

Prepared by Jerry Copeland, copyrighted 2012

For the state of CALIFORNIA

This key requires the use of a microscope that has a function to make measurements of the field of vision.

This key is designed to be exclusive, to have a high probability of a correct identification . Use of a botanical dictionary is recommended in the event the terminology is vague.

The basic definitions are:

ADNATE: base of leaf attached directly to stem

DECURRENT: base of leaf grows along the stem

CUNEATE: a wedge shaped growth of the leaf base along the stem.

Measurements of the strobili should probably be done with the strobilus removed from the plant stem and laid horizontally before viewing and measuring. Ideally the strobilus should be fully matured as immature strobili will be smaller.

The measurements given in the key represent the range of length or width of the plant structure so noted.

Generally the measurement of length is from the tip to the observable or determinable base of the structure.

For the strobili, measurement of length is roughly from the base of the strobilus to the tip of uppermost sporophyll.

Adnation is generally represented as a green leaf base that is attached to a darker colored stem.

## SELAGINELLA: TETRAGONOSTACHYS: KEY TO LEAF BRISTLES 1.1 mm TO 1.5 mm

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|--|---------------|
| 1. Leaf bases adnate only, strobili 5-7 mm, leaf bristle not evidently pubescent, 0.5-1.4 mm   | S. hansenii   |
| 2. Leaf bases decurrent, including cuneate, only, strobili 0.5-4.0 cm, leaf bristle conspicuously pubescent, 1-1.9 mm                | S. asprella   |
| 3. Leaf bases both adnate and decurrent, including cuneate, strobili 0.5-4.5 cm, leaf bristle smooth or with a few teeth, 0.5-1.1 mm | S. scopulorum |

## SELAGINELLA: TETRAGONOSTACHYS: KEY TO LEAF BRISTLES 0.5 mm TO 1.0 mm

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|---|------------------|
| 1. Leaf bases adnate only   |                  |
| A. Strobili 5-7 mm, leaf margins short ciliate, 0.3-0.1 mm  | S. hansenii      |
| B. Strobili 0.4-3.5 cm, leaf margins short ciliate (near base), 0.02-0.08 mm, and denticulate (near leaf tip) | S. bigelovii     |
| 2. Leaf bases decurrent, including cuneate, only  | S. asprella      |
| 3. Leaf bases both adnate and decurrent, including cuneate  |                  |
| A. Leaf bristle smooth or with a few teeth  | S. scopulorum    |
| B. Leaf bristle puberulent  |                  |
| 1. Dry stems fall apart with handling, strobilus alone at base of attachment to stem, 0.4-1.5 cm              | S. leucobryoides |
| 2. Dry stems NOT falling apart with handling, strobili, often paired, 1-9 cm                                  | S. wallacei      |

## SELAGINELLA: TETRAGONOSTACHYS: KEY TO LEAF BRISTLES under 0.5 mm

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|--|-------------------------|
| 1. Leaf bases adnate only, rhizophores at base of upright to ascending stems   | <i>S. bigelovii</i>     |
| 2. Leaf bases decurrent, including cuneate, only, rhizophores along length of decumbent or creeping stems  | <i>S. watsonii</i>      |
| 3. Leaf bases both adnate and decurrent, including cuneate   |                         |
| A. Leaf apex with NO bristle, strobili 2.0-4.0 mm  | <i>S. cinerascens</i>   |
| B. Leaf apex with a bristle, strobili 0.3-9 cm   |                         |
| 1. Leaves dimorphic, with underside leaves longer than upperside leaves on main stems, strobili very short, 3-8 mm with dry stems that do NOT fall apart with handling | <i>S. eremophila</i>    |
| 2. Leaves monomorphic, with leaves around main stems of same size, strobili can be longer  |                         |
| A. Strobili short, 0.4-1.5 cm with dry stems that fall apart with handling   | <i>S. leucobryoides</i> |
| B. Strobili longer, 0.5-9 cm with dry stems that do NOT fall apart with handling   |                         |
| 1. Leaf bristle white, whitish to transparent, leaf margins short ciliate, 0.03-0.1 mm to denticulate terrestrial plants forming loose to compact mats                 | <i>S. wallacei</i>      |
| 2. Leaf bristle colored to transparent , leaf margins entire or with very short cilia, 0.02-0.04 mm, or denticulate, on plants generally growing in trees              | <i>S. oregana</i>       |

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For questions or problems please contact me.