

Figure S1. Average temperature in Punta Manzanillo and the Charles Darwin Research Station. Data source: Worldclim historical climate data (1970–2000) with a 2.5m resolution. The dataset is CRU-TS 4.06 (Harris et al., 2020) downscaled with WorldClim 2.1 (Fick and Hijmans, 2017).

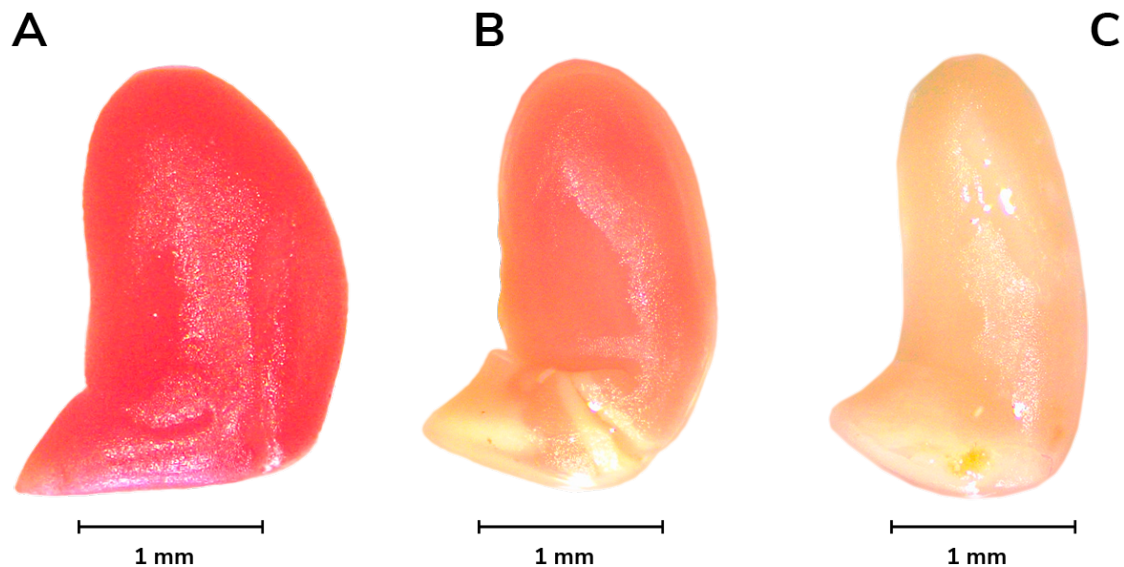


Figure S2. Differentiation between viable and non-viable seeds: A) The seed stained uniformly red throughout the embryo is classified as viable, B) The seed with faint staining or absence of staining in the radicle and tissues associated with the embryo (hypocotyl and plumule) is classified as non-viable, and C) Unstained seed is classified as non-viable, according to AOSA-SCST (Miller & Peter 2010).

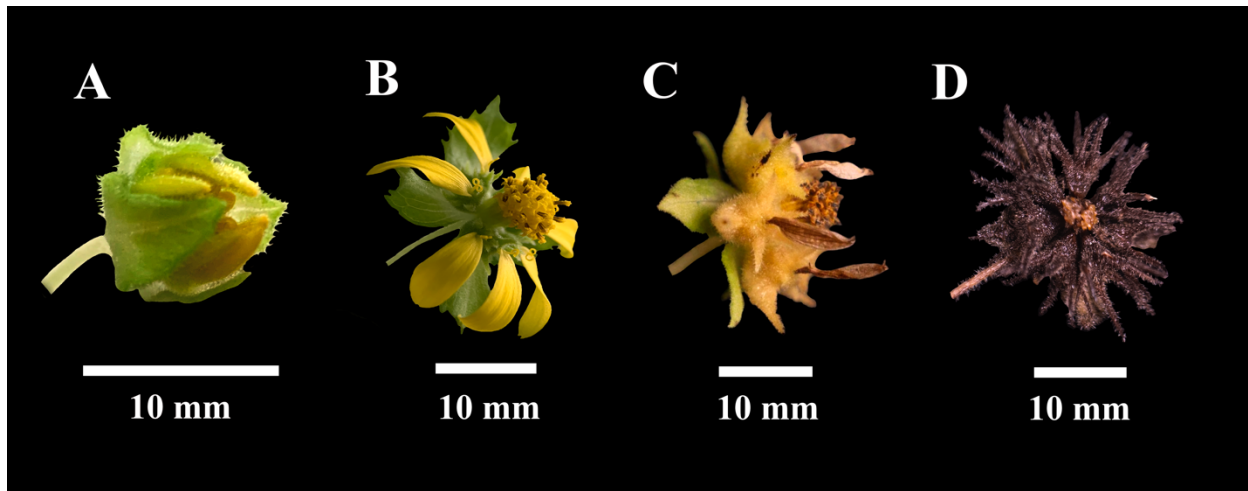


Figure S3. Phenological stages of *Lecocarpus lecocarpoides*: A) flower bud, B) fully expanded ray florets, C) immature fruiting head, D) mature fruiting head.

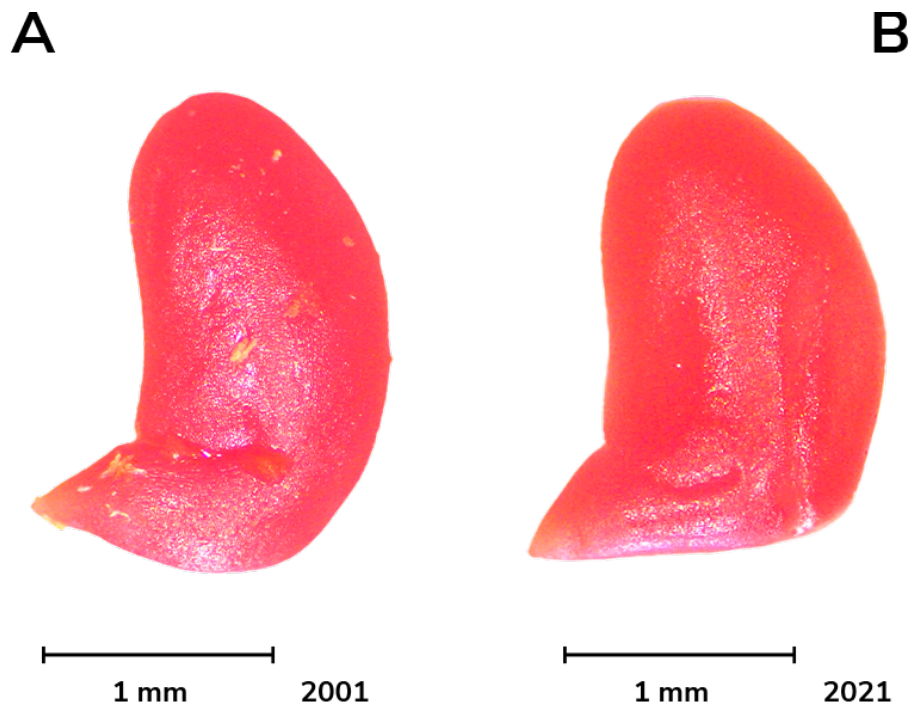


Figure S4. Tetrazolium-tested seed embryos: a) seed collected from Osborn Island in 2001 b) seed collected from Gardner Island in 2021.



Figure S5. Emerging seedling retaining the seed coat attached to its primary leaves or to its cotyledon upon breaking through the soil surface.

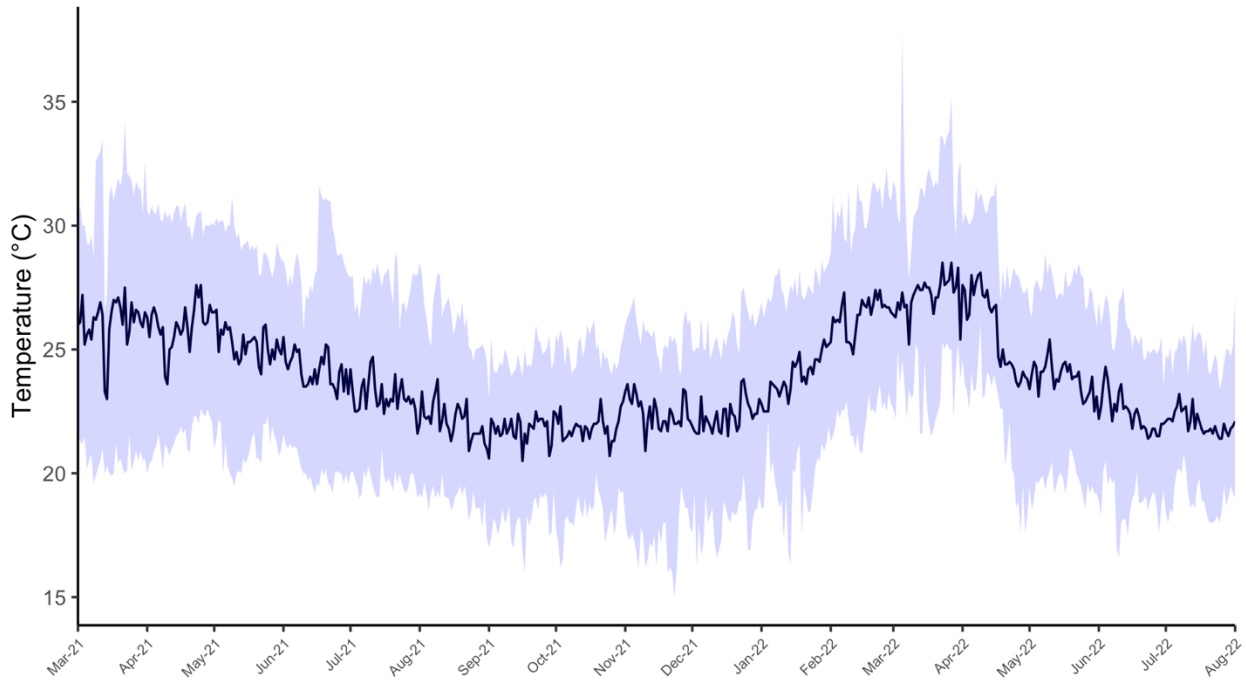


Figure S6. Mean, min, and max daily air temperature in Puerto Ayora from March 2021 to August 2022. Data source: Charles Darwin Foundation Climatology Database (CDF, 2024)



Figure S7. Diaspores of *Lecocarpus lecocarpoides*: a) Diaspores of subsp. *brachyceratus* collected from Osborn Islet exhibiting short spines, and b) Diaspores of subsp. *lecocarpoides* obtained from ex situ cultivation at the CDRS displaying long spines. Difference in bracts between subspecies can also be observed.

Table S1. *Lecocarpus lecocarpoides* seed samples from the CDS Herbarium tested using a tetrazolium viability test.

Accession number	Population	Year collected	Seed number	Subspecies	Collector
12749	Punta Manzanillo	2001	30	<i>lecocarpoides</i>	Jaramillo, P.
11598	Gardner	2001	30	<i>brachyceratus</i>	Jaramillo, P.
11868	Osborn	2001	30	<i>brachyceratus</i>	Simbaña, W.
17579	Oeste	2005	30	<i>brachyceratus</i>	Simbaña, W.
17580	Punta Manzanillo	2005	30	<i>lecocarpoides</i>	Simbaña, W.
34044	Gardner	2007	28	<i>brachyceratus</i>	Simbaña, W.
59588	Xarifa	2019	30	<i>brachyceratus</i>	Jaramillo, P.
59589	Oeste	2021	30	<i>brachyceratus</i>	Calle, A. et al.

Table S2. Morphological characteristics employed by Tye and Jaramillo (2022) and other studies to differentiate between *Lecocarpus* taxa

Morphological characters	Study
Ray florets number	1, 2, 3, 4
Ray florets length (mm)	1, 2, 3, 4
Spines per diaspore	1, 2, 3, 4
Spine length (mm)	4
Secondary vein angles	1, 2, 3, 4
Distance of leaf incisions towards the central vein	2, 3, 4
Petiole length	3
Petiole width	3
Winged petioles	4
Spine length compared to diaspore body	4
Bracts length (mm)	2
Bracts width (mm)	5
Dentated bracts	5
Leaf morphology	1, 2

¹Adersen (1980)²Eliasson (1971)³Sønderberg & Adersen (2007)⁴Tye & Jaramillo (2022)⁵Present studyTable S3. Samples of *Lecocarpus lecocarpoides* from the CDS Herbarium that contain seeds.

Accession Number	Subspecies	Population	Collector
390	<i>brachyceratus</i>	Gardner	Snow, D.
906	<i>brachyceratus</i>	Gardner	de Vries, T.
6522	<i>brachyceratus</i>	Gardner	Montenegro, T.
6765	<i>lecocarpoides</i>	Punta Manzanillo	Tapia, W.
6841	<i>brachyceratus</i>	Gardner	Aldaz, I.
7286	<i>brachyceratus</i>	Osborn	Huttel, C.
8914	<i>brachyceratus</i>	Gardner	Aldaz, I.
11598	<i>brachyceratus</i>	Gardner	Jaramillo, P.
11868	<i>brachyceratus</i>	Osborn	Simbaña, W.
17579	<i>brachyceratus</i>	Xarifa	Simbaña, W.
17580	<i>lecocarpoides</i>	Punta Manzanillo	Simbaña, W.
34044	<i>brachyceratus</i>	Gardner	Simbaña, W.
42764	<i>lecocarpoides</i>	Punta Manzanillo	Jaramillo, P.
42766	<i>brachyceratus</i>	Gardner	Jaramillo, P.
43146	<i>brachyceratus</i>	Osborn	Guezou, A.
58695	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
58696	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
58697	<i>brachyceratus</i>	Xarifa	Jaramillo, P.

Accession Number	Subspecies	Population	Collector
58698	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
58699	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
58700	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
58701	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
58702	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
58956	<i>lecocarpoides</i>	Punta Manzanillo	Cárdenas, D.
58957	<i>lecocarpoides</i>	Punta Manzanillo	Cárdenas, D.
58958	<i>lecocarpoides</i>	Punta Manzanillo	Cárdenas, D.
58959	<i>lecocarpoides</i>	Punta Manzanillo	Cárdenas, D.
58999	<i>brachyceratus</i>	Osborn	Jaramillo, P.
59003	<i>brachyceratus</i>	Osborn	Jaramillo, P.
59004	<i>brachyceratus</i>	Osborn	Jaramillo, P.
59005	<i>brachyceratus</i>	Osborn	Jaramillo, P.
59026	<i>lecocarpoides</i>	Punta Manzanillo	Villalba-Alemán, J.
59099	<i>lecocarpoides</i>	Punta Manzanillo	Jaramillo, P.
59432	<i>lecocarpoides</i>	Punta Manzanillo	Jaramillo, P.
59588	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
59898	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
59899	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
59900	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
59901	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
59902	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
59903	<i>brachyceratus</i>	Xarifa	Jaramillo, P.
59904	<i>brachyceratus</i>	Xarifa	Jaramillo, P.

LITERATURE CITED

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