

A revised key for the *Lycopersicon* and related *Solanum* species

The following key is a revision to that formulated by Rick et al. (1990) and published in the Tomato Genetics Cooperative Report, 40: 31. The key has been expanded to add subspecific taxa, as well as the tomato-like nightshades.

- | | Equivalent name in
<i>Solanum</i> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| 1. Interior of ripe fruit red: seeds 1.5 mm or longer. | |
| 1.1. Fruit diameter more than 1.5 cm; leaf margin generally serrate. | |
| 1.1.1. Fruit diameter 3 cm or larger, 2-to-many loculed.
... <i>L. esculentum</i> | <i>Solanum lycopersicum</i> |
| 1.1.2. Fruit diameter 1.5-2.5 cm; 2-loculed.
... <i>L. esculentum</i> var. <i>cerasiforme</i> | |
| 1.2. Fruit diameter less than 1.5 cm, usually ca. 1 cm; leaf margin generally undulate or entire. ... <i>L. pimpinellifolium</i> | <i>Solanum pimpinellifolium</i> |
| 2. Interior of fruit yellow or orange; seeds 1.0 mm or shorter.
... <i>L. cheesmanii</i> Riley | <i>Solanum cheesmaniae</i> |
| 2.1. Leaves highly subdivided, internodes short, densely pubescent, large accrescent calyx. ... <i>L. cheesmanii</i> f. <i>minor</i> | <i>Solanum galapagense</i> |
| 3. Interior of ripe fruit green or whitish; seeds of varying sizes. | |
| 3.1. Sympodia with 2 leaves. | |
| 3.1.1. Inflorescences with small or no bracts. (subgeneric " <i>minutum</i> " complex) | |
| 3.1.1.1. Flowers small (corolla diameter 1.5 cm or less); seeds 1 mm or shorter. ... <i>L. parviflorum</i> | <i>Solanum neorickii</i> |
| 3.1.1.2. Flowers larger (corolla diameter 2 cm or more); seeds 1.5 mm or longer. ... <i>L. chmielewskii</i> | <i>Solanum chmielewskii</i> |
| 3.1.2. Inflorescences with large bracts. | |
| 3.1.2.1. Anthers attached in a tube, dehiscent by lateral apertures. (subgeneric " <i>peruvianum</i> " complex) | |
| 3.1.2.1.1. Plants erect; peduncle longer than 15 cm; flowers congested; anther tube straight. ... <i>L. chilense</i> | <i>Solanum chilense</i> |
| 3.1.2.1.2. Plants spreading; peduncle shorter than 15 cm; flowers more loosely arrayed; anther tube generally bent distally. ... <i>L. peruvianum</i> | <i>Solanum peruvianum</i> |
| 3.1.2.2. Anthers free, poricidal. ... <i>L. pennellii</i> | <i>Solanum pennellii</i> |
| 3.1.2.2.1. Leaves and stems puberulous, shiny.
... <i>L. pennellii</i> var. <i>puberulum</i> | |
| 3.2. Sympodia with 3 leaves. ... <i>L. hirsutum</i> | <i>Solanum habrochaites</i> |
| 3.2.1. Leaves and stems nearly free of hairs, stems slender, darkly pigmented with anthocyanins.
... <i>L. hirsutum</i> f. <i>glabratum</i> | |
| 3.3. Sympodia with more than 3 leaves. | |
| 3.3.1. Anthers white to cream-colored, leaf margins dissected. | |

	Equivalent name in <i>Solanum</i>
3.3.1.1. Leaves and stems pubescent, fruit purplish green, < 1 cm diameter, ripen to berry texture. ... <i>S. lycopersicoides</i>	<i>Solanum lycopersicoides</i>
3.3.1.2. Leaves and stems glabrous, nearly succulent, fruit yellowish green, usually, >1 cm diameter, ripen to a papery texture. ... <i>S. sitiens</i>	<i>Solanum sitiens</i>
3.3.2. Anthers yellow, leaf margins entire, leaflets elliptic to lanceolate.	
3.3.2.1. Leaflets relatively broad, scabrous above, generally 2 pairs of lateral leaflets, fruits 2-3 cm. ... <i>S. juglandifolium</i>	<i>Solanum juglandifolium</i>
3.3.2.2. Leaflets relatively narrow, smooth-velvety above, fruit large, mostly multilocular. ... <i>S. ochranthum</i>	<i>Solanum ochranthum</i>

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