**Table S3.** Morphological matrix of discrete characters

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| #NEXUSBEGIN DATA;DIMENSIONS NTAX=16 NCHAR=72;FORMAT DATATYPE = STANDARD GAP = - MISSING =?;MATRIX |
| *Gomphocythere\_huwi*  | 0010101100000002112000-1110111000?101???11??0010011??0010010012--10110?1 |
| *Cytheridella*\_sp. | 00101010000000??00?000-0000-0100201111111101001011011100100100021110100? |
| *Thaicythere\_srisumonae* | 1010001100000000212000-11000011000113?0011000110001110010011012--20110?1 |
| *Intrepidocythere\_ibipora* | 1101002000000100321000-110000111100-001100110001110010100100100012311100 |
| *Elpidium\_bromeliarum* | 0011101210100201330011?1111101111?101?110111?10111000?11?11?112--1301101 |
| *Elpidium\_maricaoensis* | 00111?2?????02?????0????????0?11?110????????1101110???11?11?112--33011?1 |
| *Elpidium\_laesslei* | 111111110011010033011101111101111110121101111101110001111111110212110101 |
| *Elpidium\_inaequivalve* | 0111101?????01????00?1?111010011?110??1101111?0111000?11?11?112--13011?1 |
| *Elpidium\_purperae* | 0011101?????0???????????????111???????110111??????0???11?11?112--22011?? |
| *Elpidium\_pintoi* | 0011101?????0???????????????011???????110111??????0???11?11?112--22011?? |
| *Elpidium\_merendonense* | 110111321110111033001201110100111110121101111101110001111111110002111101 |
| *Elpidium\_martensi* | 001110121010021133001111110111111110121101111101110001111111112--0201101 |
| *Elpidium\_wolfi* | 111111310011010033001101111100111110121101111101110001111111112--2110101 |
| *Elpidium\_littlei* | 011111220011011033001101111101111110121101111101110001111111111010110101 |
| *Elpidium\_heberti* | 010111310011020033001101111100111110121101111101110001111111111012110101 |
| *Elpidium*\_*litoreum* sp. nov. | 001111121010011233001101110101111110121101111101110001111111111113201111 |
| ;END; |