Characterization of *Pan* social systems reveals in-group out-group distinction and out-group tolerance in bonobos
Liran Samuni, Kevin E. Langergraber, Martin H. Surbeck

Table S1. Summary of bonobo within cluster characteristics

	Cluster	Cluster size	Observation days	Party size	Relative party size	% significant associates[1]
2017	Ekalakala	9	346	6.26 ± 2.00	0.62 ± 0.20	52% (19)
	Kokoalongo	27	324	9.20 ± 4.58	0.34 ± 0.17	50% (162)
	KokoalongoN	15	-	7.35 ± 3.43	0.50 ± 0.22	78% (82)
	KokoalongoS	12	-	4.17 ± 2.52	0.35 ± 0.21	71% (39)
2018	Ekalakala	11	321	5.58 ± 2.04	0.53 ± 0.19	52% (29)
	Kokoalongo	25	313	7.47 ± 3.41	0.33 ± 0.15	47% (143)
	KokoalongoN	15	-	5.48 ± 2.81	0.41 ± 0.21	74% (78)
	KokoalongoS	10	-	3.88 ± 2.06	0.41 ± 0.22	55% (25)
2019	Ekalakala	11	343	6.65 ± 2.32	0.60 ± 0.21	50% (28)
	Fekako	7	257	4.97 ± 1.36	0.71 ± 0.19	47% (10)
	Kokoalongo	20	343	7.15 ± 3.44	0.38 ± 0.18	46% (89)
	KokoalongoN	12	219*	5.19 ± 2.51	0.47 ± 0.23	78% (52)
	KokoalongoS	8	170*	4.31 ± 2.03	0.54 ± 0.25	100% (28)

* followed separately since March 2019
[1] Percentage (and number) of dyads that are significant associates. Significant associates were defined as $SRI_{obs} > SRI_{exp}$ in at least 95% of cases (randomisations were conducted at the level of the cluster).
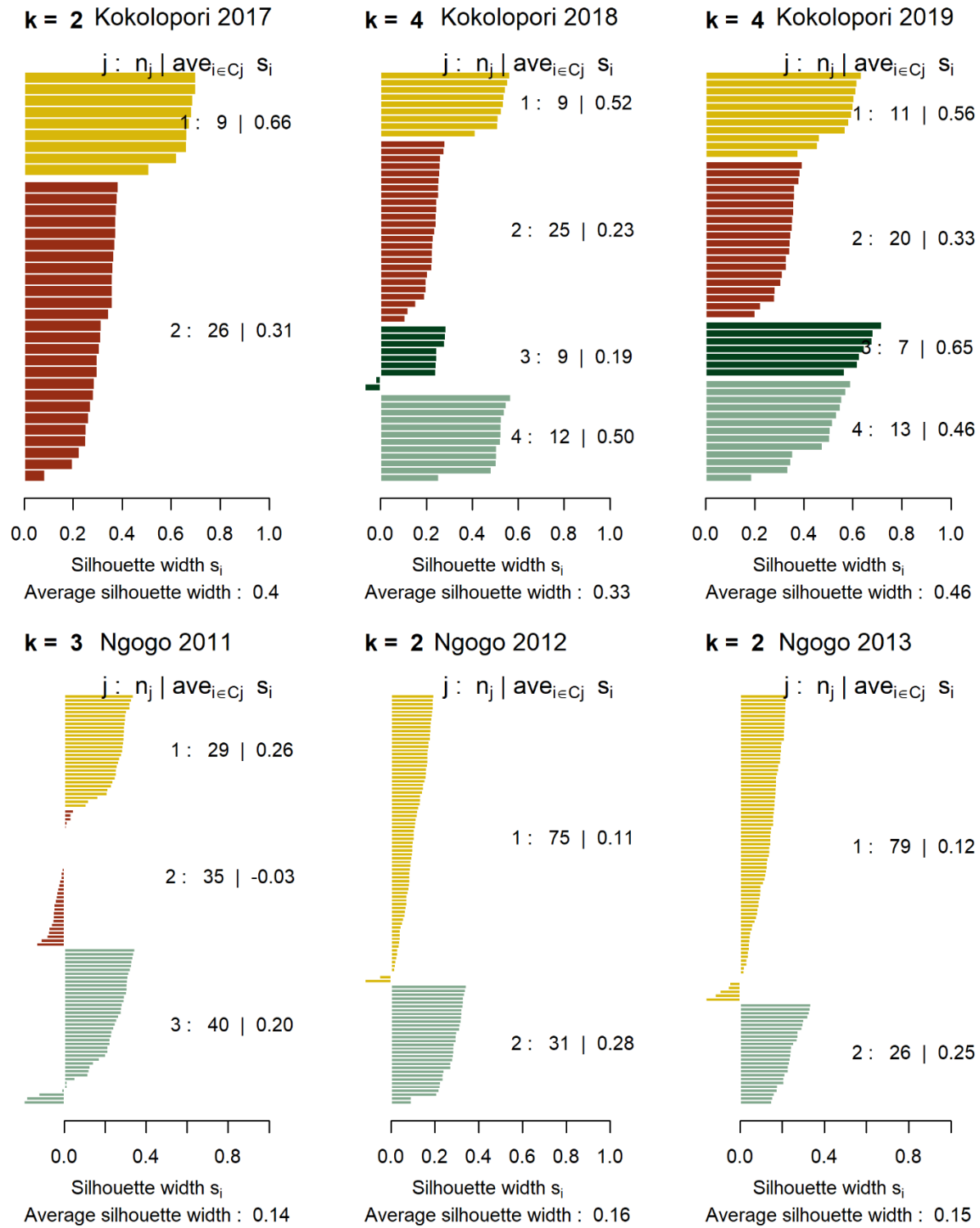
Figure S1. Yearly silhouette coefficient in Kokolopori (2017-2019) and Ngogo (2011-2013). The different colours represent different clusters according to the optimal number of clusters detected by the silhouette coefficient. In 2017, only data from the Ekalakala and Kokoalongo groups was included.
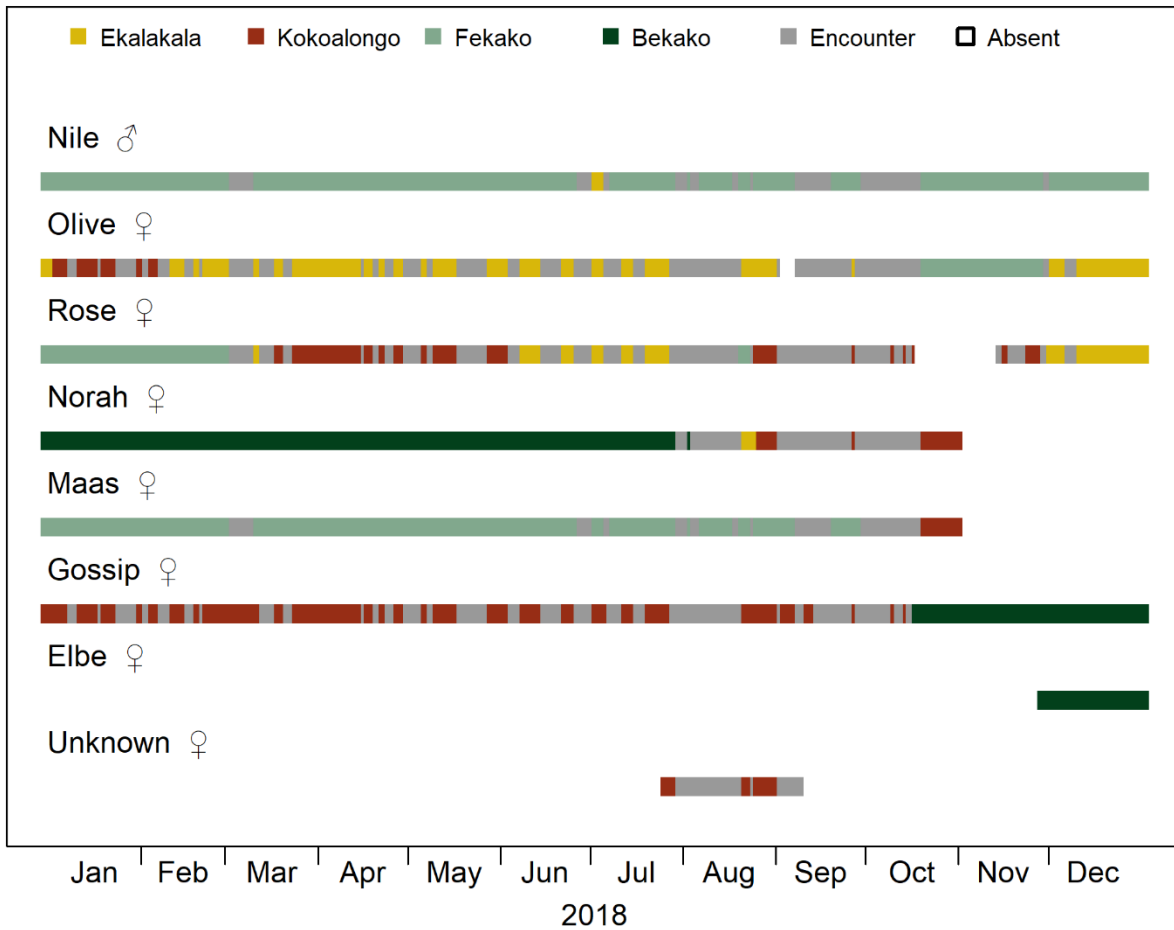
Figure S2. Female and male transfer patterns in Kokolopori. Shown in colours are the group association patterns of seven nulliparous females and one adult male during 2018. Most transfers occurred during intergroup encounters (grey).
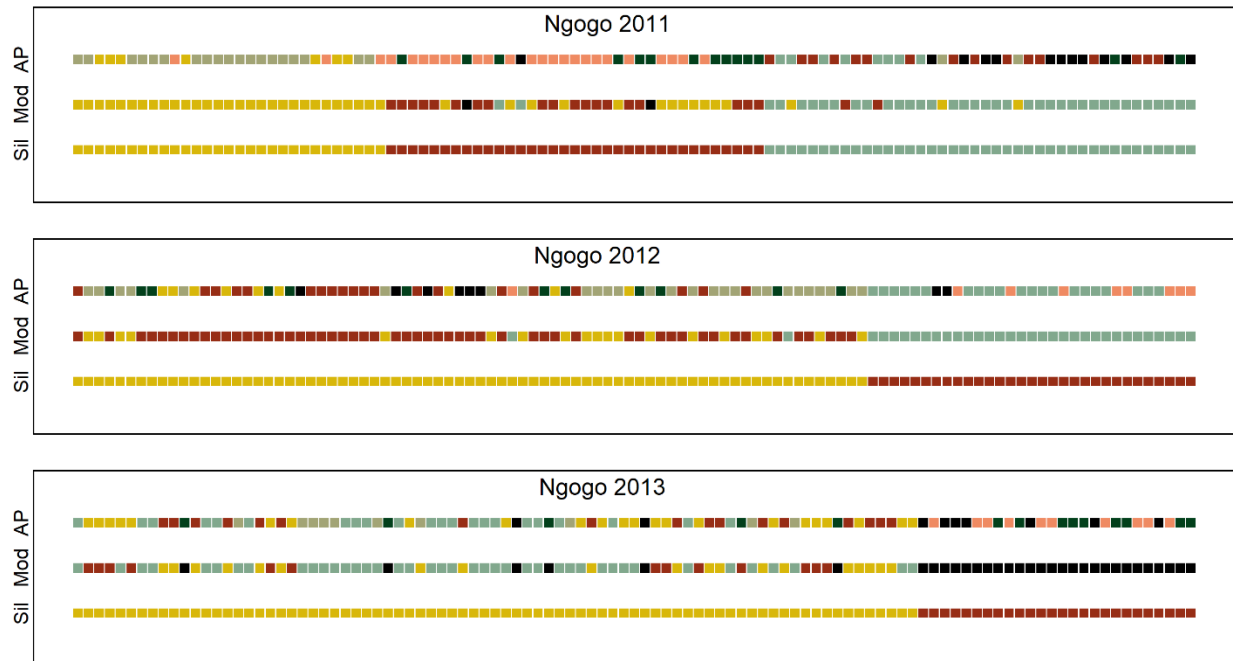
Figure S3. Comparison of the optimal number of clusters detected by the Silhouette index (Sil), modularity (Mod), and affinity propagation (AP) in Ngogo chimpanzees per year (2011-2013). Each square represents an individual and the colours represent the cluster assignment of individuals (i.e., individuals that were assigned together appear under the same colour) within each method (y axis). Squares (individuals) appear at the same order across the three methods so that between-method inconsistencies can be easily detected.
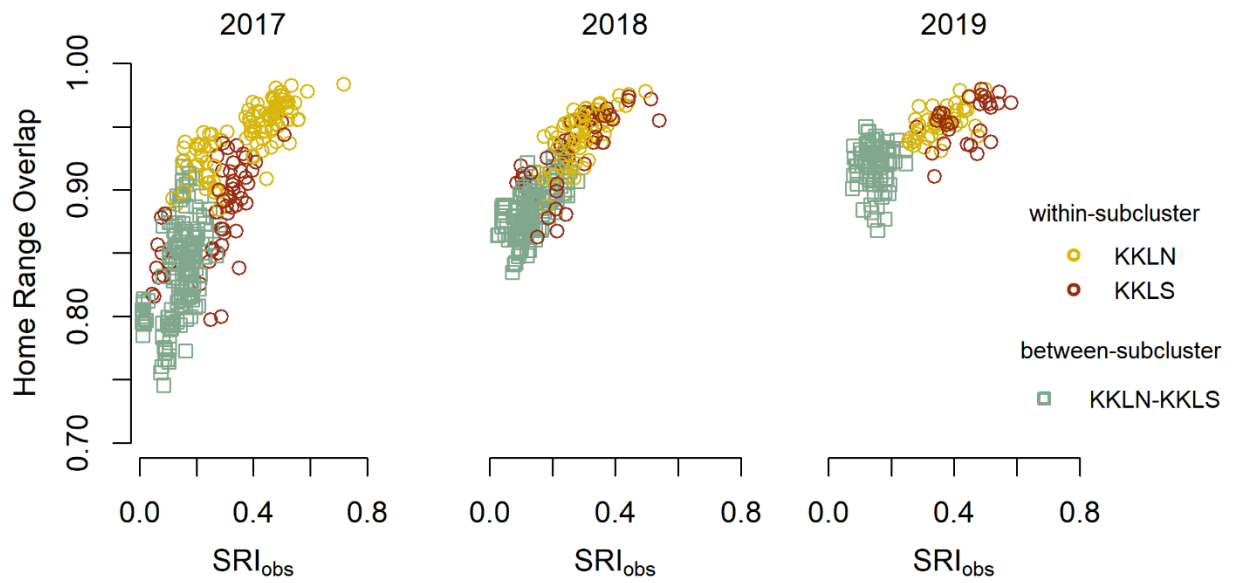
Figure S4. The yearly home range overlap (y-axis) as a function of the SRI_{obs} (x-axis) for bonobo dyads within the Kokoalongo subclusters (KKLN and KKLS). Circles or squares represent values for within- or between-subcluster dyads, respectively.