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| --- | --- | --- | --- | --- | --- |
| **Family** | **Genus** | **Mexico/South US** | **Australia** | **C4 origin** | **Reference** |
| Acanthaceae | *Blepharis* |  |  | Africa | Fisher et al. 2015 |
| Aizoaceae | *Sesuvium* |  |  | Africa | Bohley et al. 2015 |
|  | *Trianthema* | x | x | Africa | Bohley et al. 2015 |
|  | *Zaleya* |  | x | Africa | Bohley et al. 2015 |
| Amaranthaceae | *Alternanthera* | x | x | more likely origin: South American tropics | Sage et al. 2007; Sánchez-del Pino et al. 2012 |
|  | *Amaranthus* | **x** | x | origin unknown |  |
|  | *Atriplex* | **x** | **x** | continental Asia | Zerdoner Calasan et al. 2022 |
|  | *Froelichia* | x |  | origin unknown |  |
|  | *Gomphrena* | x | **x** | origin unknown |  |
|  | *Guilleminea* | x |  | origin unknown |  |
|  | *Suaeda* | x |  | origin unknown |  |
|  | *Tecticornia* |  | x\* | Australia | Shepherd et al. 2005; Voznesenskaya et al. 2008 |
|  | *Tidestromia* | x\* |  | Mexico/South US | Sánchez-del Pino & Motley, 2010 |
| Asteraceae | *Flaveria* | x\* |  | Mexico/South US | Morales-Briones & Kadereit, 2023 |
|  | *Glossocardia* |  | x | origin unknown |  |
|  | *Pectis* | **x** \* |  | Mexico/South US | Hansen et al. 2016 |
| Boraginaceae | *Euploca* | x | x | origin unknown |  |
| Caryophyllaceae | *Polycarpaea* |  | x | origin unknown |  |
| Cleomaceae | *Cleome* |  | x | origin unknown |  |
| Euphorbiaceae | *Euphorbia* | **x \*** | x | Mexico/South US (*Euphorbia* subg. *Chamaesyce* sect. *Anisophyllum* subsect. *Hypericifoliae)* | Yang & Berry, 2011; Horn et al. 2014 |
| Gisekiaceae | *Gisekia* |  |  | Africa | Bissinger et al. 2014 |
| Nyctaginaceae | *Allionia* | x\* |  | Mexico/South US | Douglas & Manos, 2007 |
|  | *Boerhavia* | x\* | x | Mexico/South US | Douglas & Manos, 2007 |
| Portulacaceae | *Portulaca* | **x** | x | origin unknown |  |
| Scrophulariaceae | *Anticharis* |  |  | Africa | Khoshravesh et al. 2012 |
| Zygophyllaceae | *Kallstroemia* | x |  | origin unknown |  |
|  | *Tribulopis* |  | x(\*) | less clear origin: Australia | Lauterbach et al. 2019 |
|  | *Tribulus* |  | x | origin unknown |  |
|  | *Zygophyllum* |  |  | Africa (*Z. simplex*) | Bellstedt et al. 2012 |