

Sex or Fission? Genetics Highlights Differences in Reproductive Strategies of Two Sympatric Fissiparous Sea Cucumber Species in Reunion Island (Southwestern Indian Ocean)

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Table S1: Summary of the sampling design

Species	Reef	Site	Density	Code	Latitude (S)	Longitude (E)	N S1 _{cold}	N S2 _{warm}	N S3 _{cold}	N Total
<i>Holothuria leucospilota</i>	L'Hermitage/La Saline	Maître-Nageur-Sauveteur	High	MNS	21°04'10.54"	55°13'11.92"	24	24	24	72
		Cap-Méchant	Low	CAP	21°04'54.05"	55°13'23.29"	12	12	12	36
		Planch'Alizé	High	PLA	21°05'41.70"	55°14'01.65"	24	24	24	72
		Petit Trou d'Eau	Low	PTE	21°05'59.95"	55°14'25.73"	12	12	12	36
		Trou d'Eau	High	TE	21°06'11.52"	55°14'44.61"	24	24	24	72
<i>Stichopus chloronotus</i>	L'Hermitage/La Saline	Passe de l'Hermitage	High	PAS	21°05'05.58"	55°13'32.39"	24	24	24	72
		Trou d'Eau	High	TE	21°06'11.52"	55°14'44.61"	24	24	24	72
	Étang-Salé	Étang-Salé	High	ES	21°16'05.89"	55°19'57.29"	24	24	24	72

N indicates the number of individuals sampled.

S1_{cold}: austral winter 2019; S2_{warm}: austral summer 2020; S3_{cold}: austral winter 2020

Figure S1: Distribution of pairwise differences (number of alleles shared) among multi-locus genotypes (MLG) for *Holothuria leucospilota*.

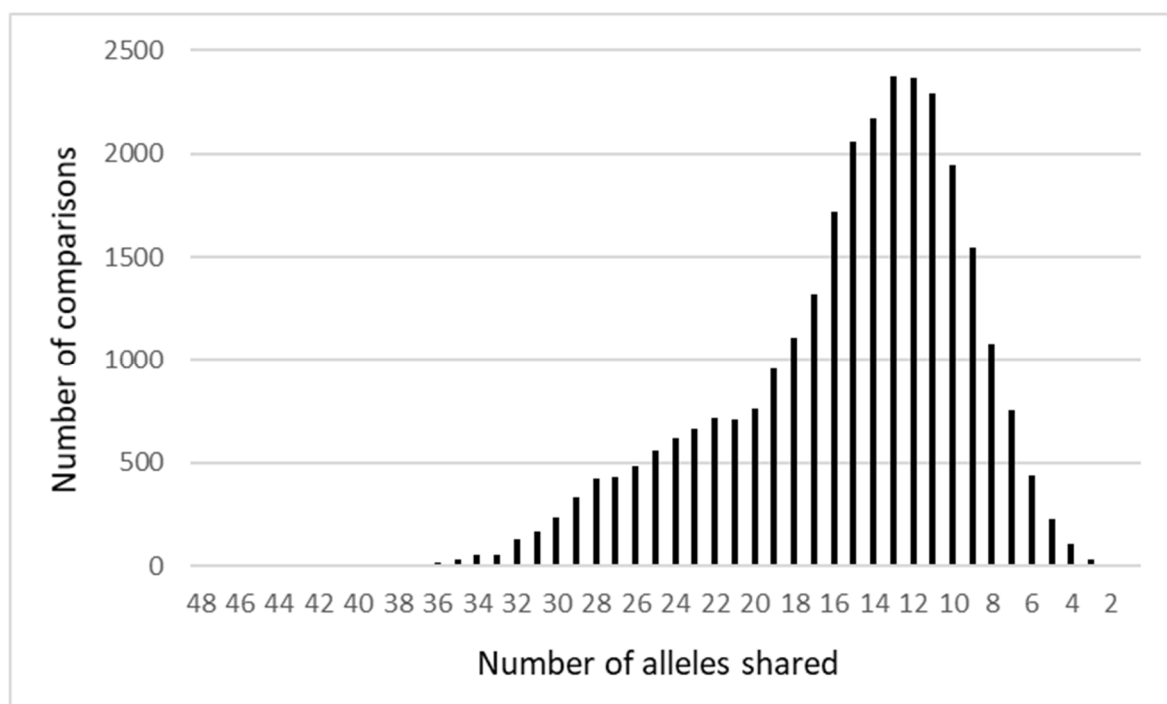
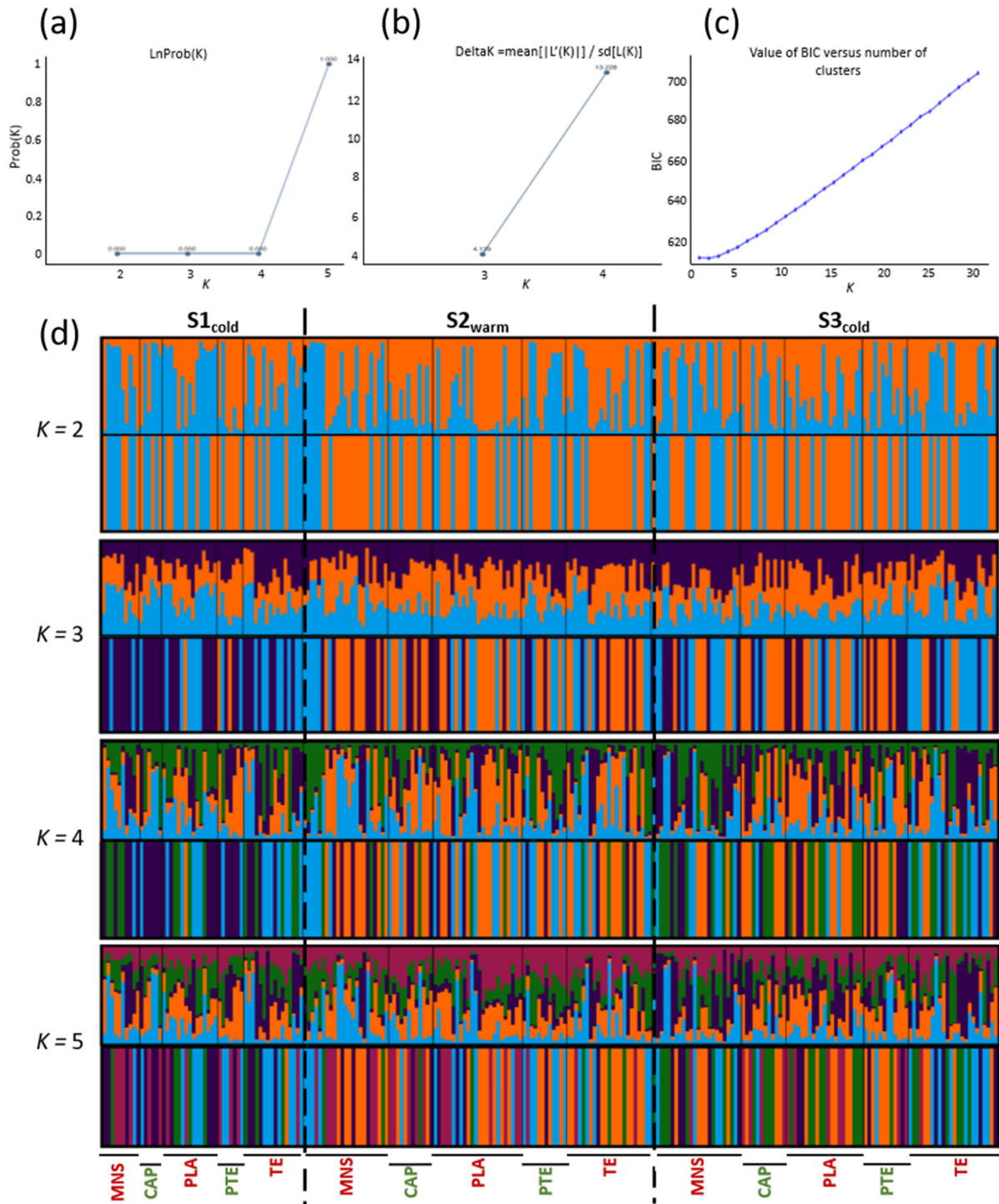
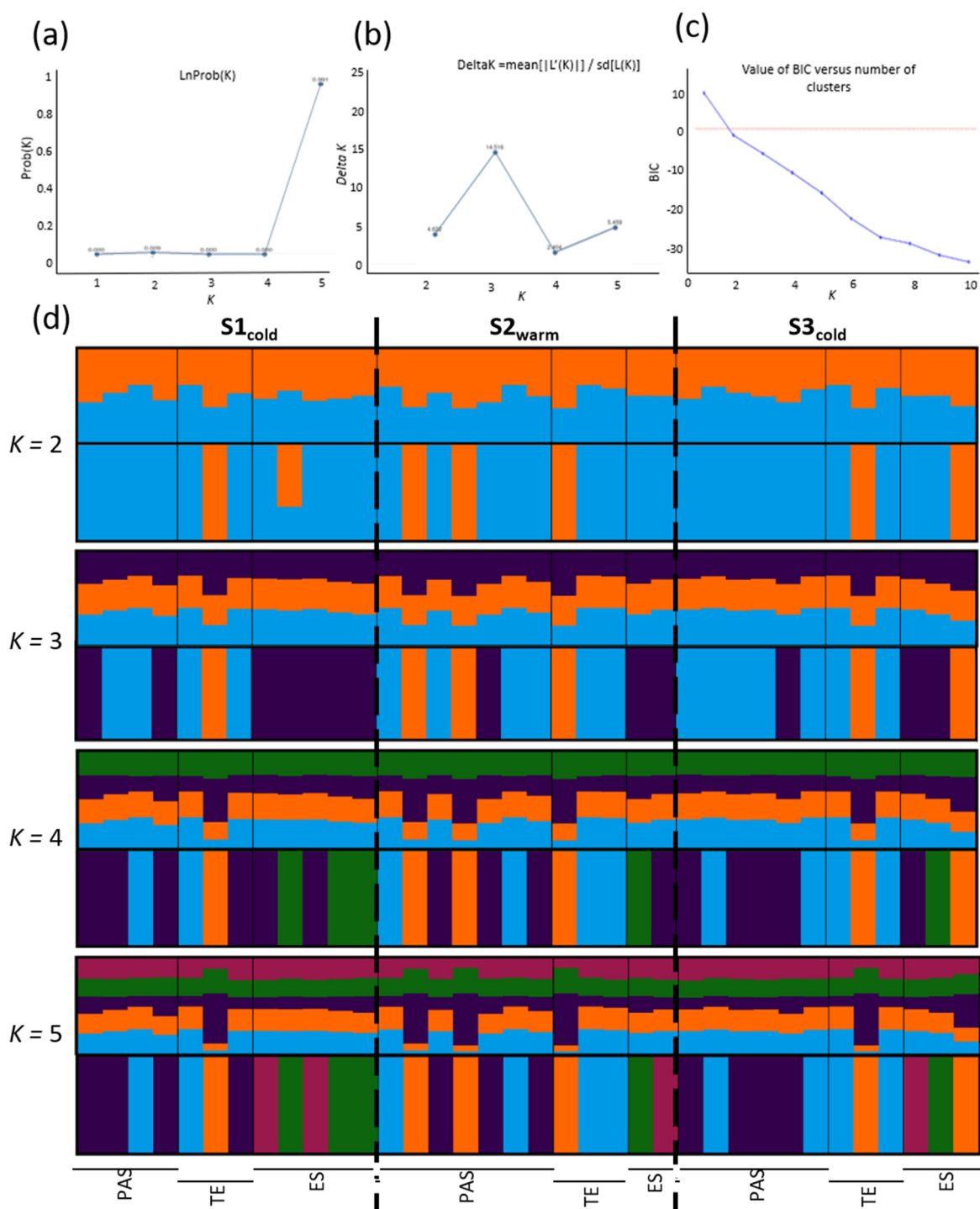


Figure S2: Results of the assignment tests for *Holothuria leucospilota*. (a) mean likelihood over the five iterations of the same K , (b) Evanno's ΔK distribution, (c) BIC distribution and (d) plots from $K = 2$ to $K = 5$ for Structure (above) and DAPC (below).



High density sites in red: MNS: Maître-Nageur-Sauveteur, PLA: Planch'Alizé, TE: Trou d'Eau
 Low density sites in green: CAP: Cap-Méchant, PTE: Petit Trou d'Eau
 S1_{cold}: austral cold season 2019, S2_{warm}: austral warm season 2020, S3_{cold}: austral cold season 2020

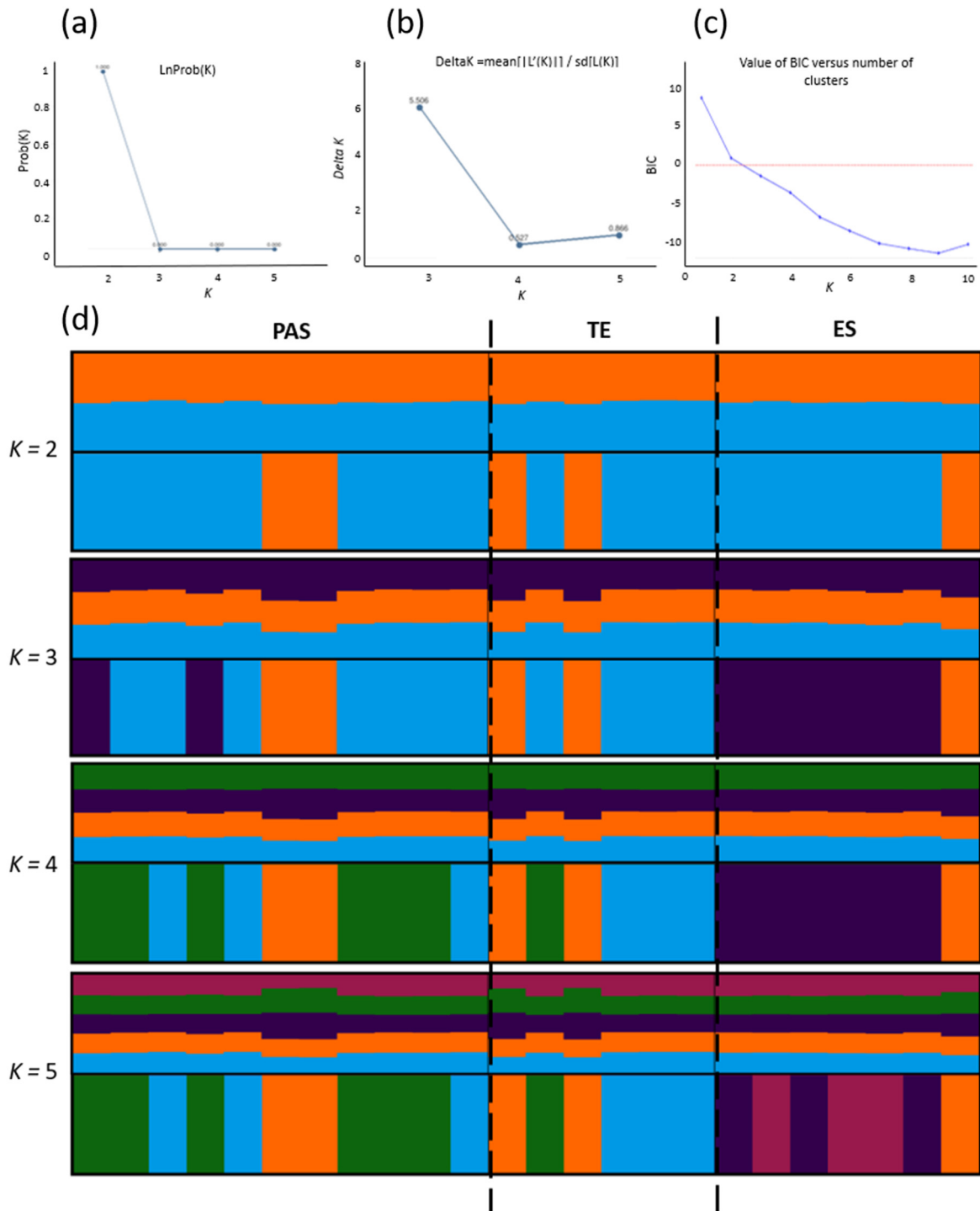
Figure S3: Results of the assignment tests for *Stichopus chloronotus*. (a) mean likelihood over the five iterations of the same K , (b) Evanno's ΔK distribution, (c) BIC distribution and (d) plots from $K = 2$ to $K = 5$ for Structure (above) and DAPC (below).



PAS: Passe de l'Ermitage, TE: Trou d'Eau, ES: Étang-Salé

S1_{cold}: austral cold season 2019, S2_{warm}: austral warm season 2020, S3_{cold}: austral cold season 2020

Figure S4: Results of the assignment tests for *Stichopus chloronotus* keeping only one representative per MLG, for each site, all seasons pooled. (a) mean likelihood over the five iterations of the same K , (b) Evanno's ΔK distribution, (c) BIC distribution and (d) plots from $K = 2$ to $K = 5$ for Structure (above) and DAPC (below).



PAS: Passe de l'Hermitage, TE: Trou d'Eau, ES: Étang-Salé