**EvoEvo concept:** Variation and selection are directly regulated by many processes that are themselves products of evolution. this results in the ability of evolution to self-modify its operators, hence its dynamics. We call this process evolution of evolution

* Simulate evolution of evolution in a computational framework (ECHO model) -see features from table

IDEAS/QUESTIONS

- Which are the drivers of lichens evolution? // Which are the factors shaping lichens evolution?

Can we identify them?

* State clearly the differences between the lichen symbiosis and other mutualist systems (i.e. its components can also live outside the lichen alone-Aposymbiotic-> I think we should explain it very well. Julia can help us. I think that this feature makes of it a really special symbiosis)
* Plant-animals mutualistic networks are widely studied, but not lichens mutualism

What is a lichen?

* Plant-fungus symbioses are ubiquituous to terrestrial systems: found in almost every habitat and geographic area in the planet —> successful symbiosis
* Lichen = fungi (eukaryote) + algae (either prokaryote or eukaryote)
* State advantages from each of the species in the symbiosis
* Delichenization throughout fungal evolution (what is telling us?)
* Lichen symb->mutualism/comensalism/parasitism (I don’t see the two last forms, it is information from wikipedia)
* Photosynthetic partner can exist in nature independently of the fungal partner, but not viceversa (??? Julia!)

(I am not sure if plant-animals mutualistic networks and lichens symbiosis can be treated in the same way. The systems are different in its nature)

For networks representation:

* Draw node of size proportional to the number of times we find it in our data

Our discours flow so far:

* Understand structural genetic diversity (How?)
* Reproduce general features of the system through the ECHO model (not achieved so far)
* ECHO: obtained similar patterns of diversification as well as ecological interactions —> understand mechanisms driving evolution of symbionts (Which would be the mechanisms that we can identify through the ECHO model?)
* Co-evolutionary relationships and dynamics of *L. pulmonaria—>* understand role that symbiotic interactions play in the geenration and maintenance of biodiversity in forest communities

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poner nuestra source de financiamiento?