

Don Les: Guide to Keys

1. Keys should be **strictly dichotomous**
2. Compare the **identical feature** as the primary key character in each lead of the couplet (likewise in secondary characters)

Bad: 1. Leaves opposite

1. Petals yellow

Good: 1. Leaves opposite, petals red

1. Leaves alternate, petals yellow

3. Provide **contrasting** states of the **identical** character in each couplet (**first** the character, then the state)

Bad: 1. Leaves opposite

1. Leaves compound

Good: 1. Leaves opposite, simple

1. Leaves alternate, compound

4. Avoid **vague terms** (e.g., big, minute, colorful)

Bad: 1. Leaves huge, conspicuous

1. Leaves minute, inconspicuous

Good: 1. Leaf blades > 5 cm long

1. Leaf blades < 1 cm long

5. Avoid **overlapping** character states (requires use of a different character)

Bad: 1. Sepals 4-11 mm long

1. Sepals 1-6 mm long

Good: 1. Petals 10-15 mm long

1. Petals 1-8 mm long

6. Be precise - e.g. '**petal**' color rather than '**flower**' color

7. Avoid geographic characters as primary

8. Avoid "not" statements - make **all** statements contrast

Bad: 1. Stems wooly; leaves alternate

1. Stems not wooly; leaves not alternate

Good: 1. Stems wooly pubescent; leaves alternate

1. Stems glabrous; leaves opposite or whorled

9. Use best available features (flowering vs. fruiting vs. vegetative) or provide several phenological stages

10. Restrict key to related taxa or geographically defined region (little use for a key to "attractive roadside plants" etc.)

11. Use **accepted botanical terminology** only:

Bad: 1. Leaves totally gnarly; the petioles amped, the blades awesome (mondo to momboosa), honkers fer sure; tendrils frigged; flowers babelicious, purplified; their little dudes hemo-ed; the babes tooled, way shacked

Good: 1. Leaves pubescent; petioles flexuous; blades > 3 m
long; tendrils sinuous; flowers showy (> 8 cm broad);
petals violet; stamens vestigial; ovary syncarpous,
wholly inferior

NOTE: Even seemingly innocent terms like "football-shaped" can mean different things
in different countries (i.e. oval vs. round)

12. Make sure you understand plant group and characters before making a key

13. Use easily observed (and compared) features

14. Do not use superfluous, "orphan" leads, e.g.:

1. Leaves opposite 2

1. Leaves alternate *Plantus alternifolius*

2. Stems covered with prickles *Plantus oucheus*