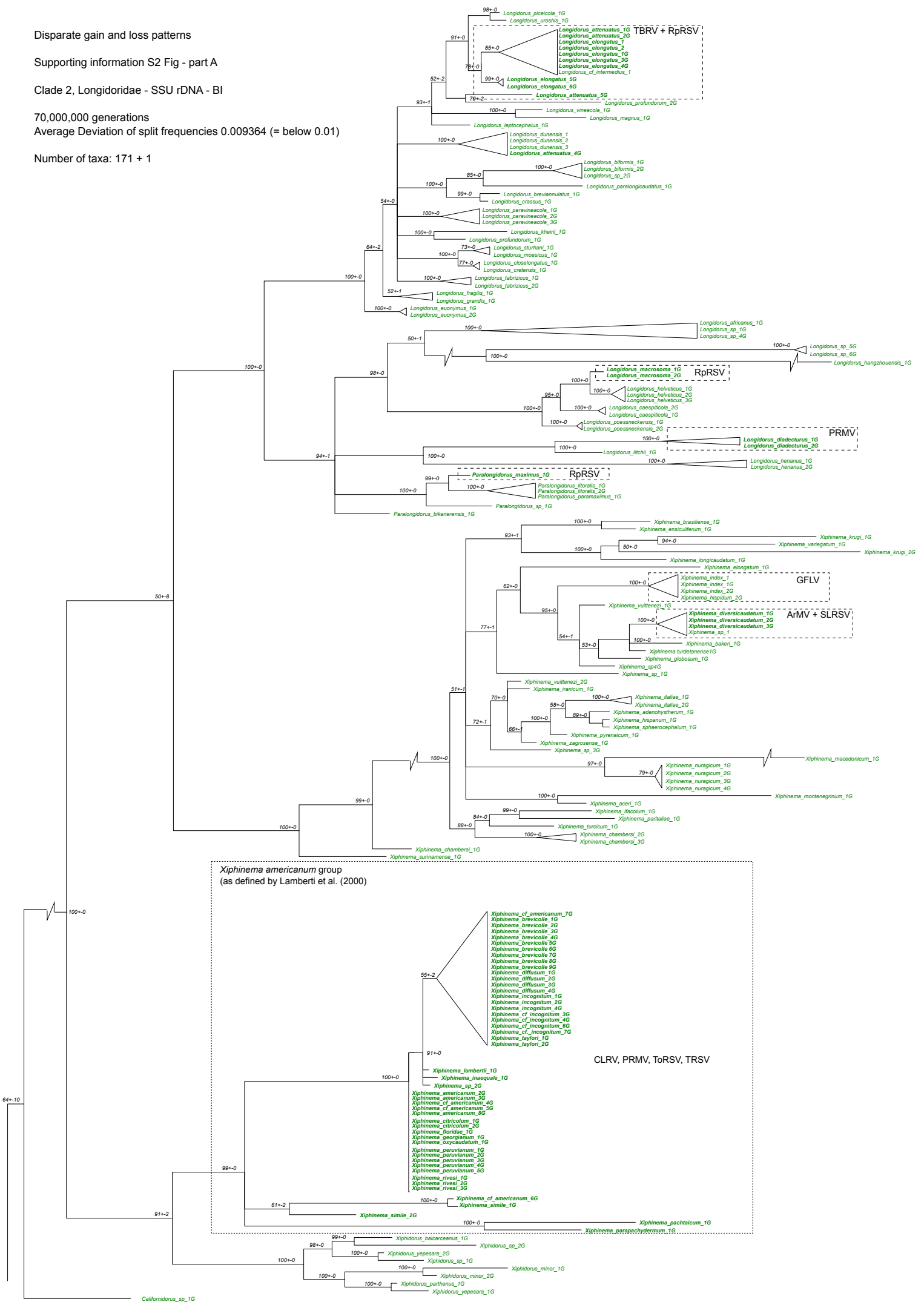


Number of taxa: $171 + 1$



Loop partition: GTR
Stem partition: S16A

Phylogenetic tree of the family Longidoridae, showing relationships between various species and their respective virus groups. The tree is rooted with *Califormidorus_sp_1G* and branches out into several major clades. Key clades include *Longidorus*, *Paralongidorus*, *Xiphinema*, and *Xiphidurus*. Virus groups are indicated by dashed boxes and labels: GFLV, ArMV + SLRSV, PRMV, CLRV, PRMV, ToRSV, and TRSV. Bootstrap values are provided for many nodes.

Longidoridae

Longidorus clade:

- Longidorus_vinescolae_1G*
- Longidorus_magnus_1G*
- Longidorus_attenuatus_5G*
- Longidorus_attenuatus_4G*
- Longidorus_biformis_1G*
- Longidorus_biformis_2G*
- Longidorus_sp_3G*
- Longidorus_parallelcaudatus_1G*
- Longidorus_crassus_1G*
- Longidorus_brevianulatus_1G*
- Longidorus_tabrizicus_1G*
- Longidorus_tabrizicus_2G*
- Longidorus_sturani_1G*
- Longidorus_kheiri_1G*
- Longidorus_profundorum_1G*
- Longidorus_paravineosole_1G*
- Longidorus_paravineosole_2G*
- Longidorus_paravineosole_3G*
- Longidorus_fragilis_1G*
- Longidorus_grandis_1G*
- Longidorus_euonymus_1G*
- Longidorus_euonymus_2G*

Paralongidorus clade:

- Paralongidorus_paramaximus_1G*
- Paralongidorus_libralli_2G*
- Paralongidorus_libralli_1G*
- Paralongidorus_maximus_1G*
- Paralongidorus_bikanerensis_1G*
- Longidorus_sp_1G*
- Longidorus_sp_4G*

Xiphinema clade:

- Xiphinema_index_1G*
- Xiphinema_index_1G*
- Xiphinema_index_2G*
- Xiphinema_hispidum_2G*
- Xiphinema_vultenezi_1G*
- Xiphinema_bakeri_1G*
- Xiphinema_diversicaudatum_1G*
- Xiphinema_diversicaudatum_2G*
- Xiphinema_diversicaudatum_3G*
- Xiphinema_sp_1*
- Xiphinema_globosum_1G*
- Xiphinema_elongatum_1G*
- Xiphinema_brasiliense_1G*
- Xiphinema_ensiculliferum_1G*
- Xiphinema_longicaudatum_1G*
- Xiphinema_krugi_2G*
- Xiphinema_variegatum_1G*
- Xiphinema_zagrosense_1G*
- Xiphinema_italiae_1G*
- Xiphinema_italiae_2G*
- Xiphinema_syrnaticum_1G*
- Xiphinema_sphaerocephalum_1G*
- Xiphinema_hispanum_1G*
- Xiphinema_adenochytherum_1G*
- Xiphinema_ranicum_1G*
- Xiphinema_vultenezi_2G*
- Xiphinema_sp_3G*
- Xiphinema_macedonicum_1G*
- Xiphinema_nuragicum_1G*
- Xiphinema_nuragicum_2G*
- Xiphinema_nuragicum_3G*
- Xiphinema_nuragicum_4G*
- Xiphinema_montenegrinum_1G*
- Xiphinema_aceri_1G*
- Xiphinema_turcicum_1G*
- Xiphinema_fascolum_1G*
- Xiphinema_pataliae_1G*
- Xiphinema_chambersi_2G*
- Xiphinema_chambersi_3G*

Xiphinema americana group (as defined by Lamberti et al. (2000)):

- Xiphinema_cf_americanum_7G*
- Xiphinema_brevicollis_1G*
- Xiphinema_brevicollis_2G*
- Xiphinema_brevicollis_3G*
- Xiphinema_brevicollis_4G*
- Xiphinema_brevicollis_5G*
- Xiphinema_brevicollis_6G*
- Xiphinema_brevicollis_7G*
- Xiphinema_brevicollis_8G*
- Xiphinema_brevicollis_9G*
- Xiphinema_diffusum_1G*
- Xiphinema_diffusum_2G*
- Xiphinema_diffusum_3G*
- Xiphinema_diffusum_4G*
- Xiphinema_inaequalis_1G*
- Xiphinema_incognitum_1G*
- Xiphinema_incognitum_2G*
- Xiphinema_cf_incognitum_3G*
- Xiphinema_incognitum_4G*
- Xiphinema_cf_incognitum_5G*
- Xiphinema_cf_incognitum_6G*
- Xiphinema_cf_incognitum_7G*
- Xiphinema_lamberti_1G*
- Xiphinema_taylori_1G*
- Xiphinema_taylori_2G*
- Xiphinema_sp_2G*

Xiphidurus clade:

- Xiphidurus_minor_1G*
- Xiphidurus_minor_2G*
- Xiphidurus_yepesara_1G*
- Xiphidurus_panthus_1G*
- Xiphidurus_sp_2G*
- Xiphidurus_balcaraeanus_1G*
- Xiphidurus_yepesara_2G*
- Xiphidurus_sp_1G*

Califormidorus

Califormidorus_sp_1G