**Supplemental Table 1. Ecological requirements of ostracode species recovered from Laguna de los Pozuelos, Jujuy, Argentina.**

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| **Species** | **Family** | **Habitat** | **Permanence** | **Preference** | **Water Chemistry** |
| *Ilyocypris ramirezi* Cusminsky and Whatley 1996 | Ilyocyprididae | Lakes, ponds | Permanent or ephemeral | Eurytopic/Parthenogenic | \*Type I: Ca, Mg and HCO3-dominated toType III: HCO3-rich, SO4-rich, Cl-rich |
| *Eucypris virgata* Cusminsky and Whatley 1996 | Cyprididae | Lakes, ponds | Permanent or ephemeral | Eurytopic/Parthenogenic | \*Type I: Ca, Mg and HCO3-dominated toType III: HCO3-rich, SO4-rich, Cl-rich |
| *Chlamydotheca pseudobrasilieinsis* (Tressler, 1949) | Lakes, ponds | Permanent | Eurytopic/Parthenogenic | \*Type I: Ca, Mg and HCO3-dominated *maybe* toType III: HCO3-rich, SO4-rich, Cl-rich |
| *Limnocythere alexanderi* Palacios-Fest, Cusminsky and McGlue 2016 | Cytheridae | Lakes, ponds | Permanent or ephemeral | Eurytopic/Amphigonic | \*Type I: Ca, Mg and HCO3-dominated toType III: HCO3-rich, SO4-rich, Cl-rich |
| *Limnocythere foresteri* Palacios-Fest, Cusminsky and McGlue 2016 | Lakes, ponds | Permanent or ephemeral | Eurytopic/Amphigonic | \*Type I: Ca, Mg and HCO3-dominated toType III: HCO3-rich, SO4-rich, Cl-rich |
| *Limnocythere lysandrosi* Palacios-Fest, Cusminsky and McGlue 2016 | Lakes, ponds | Permanent | Eurytopic/Amphigonic | \*Type I: Ca, Mg and HCO3-dominated *maybe* toType III: HCO3-rich, SO4-rich, Cl-rich |
| *Limnocythere ruipunctifinalis* Palacios-Fest, Cusminsky and McGlue 2016 | Lakes, ponds | Permanent or ephemeral | Eurytopic/Amphigonic | \*Type I: Ca, Mg and HCO3-dominated *maybe* toType III: HCO3-rich, SO4-rich, Cl-rich |
| *Limnocythere titicaca* Lerner-Seggev 1973 | Lakes, ponds | Permanent | Eurytopic/Amphigonic | \*Type I: Ca, Mg and HCO3-dominated *maybe* toType III: HCO3-rich, SO4-rich, Cl-rich |
| *Limnocythere variabilis* Purper and Pinto 1980 | Lakes, ponds | Permanent or ephemeral | Eurytopic/Amphigonic | \*Type I: Ca, Mg and HCO3-dominated toType III: HCO3-rich, SO4-rich, Cl-rich |

\*Based upon the water chemistry data obtained by McGlue et al. (2013) it is inferred that the dominant pathways of water evolution vary from dilute to alkaline brine according to Eugster and Hardie (1978).