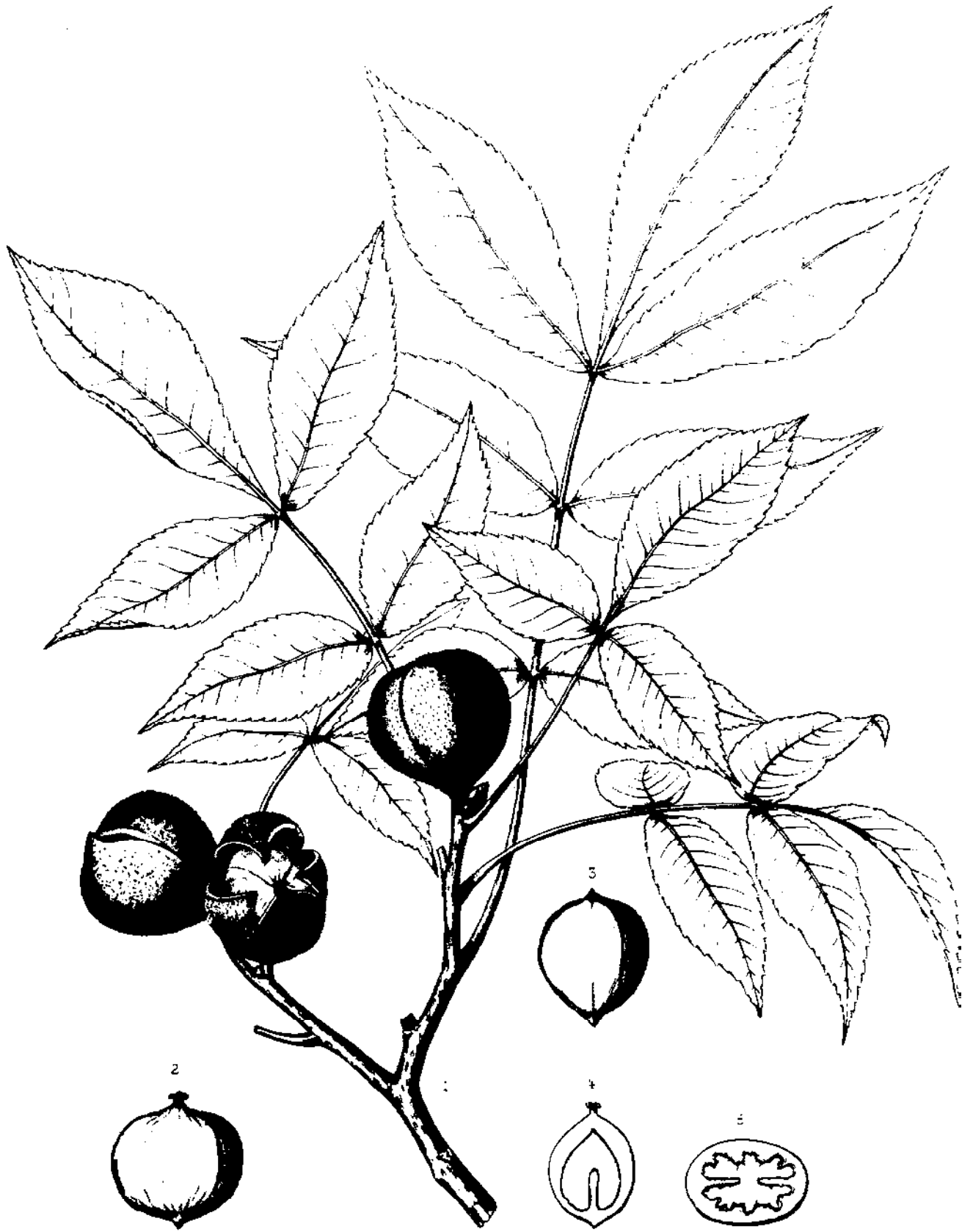
HABITAT: An upland species, prefers dry ridges and hillsides.

DISTINGUISHING CHARACTERISTICS: Smooth and rather slender twigs; buds are oval, reddish-brown and smaller than other native hickories; pear-shaped to ovoid fruit; nut with thick bony shell.

DISTRIBUTION IN ALABAMA: Madison, Cherokee, Blount, St. Clair, Jefferson, Tuscaloosa, DeKalb, Bibb, Hale, Pike, and Babour Counties.

EXPLANATION OF PLATE

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|----------------------|------------------------------|
| 1. A fruiting branch | 4. Vertical Section of a nut |
| 2. A nut | 5. Cross section of a nut |
| 3. A nut | |



***Carya glabra* (Mill.) Sweet**