## **Supporting information**

**Table S1** Summary of the variables (mean  $\pm$  standard deviation) considered in the study depending on the presence/absence of *Viscum album* and different geographic regions: Catalonia (Cat), region occupied by *Pinus halepensis* in Catalonia (Cat<sub>*Phal*</sub>) and core distribution of *Viscum album* in stand of *P. halepensis* (Core<sub>*Phal*</sub>). See Methods for abbreviations of variables.

	V. album	Cat	Cat <sub>Phal</sub>	Core <sub>Phal</sub>
$T_{AN}$ (tenth of °C)	Absence	$110.6 \pm 28.9$	$136.7 \pm 10.5$	$136.8 \pm 10.4$
	Presence	$131.3 \pm 20$	$139.2 \pm 8.5$	$138.5 \pm 9.7$
<i>H</i> (m)	Absence	$10.2 \pm 4.7$	$9.9 \pm 4.1$	$9.8 \pm 4.1$
	Presence	$7.8 \pm 3.4$	$7.3 \pm 3.1$	$7.6 \pm 3.2$
DN (cm)	Absence	$213.8\pm103$	$220.5 \pm 86.1$	$220.3 \pm 85.3$
	Presence	$223.7 \pm 74.5$	$215.6\pm64.5$	$202.3\pm77.9$
dtree (trees/ha)	Absence	$1042.7 \pm 630.9$	$792 \pm 487.6$	$779.4 \pm 488.4$
	Presence	$572.9 \pm 470$	$510.5\pm424.6$	$650.3\pm474.1$
DNm (cm)	Absence	$182.4 \pm 55.3$	$182.1 \pm 44.7$	$181.8 \pm 44.4$
	Presence	$180.8\pm41$	$176.4 \pm 36.5$	$174.4\pm41.8$
Phal0100 (%)	Absence	$19.7 \pm 37.5$	85.3 ± 22.3	84.9 ± 22.3
	Presence	$64.4 \pm 34.9$	$77.3 \pm 21.5$	$80.6 \pm 21.5$
Olive1000 (%)	Absence	$0.5 \pm 3.1$	3 ± 7.3	3.5 ± 8.0
	Presence	$12.8\pm13$	$15.4 \pm 12.8$	$11.3 \pm 11.5$

**Table S2** Generalized linear mixed models examining the influence of landscape variables (percentage of area covered with *Pinus halepensis* and percentage of Olive orchards at different distances from the center of the sampling plot) in explaining the distribution of *Viscum album* on *P. halepensis* at two different spatial scales: (a) Catalonia and (b) southernmost core distribution (Fig. 1). The variable included in the model with the lowest AIC (highlighted in bold) was used in further analysis. See Methods for abbreviations of variables.

(a) Cat <sub>Phal</sub>	Models	AIC
Phal	Phal0100	5931.9
	Phal0250	5949.7
	Phal0500	6045.4
	Phal1000	6448.1
Olive	Olive0100	27563.3
	Olive0250	5638.6
	Olive0500	5325.2
	Olive1000	5260.1
(b) Core <sub>Phal</sub>	Models	AIC
Phal	Phal0100	4775.3
	Phal0250	4774.7
	Phal0500	4777.3
	Phal1000	4777.6
Olive	Olive0100	4750.1
	Olive0250	4745.3
	Olive0500	4742.3
	Olive1000	4728.4