

**TABLE 1** Description of datasets. Species: *Avicennia germinans* (Ag), *As* (*Avicennia schaueriana*), *Lr* (*Laguncularia racemosa*) and *Rm* (*Rhizophora mangle*); Molecular marker (M): single nucleotide polymorphism (SNP) or microsatellite (Msat); Number of loci used (NL), Number of individuals used (NI), Number of sampling sites (N), Biogeographic realms (Realm): Tropical Atlantic (TA) and Tropical East Pacific (TEP) (Spalding et al., 2007) , main countries and/or regions sampled (PR): Bra (Brazil), Car (Caribbean), Flo (Florida, USA), Tex (Texas, USA), Mex (Mexico), Yuc (Yucatan, Mexico), Ho (Western Hemisphere), Sen (Senegal) and the Reference. \*Separate datasets for Atlantic and Pacific Ocean basins

Species	M	NL	NI	N	Realm	PR	References
Ag	SNP	2260	48	6	TA	Bra	Cruz et al., 2020
Ag	Msat	8	150	15	TA	Flo	Hodel et al., 2016
Ag	Msat	12	1083	41	TA	Flo, Tex	Kennedy et al., 2020
Ag	Msat	22	181	7	TA	Bra	Mori et al., 2015
Ag	Msat	8	544	14	TA, TEP	Mex	Ochoa-Zavala et al., 2019*
As	SNP	826	77	10	TA	Bra	Cruz et al., 2019
As	Msat	17	400	11	TA	Bra	Mori et al., 2015
Lr	SNP	1072	40	14	TA	Car, Mex, Sen	Hodel et al., 2018
Lr	Msat	7	102	8	TA	Bra, Car, Flo	Sereneski-Lima et al., 2021
Rm	Msat	8	50	5	TA	Yuc	Cisneros-de la Cruz et al., 2018
Rm	Msat	10	318	11	TA	Bra	Francisco et al., 2018
Rm	Msat	7	150	15	TA	Flo	Hodel et al., 2016
Rm	SNP	1953	85	12	TA	Flo	Hodel et al., 2017
Rm	Msat	7	96	12	TA	Flo	Hodel et al., 2017
Rm	SNP	10201	116	28	TA, TEP	Bra, Car, Mex	Hodel et al., 2018
Rm	Msat	6	237	9	TA	Car, Flo, Sen	Kennedy et al., 2016
Rm	Msat	7	240	8	TA	Flo	Kennedy et al., 2017
Rm	SNP	4376	78	11	TA	Bra	Madeira et al., 2023
Rm	Msat	9	625	30	TA, TEP	Ho	Takayama et al., 2013*

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