

**Eastern Hemisphere:**

- 1a. tree or upright shrub, leaves 15 – 20 (25) mm, straight (not curved), acuminate – subulate, restricted to the eastern hemisphere .....var. *communis*
- 1b. prostrate or small shrub, leaves 8 -15 mm, curved (upturned), closely set, linear to linear-oblong, acuminate to subulate,
  - 2a. stomatal band approx. 2 or more times as wide as each green leaf margin, leaves not deeply concave, curved to straight
    - 3a. bushy shrub to 2.5 m, leaves mostly straight, 4-12 (20) x 1.3 - 2 mm.....var. *hemispherica*
    - 3b. low spreading mat-like shrub, leaves upturned or upcurved, sometimes almost imbricate, 15 x 2 mm.....var. *saxatilis*
  - 2b. stomatal band approx. 0.25 to 1.5 times as wide as each green leaf margin,
    - 4a. stomatal band approx. 0.25 to 0.5 times as wide as each green leaf margin, leaves very concave, nearly folded, restricted to the far east: Korea, Japan.....var. *nipponica*
    - 4b. stomatal band approx. 1 to 1.5 times as wide as each green leaf margin, leaves flat to somewhat concave, restricted to the far east: Kamchatka peninsula, Sakhalin Island .....var. *kamchatkensis*

**Western Hemisphere**

- 4a. seed cones 10 – 13 mm diam., much larger than leaf length, known only from southeastern Canada.....var. *megistocarpa*
- 4b. seed cones 6 – 9 mm diam., smaller or about equal to leaf length, other than se Canada
  - 5a. glaucous stomatal band about as wide to 1.5 x as wide as each green leaf margin, prostrate or low shrub with ascending branchlet tips (or occasionally a spreading shrub), leaves upturned, rarely spreading, linear to curved, rarely a small, strict tree (to 2-4 m) in the New England.....var. *depressa*
  - 5b. glaucous stomatal band twice or more as wide as each green leaf margin, upright shrubs or spreading, mat-like shrubs or introduced strict trees (var. *communis*)
    - 6a. glaucous stomatal band twice or more as wide as each green leaf margin, boat-shaped, curved leaves, mature seed cones length greater than leaf length, spreading, mat-like shrub, grows in muskeg bogs, Calvert Island to Queen Charlotte Islands, and north to, Chichagof Island, Alaska.....var. *charlottensis*
    - 6b. glaucous stomatal band 2,3, 4 times as wide as each green leaf margin
      - 7a. strict (columnar) trees, leaves long (15-20 (30) mm, straight (not curved), stomatal band 2 - 3 x as wide as green leaf margin.....(escarped cult. in ne US)..var. *communis*
      - 7b. shrubs in western US, leaves short (<15 mm), curved, stomatal band 3-4 x as wide as each green leaf margin,
        - 8a. gland on brown sheath long, narrow, raised; immature seed cones elongated-subglobose, leaves curved, boat-shaped, appressed to stem or leaf above on branchlet; shrubs, usually prostrate or mat-like on serpentine or ultramafic rock (sometimes on volcanic lava, rarely on granite.....*J. jackii* (included in this key as it is often confused with var. *kelleyi*)
        - 8b. gland on brown sheath elongated oval or if a long narrow gland, then with a rounded bottom end, immature seed cones globose, leaves most straight to slightly curved, not usually boat-shaped, free (not appressed to stem or leaf above on branchlet), usu. shrubs to 0.5 m tall with upturned to elevated branchlets, not on serpentine, but grows various habitats from granite, sandstone, alluvial, sand, and lava.....var. *kelleyi* (prev. treated as var. *saxatilis*)