

Figure 3 - Phylogenetic analyses of chlamydial proteins in the Bacillariophyta support the occurrence of two independent HGT/EGT events.

Unrooted maximum likelihood trees of concatenated data sets. Support values: maximum likelihood bootstrap/posterior probability. Scale bars = substitutions per site.

(A) Concatenated data set of seven proteins showing relationship of diatoms to rhodoplants (12 taxa; 2675 amino acid positions). The data set consisted of asparaginyl-tRNA synthetase (*asnS*; EC 6.1.1.22; no *Chlamydomonas reinhardtii* and *Chlamydia muridarum* sequences, No 1 in Table 1), aspartate aminotransaminase (*aat*; EC 2.6.1.1, No 2 in Table 1), ATP/ADP translocase 1 (*tlc1*, *ntt1*; COG3202; only the orthologues of the nucleotide transporter family have been chosen, No 3 in Table 1), tRNA delta(2)-isopentenylpyrophosphate transferase (*miaA*; EC 2.5.1.8; no *Chlamydomonas reinhardtii* sequence, No 4 in Table 1), putative 4-diphosphocytidyl-2C-methyl-D-erythritol synthase (*ispD*; EC 2.7.7.60; no *Ostreococcus tauri* sequence No 10 in Table 1), putative glycerol-3-phosphate O-acyltransferase (*gpaT*; EC 2.3.1.15, No 12 in Table 1) and putative endopeptidase La (ATP-dependent serine protease) La (*lon*; EC 3.4.21.53; no *Ostreococcus tauri* sequence, No 17 in Table 1).

(B) Concatenated data set of five proteins showing a relationship of viridiplant and diatom genes (same 12 taxa as in Fig. 3A; 1736 amino acid positions). The data set contained Isopentenyl monophosphate kinase (*ispE*; EC 2.7.1.148; no *Galdieria sulphuraria* sequence, No 6 in Table 1), queuine tRNA-ribosyltransferase (*tgt*; EC 2.4.2.29; no *Oryza sativa* and *Arabidopsis thaliana* sequences, No 7 in Table 1), putative 23S rRNA (Uracil-5-)-methyltransferase (*trmA*; EC 2.1.1.53; no *Chlamydomonas reinhardtii*, *Chlamydia muridarum* and *Chlamydomonas reinhardtii* sequences, No 9 in Table 1), hypothetical protein pc1328 (COG0217, No 11 in Table 1) and probable polyribonucleotide nucleotidyltransferase (*pnp*; EC 2.7.7.8, No 13 in Table 1).