**Table S2.** List of taxa showing apparent discrepancies between the consensus on their likely photosynthetic pathway (based on carbon-isotope ratios measured in the present study and other evidence where available) and conflicting individual reports in the earlier literature.

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| --- | --- | --- |
| Taxon | Likely photosynthetic pathway and evidence | Discrepant observation and comment |
| *Racinaea multiflora* (Benth.) M.A.Spencer & L.B.Sm.(=*Tillandsia multiflora* Benth.) | C3:  δ13C = –26.5 ‰ (present study) | δ13C = –15.7 ‰ (Rundel & Dillon, 1998)  Possible sample misannotation, since all sampled *Racinaea* spp. show C3-type δ13C values |
| *Tillandsia canescens* Sw. | CAM:  δ13C = –13.4 ‰ (present study) | δ13C = –32.4 ‰ (Griffiths & Smith, 1983) and lack of tissue acid fluctuations (Smith *et al.*, 1985). Probable misidentification of material sampled in Trinidad (cf. Pittendrigh, 1948); vouchered herbarium specimens of *T. canescens* all originate from Cuba, Jamaica and Mexico |
| *Tillandsia elongata* Kunth var. *subimbricata* (Baker) L.B.Sm. | CAM:  δ13C = –16.9 ‰ (present study)  δ13C = –16.2 ‰ (Smith *et al.*, 1986)  δ13C = –15.8 ‰ (Zotz & Ziegler, 1997)  δ13C = –14.5 ‰ (Pierce *et al.*, 2002a)  Tissue acid fluctuations and gas-exchange measurements (Griffiths *et al.*, 1986; Medina, 1974) | δ13C = –26.4 ‰ (Griffiths & Smith, 1983)  Possible sample misannotation |
| *Tillandsia lindenii* Regel | C3:  δ13C = –26.5 ‰ (present study) | Significant tissue acid fluctuations (Bendrat, 1929)  Some degree of malic-acid cycling is consistent with observed δ13C values (towards less negative end of C3 spectrum) |
| *Tillandsia didistichoides* Mez (= *Vriesea* *didistichoides* (Mez) L.B.Sm.) | C3:  δ13C = –25.9 ‰ (present study)  δ13C = –23.9 ‰ (Griffiths & Smith, 1983) | Significant nocturnal malate accumulation (but no net night-time CO2 uptake) observed by Medina (1974)  Some degree of malic-acid cycling is consistent with observed δ13C values (towards less negative end of C3 spectrum) |
| *Werauhia sanguinolenta* (Linden ex Cogn. & Marchal) J.R.Grant (= *Vriesea sanguinolenta* Cogn. & Marchal) | C3:  δ13C = –25.3 ‰ (present study)  δ13C = –32.0 ‰ (Zotz & Ziegler, 1997)  δ13C = –27.6 ‰ (Pierce *et al.*, 2002a) | Small nocturnal acidification during dry season (Zotz, 1997; Schmidt & Zotz, 2001; Pierce *et al.*, 2002a)  Some degree of malic-acid cycling is not inconsistent with C3-type δ13C values |
| *Fosterella schidosperma* (Baker) L.B.Sm. | C3:  δ13C = –28.6 ‰ (mean of values from two independent specimens: present study) | Significant tissue malate and carbohydrate fluctuations (Christopher & Holtum, 1998)  Some degree of malic-acid cycling is not inconsistent with C3-type δ13C values |
| *Billbergia macrolepis* L.B.Sm. | CAM:  δ13C = –14.9 ‰ (present study)  δ13C = –14.5 ‰ (Pierce *et al.*, 2002a) | δ13C = –30.9 ‰ (Zotz & Ziegler, 1997)  Possible sample misannotation (G. Zotz, pers. comm.) |
| *Portea kermesina* K.Koch | CAM:  δ13C = –17.0 ‰ (present study) | Lack of tissue acid fluctuations (Bendrat, 1929)  CAM rhythm sometimes not detectable in cultivated material |