1. Leaves all or mostly alternate (sometimes appearing relatively crowded along the stem)
2. Leaf blades very narrow (mostly 7–20 times as long as wide), those of the largest leaves 0.1–1.0(–1.5) cm wide, linear to narrowly lanceolate
3. Leaves mostly narrowly lanceolate, folded longitudinally along the midvein at maturity but with relatively flat margins; disc florets with the corollas yellow ... 7. **Helianthus maximiliani**
4. Leaves all or mostly linear, not folded longitudinally but with the margins curled under; disc florets with the corollas reddish brown to dark purple (at least the lobes and the upper portion of the tube)
5. Stems sparsely to moderately hairy, especially toward the base, not glaucous; plants with rhizomes absent or very short, not occurring as colonies of stems ... 1. **Helianthus angustifolius**
6. Stems glabrous and often somewhat glaucous; plants with long-creeping, branched rhizomes, often colonial ... 13. **Helianthus salicifolius**
7. Leaf blades broad to moderately narrow (mostly 1.2–10.0 times as long as wide), those of the largest leaves 1–35 cm wide, lanceolate to broadly ovate-triangular
8. Involucral bracts with minute, spreading hairs along the margins and the outer surface; chaffy bracts with the middle lobe densely pubescent with conspicuous, white hairs at the tip; fruits usually persistently moderately short-hairy, at least along the margins ... 12. **Helianthus petiolaris**
9. Plants perennial, with a coarse, sometimes woody rootstock and short to long rhizomes; disc florets with the corollas yellow; receptacle convex to short-conical; largest leaves with the blade usually lanceolate to narrowly oblong-elliptic or narrowly ovate
10. Involucral bracts with minute, ascending to sometimes more or less spreading hairs along the margins and the outer surface; chaffy bracts with the middle lobe densely pubescent with conspicuous, white hairs at the tip; fruits usually persistently moderately short-hairy, at least along the margins ... 11. **Helianthus annuus**
11. Involucral bracts with relatively long, spreading hairs along the margins and often also on the outer surface; chaffy bracts with inconspicuous, short hairs toward the tip; fruits glabrous or more often densely and minutely hairy when young, but usually appearing glabrous or nearly so at maturity ... 2. **Helianthus mollis**
12. Stems glabrous below the midpoint, often sparsely to moderately pubescent with short, ascending hairs toward the tip; leaf blades flat or only shallowly concave, not folded longitudinally, the upper surface sparsely to moderately pubescent with minute, broad-based hairs, usually not or only slightly roughened to the touch ... 5. **Helianthus grosseserratus**
13. Stems moderately roughened-pubescent with short, ascending hairs throughout, more densely so toward the tip; leaf blades folded longitudinally along the midvein at maturity, the upper surface moderately to densely pubescent with short, pustular-based hairs, strongly roughened to the touch ... 7. **Helianthus maximiliani**
14. Leaves all or mostly opposite (sometimes appearing all or mostly basal in **Helianthus occidentalis**)
15. Disc florets with the corollas reddish brown to dark purple (at least the lobes and the upper portion of the tube); involucral bracts in 3 or 4 noticeably unequal, overlapping series, tightly appressed at flowering
16. Leaf blades lanceolate to narrowly ovate, (2.0–)2.5–8.0 times as long as wide, tapered to a sessile base or to a short, mostly winged petiole, tapered gradually to a sharply pointed tip or angled more abruptly to a sharply or bluntly pointed tip ... 11. **Helianthus pauciflorus**
17. Leaf blades ovate to broadly ovate or nearly circular, 1.0–1.7(–2.0) times as long as wide, rounded or abruptly short-tapered to an unwinged, short petiole, rounded or broadly angled to a bluntly pointed tip ... 14. **Helianthus silphioides**
18. Disc florets with the corollas yellow; involucral bracts in 2–4 subequal, more or less overlapping series, loosely appressed and sometimes with spreading tips at flowering (except in **Helianthus occidentalis**, with often unequal, sometimes more or less appressed bracts)
19. Leaves mostly basal, the 3–8 pairs of stem leaves much smaller than those of the basal rosette (occasionally the lowermost pair of stem leaves nearly as large as the basal ones); involucral bracts in 3 or 4 noticeably unequal, overlapping series, usually appressed at flowering ... 10. **Helianthus occidentalis**
20. Leaves well distributed along the stems, gradually reduced toward the stem tip, the stem leaves usually 8–15 pairs (except rarely in depauperate plants); involucral bracts in 2–4 subequal, more or less overlapping series, the tips usually at least somewhat spreading at flowering
21. Heads relatively small, the involucre 5–7 mm long, 4–10 mm in diameter; ray florets 5–8, the corolla 1.0–1.5 cm long ... 8. **Helianthus microcephalus**
22. Heads relatively large, the involucre 5–12 mm long, 15–30 mm in diameter; ray florets (8–)10–30, the corolla (1.5–)2.0–4.0 cm long
23. Stems leaves all sessile or with a minute petiole less than 5 mm long, the blade rounded or shallowly cordate at the base
24. Stems (at least above the midpoint) and leaves moderately to more commonly densely pubescent with short, spreading hairs and usually also shorter, ascending hairs, these mostly not pustular-based, usually appearing uniformly grayish, slightly to moderately roughened to the touch ... 9. **Helianthus mollis**
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<td>13.</td>
<td>Stems sparsely to moderately pubescent (at least above the midpoint) with short, stiff, loosely ascending to spreading, pustular-based hairs; leaves moderately pubescent, the upper surface with short, stiff, loosely ascending to spreading, pustular-based hairs, not appearing uniformly grayish, strongly roughened to the touch (the undersurface somewhat lighter in color and sometimes with somewhat softer hairs than the upper surface) (species sometimes difficult to distinguish)</td>
<td>Helianthus divaricatus</td>
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<td>14.</td>
<td>Stems glabrous or hairy only toward the tip and along the inflorescence branches, sometimes somewhat glaucous; involucre 10–15 mm in diameter; disc florets with the corollas 4.0–5.5 mm long ... 4. H. DIVARICATUS</td>
<td>Helianthus hirsutus</td>
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<td>15.</td>
<td>Stems hairy throughout or at least above the midpoint, not glaucous; involucre (10–)15–20 mm in diameter; disc florets with the corollas (5.0–)5.5–6.5 mm long ... 6. H. HIRSUTUS</td>
<td>Helianthus grosseserratus</td>
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<td>16.</td>
<td>At least the largest stem leaves short- to long-petiolate, the petiole more than 5 mm long or, if appearing nearly sessile, then the blade angled or tapered at the base to a poorly defined, winged petiole</td>
<td>Helianthus decapetalus</td>
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<td>17.</td>
<td>Leaf blades with a single midvein; stems often with 20–25 pairs of leaves ... 5. H. GROSSESERRATUS</td>
<td>Helianthus strumosus</td>
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<td>18.</td>
<td>Leaf blades relatively thin-textured, those of at least the larger leaves with the margins usually coarsely toothed; uppermost stem leaves usually alternate; petioles of at least the larger leaves 2–5 cm long; involucral bracts extending conspicuously beyond the disc florets (sometimes difficult to observe in pressed specimens) ... 3. H. DECAPETALUS</td>
<td>Helianthus hirsutus</td>
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<td>19.</td>
<td>Lowermost stem leaves usually opposite; largest leaves with the blade 0.7–9.0 cm wide, usually rounded or less commonly abruptly short-tapered to a relatively well-differentiated petiole 0.5–1.5 cm long; rhizomes not producing tubers ... 6. H. HIRSUTUS</td>
<td>Helianthus tuberosus</td>
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<td>20.</td>
<td>Uppermost stem leaves usually alternate; largest leaves with the blade 6–15 cm wide, tapered at the base to a partially winged, sometimes poorly differentiated petiole (1.5–)2.0–8.0 cm long; rhizome branches usually with small tubers at the tip ... 16. H. TUBEROSUS</td>
<td>Helianthus hirsutus</td>
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