

Phylogenetic tree showing the relationships between *S. lycopersicum* and various *Jatropha* species, based on chloroplast DNA. The tree is rooted with *S. lycopersicum* as the outgroup. The *Jatropha* species are grouped into a clade, with *J. procumbens* and *J. repandidentata* as sister taxa. The remaining *Jatropha* species form a large clade, with *J. darcycana* as a sister to a group containing *J. auriculata*, *J. calliantha*, *J. quipuscoae*, *J. yungayensis*, *J. sinuosa*, *J. aijana*, *J. umbellata*, *J. biflora*, *J. grandiccata*, *J. inchausina*, and *J. dendroidea*. Bootstrap values are indicated at the nodes.

- S. lycopersicum*
- J. procumbens*
- J. repandidentata*
- J. darcycana*
- J. auriculata*
- J. calliantha*
- J. quipuscoae*
- J. yungayensis*
- J. sinuosa*
- J. aijana*
- J. umbellata*
- J. biflora*
- J. grandiccata*
- J. inchausina*
- J. dendroidea*

Phylogenetic tree showing the relationships between *S. lycopersicum* and various *Juncus* species based on ITS1 sequence analysis. The tree is rooted with *S. lycopersicum* as the outgroup. The *Juncus* clade includes the following species (from top to bottom): *J. auriculata*, *J. calliantha*, *J. quipuscoae*, *J. yungayensis*, *J. umbellata*, *J. sijana*, *J. biflora*, *J. sinuosa*, *J. dendroidea*, *J. grandicata*, *J. inchausina*, *J. procumbens*, *J. repandidentata*, and *J. darcyanus*. Bootstrap values are indicated at the nodes.

Phylogenetic tree of the genus *Juncus* based on ITS2 sequences. The tree shows *S. lycopersicum* as an outgroup, followed by a clade containing *J. procumbens*, *J. repandidentata*, *J. darcyrana*, *J. auriculata*, *J. calliantha*, *J. quipuscoae*, *J. yungayensis*, *J. biflora*, *J. aijana*, *J. sinuosa*, *J. umbellata*, *J. dendroidea*, *J. grandicollata*, and *J. incahausina*. Bootstrap values are indicated at the nodes.

Phylogenetic tree of the genus *Juncus* based on ITS sequence data. The tree shows *S. lycopersicum* as an outgroup, and a large clade of *Juncus* species. The *Juncus* clade is rooted with *J. auriculata* and *J. quipuscoae*, followed by *J. calliantha*, *J. inchausaia*, *J. grandiccata*, *J. dendroidea*, *J. biflora*, *J. ajiana*, *J. umbellata*, *J. sinuosa*, *J. yungayensis*, *J. darcyana*, *J. procumbens*, and *J. repandidentata*. Bootstrap values are indicated at the nodes.

Phylogenetic tree showing the relationships between *S. lycopersicum* and various *Juncus* species based on ITS sequence data. The tree is rooted with *S. lycopersicum* as the outgroup. The *Juncus* clade is rooted with *J. auriculata* and *J. procumbens*. Bootstrap values are indicated at the nodes.

- S. lycopersicum*
- J. grandicollata*
- J. incahausina*
- J. dendroidea*
- J. aijana*
- J. umbellata*
- J. sinuosa*
- J. biflora*
- J. yungayensis*
- J. quipuscoae*
- J. calliantha*
- J. auriculata*
- J. procumbens*
- J. repandidentata*
- J. darcyana*

Phylogenetic tree showing relationships among *Jatropha* species based on chloroplast DNA. The tree is rooted with *S. lycopersicum* as the outgroup. The main clade of *Jatropha* species is supported by a bootstrap value of 100. The species are listed from top to bottom: *J. repandidentata*, *J. procumbens*, *J. darcaryana*, *J. auriculata*, *J. quipuscoae*, *J. calliantha*, *J. sinuosa*, *J. biflora*, *J. ajajana*, *J. umbellata*, *J. dendroidea*, *J. grandiccata*, *J. incahausina*, and *J. yunquensis*. Bootstrap values are indicated at the nodes: 100 for the main clade, 100 for the *J. repandidentata* clade, 100 for the *J. auriculata* clade, 100 for the *J. quipuscoae* clade, 100 for the *J. calliantha* clade, 100 for the *J. sinuosa* clade, 100 for the *J. biflora* clade, 100 for the *J. ajajana* clade, 100 for the *J. umbellata* clade, 100 for the *J. dendroidea* clade, 100 for the *J. grandiccata* clade, 100 for the *J. incahausina* clade, and 100 for the *J. yunquensis* clade.

Phylogenetic tree showing relationships between *S. lycopersicum* and various *J.* species. The tree is rooted with *S. lycopersicum* as the outgroup. The *J.* species form a large clade with several nodes marked by black dots. The species listed are *J. auriculata*, *J. quipuscoae*, *J. calliantha*, *J. grandiccata*, *J. dendroidea*, *J. incahausina*, *J. biflora*, *J. aijana*, *J. umbellata*, *J. sinuosa*, *J. yungayensis*, *J. darciana*, *J. repandidentata*, and *J. procumbens*.

Phylogenetic tree showing the relationships between *S. lycopersicum* and various *Jatropha* species based on trnK gene sequences. The tree is rooted with *S. lycopersicum* as the outgroup. The *Jatropha* clade includes *J. procumbens*, *J. darcaryana*, *J. repandidentata*, *J. auriculata*, *J. quipuscoae*, *J. calliantha*, *J. umbellata*, *J. aijana*, *J. biflora*, *J. sinuosa*, *J. dendroidea*, *J. incahuasina*, *J. grandicatta*, and *J. yungaensis*. Bootstrap values are indicated at the nodes.

Phylogenetic tree showing the relationships among *Juncus* species based on ITS sequence data. The tree is rooted with *S. lycopersicum* as the outgroup. The *Juncus* clade is supported by a black dot at the base. The species listed are: *J. quipuscoae*, *J. calliantha*, *J. biflora*, *J. umbellata*, *J. ajajana*, *J. dendroidea*, *J. grandiccata*, *J. incahausina*, *J. sinuosa*, *J. yungayensis*, *J. auriculata*, *J. darcycana*, *J. procumbens*, and *J. repandidentata*.

Phylogenetic tree showing the relationships between *S. lycopersicum* and various *Juncus* species based on ITS sequence data. The tree is rooted with *S. lycopersicum* as the outgroup. The *Juncus* clade includes the following species (from top to bottom): *J. auriculata*, *J. quipuscoae*, *J. calliantha*, *J. yungayensis*, *J. biflora*, *J. incahausina*, *J. dendroidea*, *J. grandiccata*, *J. umbellata*, *J. aijana*, *J. sinuosa*, *J. repandidentata*, *J. procumbens*, and *J. darcyanus*. Bootstrap values are indicated at the nodes.

Phylogenetic tree of the genus *Juncus* based on ITS sequence data. The tree shows *S. lycopersicum* as an outgroup, and a large clade of *Juncus* species. The *Juncus* clade is divided into two main groups: one containing *J. auriculata*, *J. quipuscoae*, *J. calliantha*, *J. yungayensis*, *J. umbellata*, *J. sinuosa*, *J. biflora*, and *J. ajajana*; and another containing *J. dendroidea*, *J. grandiccata*, *J. incahausina*, *J. repandidentata*, *J. procumbens*, and *J. darcyanus*. Bootstrap values are indicated at the nodes.

- S. lycopersicum*
- J. auriculata*
- J. quipuscoae*
- J. calliantha*
- J. yungayensis*
- J. umbellata*
- J. sinuosa*
- J. biflora*
- J. ajajana*
- J. dendroidea*
- J. grandiccata*
- J. incahausina*
- J. repandidentata*
- J. procumbens*
- J. darcyanus*