

Type IV secretion systems diversity in the *Acidithiobacillus* genus

Flores-Ríos, Rodrigo

Moya-Beltrán, Ana

Covarrubias, Paulo C.

Acuña, Lillian G.

Orellana, Omar

Quatrini, Raquel

© 2017 Trans Tech Publications, Switzerland. Dispersal between genomes of certain mobile genetic elements and their gene cargo depends on conjugative type IV secretion systems. In this work, variants of these nanomachines, *tra* and *trb*, have been profiled in publicly available genomes of the genus *Acidithiobacillus* and in a set of relevant strains. Our analyses show that the *trb* system is of broad distribution, being present in most of the strains analyzed. In turn, the *tra* type is present in fewer strains of *A. ferrooxidans*, *A. ferrivorans*, *A. ferriphilus* and *A. thiooxidans*, and generally correlates with the presence of larger ICE in the respective genomes. Herein, sequence conservation, genomic context, integration site and synteny analyses are performed to infer functionality of the T4SS systems of the acidithiobacilli.