

Iris pseudacorus L., YELLOW FLAG, YELLOW WATER IRIS. Aquatic perennial herb, clonal, rhizomatous, fibrous-rooted, with erect shoots from horizontal rhizome, in range 90–170 cm tall; shoots with basal leaves arising belowground on rhizome and several cauline leaves, cauline leaves strongly 2-ranked and flattened, each leaf sharply folded from rhizome at base and appressed lengthwise along a midrib (replicate) and with overlapping leaf bases (equitant), the shoot base white or purplish, glabrous; rhizomes often somewhat aboveground, 17–40 mm diameter, commonly covered with remnants of fibrous leaf bases from previous growing season (decomposing into fibers); adventitious roots descending, coarse, to 5 mm diameter, fleshy. **Stems:** somewhat compressed and flattened on 1 side, green and photosynthetic. **Leaves:** alternate distichous, simple and sheathing only at base; blade linear and strap-shaped above folded basal portion, to 1400 mm long, free portion to 10–33 mm wide, the widest just above folded portion, asymmetric approaching tip, colorless and subentire on margins (microscopically toothed), acuminate at tip, parallel-veined with midrib raised on both surfaces and having 1–2 other prominent veins. **Inflorescence:** panicle of several racemes, several-branched, each branch with terminal clusters of 2–5 flowers, bracteate, glabrous; peduncle = stem; bract of the lowest pedicel of lateral or primary branch subtended by a conspicuous, leaflike bract, the next flower subtended by a leafy bract + prophyll, subsequent flowers subtending only by prophyll; bract subtending flower cluster = short cauline leaf replicate most of length, flat and lanceolate to ovate in outline, 45–115 × 15–22 mm and decreasing upward, strongly keeled, bases touching or overlapping slightly but open, acuminate at tip and with a short tooth within 7 mm of tip on margin edge, green, narrowly membranous and whitish at margin, rounded in fruit; prophyll bract enveloping flower, 2-keeled, 20–70 mm long, green but membranous between keels and progressively thinner and lighter green approaching margins, dry and scariosus in fruit; pedicel 3-sided, 20–26 × 3.2–4 mm, light green. **Flower:** bisexual, radial, 70–100 mm across; hypanthium thick-walled with upper portion hollow, narrowly funnel-shaped, 9–15 mm long above ovary, green, thick-walled with upper portion hollow, glabrous, having a **nectary** and filled with copious nectar; **sepals** 3, continuous from hypanthium, large and showy, with ascending claw and a reflexed, bright yellow limb, ± broadly spatulate, in range 70–90 × 35–50 mm; claw thick and firm with incurved wings, greenish yellow at base to yellow above and with dashed or ± continuous reddish veins above midpoint fanning outward into base of limb, with 2 peaked ridges near base to which petals are connected to purplish red ridges bracketing filament base, upper surface with low midridge and minutely papillate; **petals** 3, arising from hypanthium but also partially fused to ridge on adjacent sepal claws, ascending to erect, clawed (fused to sepal claw ridge) then lobe-winged and inrolled upward (involute) with a flat limb; limb ± linear, ca. 30 × 3 mm, mostly bright yellow but greenish yellow approaching base, rounded to 2-toothed at tip; **stamens** 3, opposite sepals, appearing fused for < 6 mm to sepal-hypanthium, hidden between claw of sepal and arching style branch; filaments ascending, free portion 12.5–15.5 mm long, winged or 3-sided at base with ridge on outer side changing to flat above, the widest ca. 2 mm near base, greenish yellow, glabrous; anthers basifixed, dithecal, linear and straight (somewhat arched), 13–18 mm long, reddish purple with yellow-orange and grayish tan, longitudinally and outwardly dehiscent; pollen bright yellow; **pistil** 1; ovary inferior, triangular-prismatic with 2-lobed ridges and concave faces, 25–38 mm long, glossy green, with a deep groove between

ridges, 3-chambered, each chamber with ovules stacked in 2 rows attached to center; style 3-branched, style below 3-fork cylindrical, 8–10(–15) mm long, pale green to light greenish yellow, the branches arching-spreading with petal-like wings, distinctly 2-lobed and bilateral, 38–50 mm long, 5 mm wide at base to 9 mm wide below lobes, with stigma on under surface not at tip, the lobes together ca. 22 mm across, delimited by skirt 2 mm long at base, when spreading butterflylike, each lobe asymmetrically obovate, 10–17 mm long, overlapping, jagged-serrate, upper surface somewhat concave, with faint veins fading toward margin; stigma scalelike, rounded to broadly deltate, 2–3 mm long, pale yellow.

Fruit: capsule, loculicidal, irregularly dehiscent, to 20-seeded, oblong-ovoid and obscurely 3-angled with 3 deep grooves, 35–80 mm long, valves ca. 10 mm wide, with seeds in 2 stacks per chamber; beak erect, ca. 5 mm long. **Seed:** mostly thickly discoid or ovate-discoid, 7–8.5 mm diameter, 2.7–4.5 mm thick (seeds at ends of capsule \pm conic with bluntly rounded tip, slightly flattened faces, and 7–8 mm thick), dull brown, flattish and somewhat wrinkled on endwalls, slightly convex and smoother on sidewalls; sometimes hilum on a beaklike projection overlapping adjacent seed. Mid-April–early June.

Naturalized. Rhizomatous perennial herb, often cultivated and elsewhere treated as an invasive species, in range established in wet soil in a spring of Cold Creek (Stunt Road, SMM) but currently being eradicated by local conservationists. *Iris pseudacorus* has yellow flowers that are difficult to interpret, having several types of petal-like structure. From the top of the inferior ovary is a thick hypanthium; the three largest “petals” are the sepals with the wide, reflexed limbs. The three petals, arising from the hypanthium, are shorter. Parallel with the claw of each sepal is a petal-like style branch, and lifting that style reveals a stamen, which dehisces onto the stigma.

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