PHENOLOGY, REPRODUCTIVE BIOLOGY AND SPATIAL DISTRIBUTION OF *CHRESTA SCAPIGERA* (LESS.) Gardner (ASTERACEAE)

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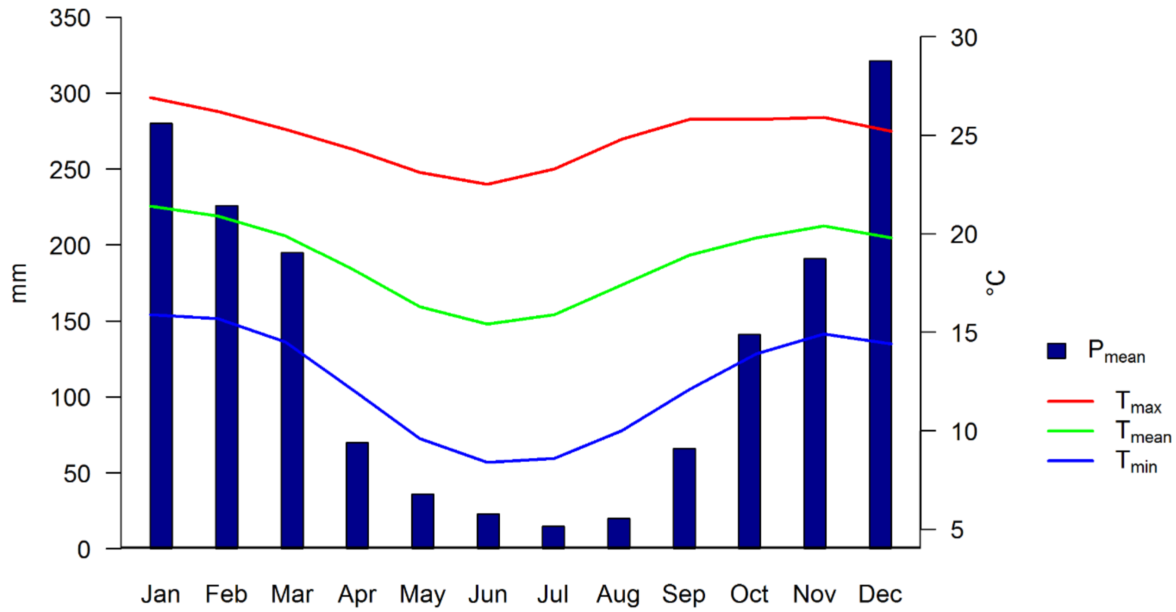

Figure S1. Monthly climatic data for the location of the study site and surrounding region in the Municipality of Lavras, Minas Gerais State, Southeast of Brazil. Tmean, Tmax and Tmin are respectively mean, maximum and minimum monthly temperature; P mean means monthly precipitation. Figure created with R version 3.5.0.

Figure S2. Inflorescence of *Chresta scapigera* in pre and total anthesis. **a** stamens in pre-anthesis, **b** stamens in total anthesis, **c** Total opening of the petals, **d** female reproductive system.

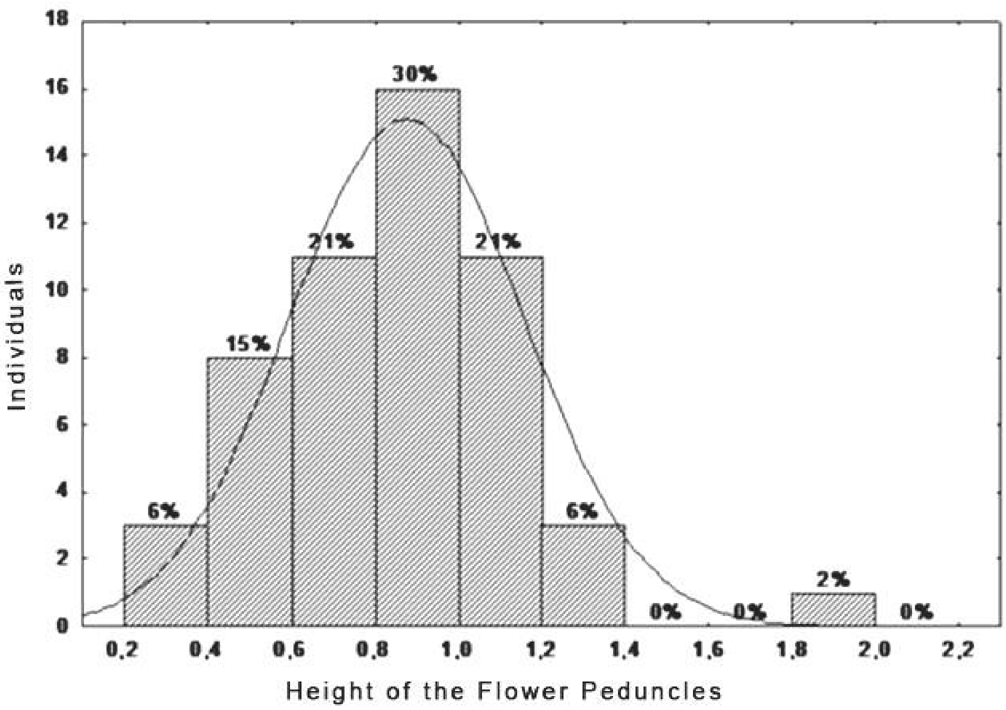

Figure S3. Height (cm) of the individuals of *Chresta scapigera* and the percentage of them percentage per height classes.

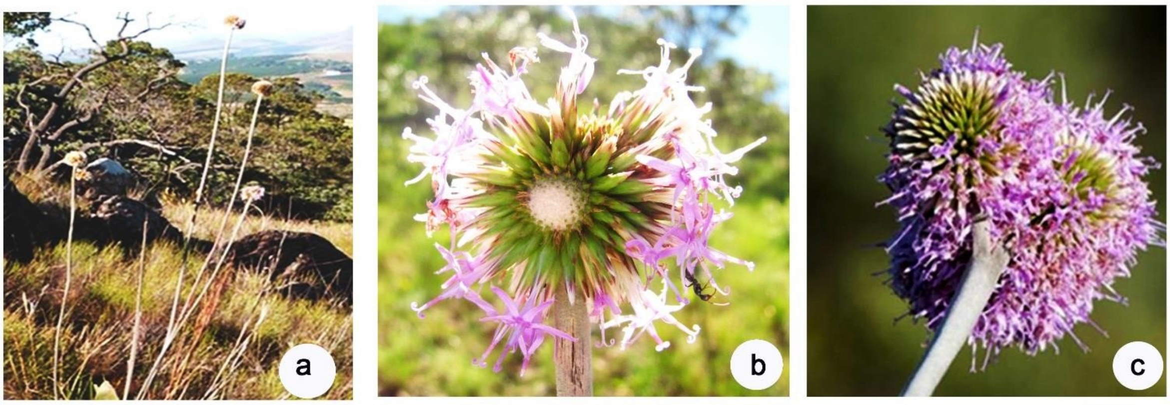

Figure S4. Inflorescence of *Chresta scapigera*. **a**) entire peduncle of the individual with the inflorescence at the top, **b**) inflorescence with all flowers opened and fruits formed, **c**) inflorescences with flowers partially opened.

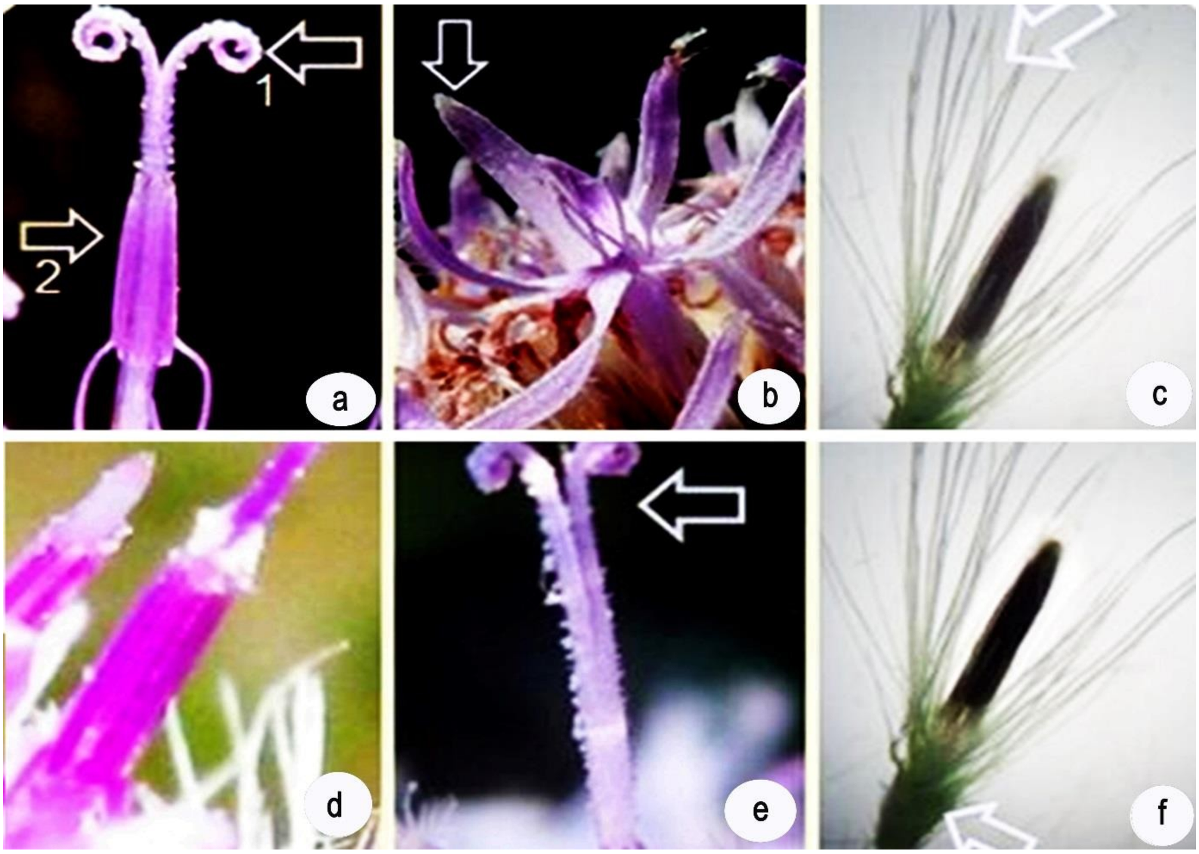

Figure S5. Inflorescence of *Chresta scapigera*. **a** arrow 1 indicating the stigma and arrow 2 the stamens, **b** petals, **c** sepals modified into pappus, **d** anthers of apical appendix, **e** filiform stylus surrounded by hairs, **f** achenes.

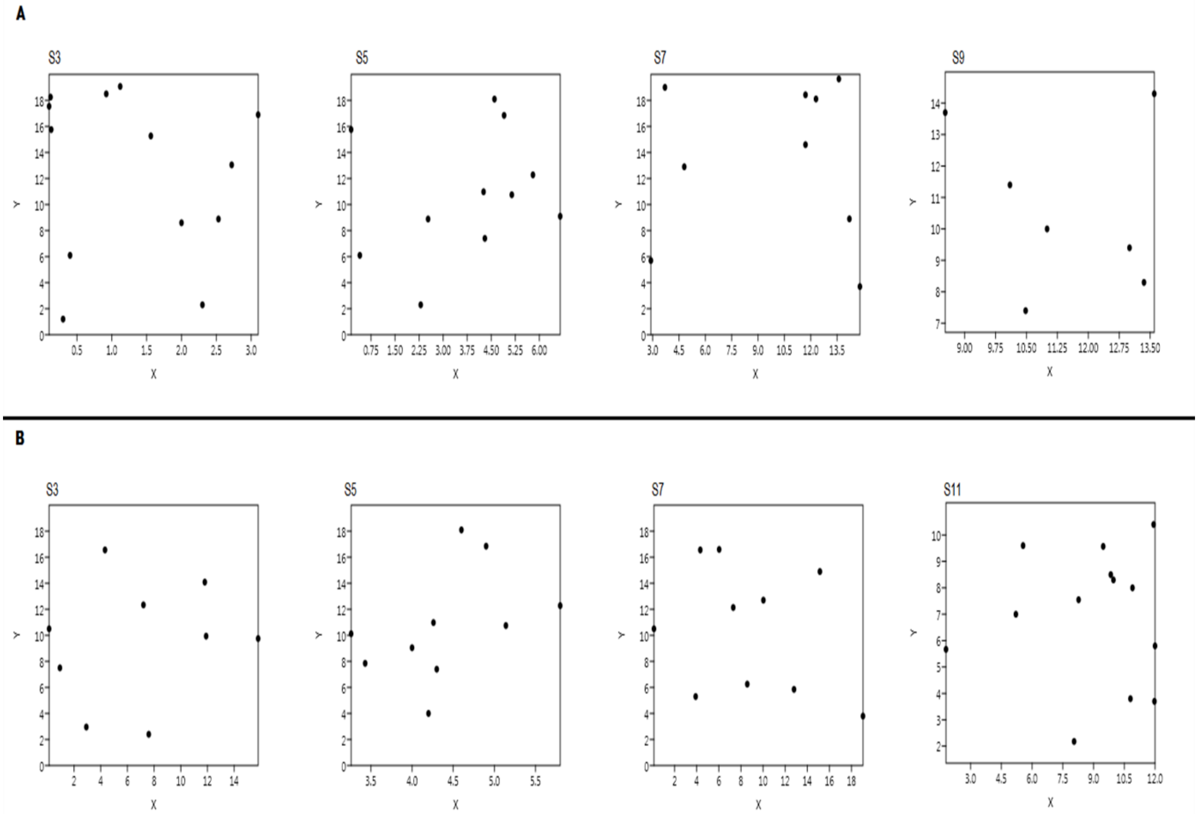

Figure S6. Spatial distribution of the individuals o *Chresta scapigera* based on their distances in meters in the x and y coordinates in five amongst the sampled subplots in Cerrado (**a**) and five *Campo rupestre* (**b**) taken as example. In both **a** and **b** the letter “S” followed by number means the number of the subplot

Table S1. Circular statistics summarizing the vegetative and reproductive phenology of individuals of *Chrestascapigera* growing in the Cerrado (C), Campo rupestre (CR) and both (Whole sample) in the South of Minas Gerais State, Southeast Brazil. CR - C: Cerrado and Campo rupestre, respectively. All mean angles (a) are significant according to the Rayleigh test (P < 0.05). The mean vector value (mean angle a) is the average angle of each phenophase for each site (Cerrado and Campo rupestre) and for the whole sample. The length of the mean vector (r) represents the relative synchrony of each phenophase, that is, if there is unimodality indicating seasonality. The Watson-Williams test compared the mean vector values between the two sites.

	Site	New leaf	Flowering	Immature Fruit	Mature Fruit
Observations	CR	31	25	26	28
	C	29	21	25	29
	Whole	60	46	51	57
Mean Angle - ***a*** (°)	CR - C	102.7 - 105.4	145.5 - 136.9	169.5 - 155.1	170.5 -156.2
	Whole	97.5	146.7	164.3	87.5
Median (°)	CR - C	104.5 - 105.5	134.1 - 134.1	161.7 - 154.8	162.9 - 155.9
	Whole	105	135	165	75
Mean Group	CR - C	April	May	June	June
	Whole	April	May	June	June
Median Group	CR - C	April	May	June	June
	Whole	April	May	June	June
Mean date	CR - C	19-Apr - 20-Apr	18-May	15-Jun	20-Mar
	Whole	20-Apr	19-May	18-Jun	19-Mar
Circular standard deviation (°)	CR - C	66.5 - 71.2	37.4 - 44.2	18.8 - 15.8	19.4 - 16.1
	Whole	66.4	43.7	22.7	23.2
Length of mean vector (***r***)	CR	0.5 - 0.46	0.8 - 0.74	0.94 - 0.96	0.96 - 0.97
	Whole	0.51	0.74	0.92	0.95
Rayleigh test for uniformity (P)	CR	<0.0001	<0.0001	<0.0001	<0.0001
	C	<0.0001	0.008	0.01	<0.0001
	Whole	<0.0001	<0.0001	<0.0001	<0.0001
95% confidence interval for ***a*** (±) (°)	CR	87.2 ± 118.1	121.5 ± 169.4	154.7 ± 184.3	155.6 ± 185.5
	C	87.1 ± 123.6	99.4 ± 174.3	130.4 ± 179.7	131.4 ± 180.8
	Whole	86.1 ± 109.9	137.7 ± 166.7	149.6 ± 178.9	147.5 ± 182.3

Table S2. Comparisons among the four phenophases within each sampling (Cerrado, *Campo rupestre* and Whole sample) at the South of Minas Gerais State, Southeast of Brazil. *F* is the test statistic of the two-sample Watson-Williams test and *P* its significance level.

	Campo rupestre		**Cerrado**		**Whole Sample**	
	F	*P*	*F*	*P*	*F*	*P*
New Leaf - Green Fruit	**21.25**	**< 0.0001**	**10.35**	**0.0020**	**30.83**	**< 0.0001**
New Leaf - Mature Fruit	1.60	0.2030	1.44	0.2270	2.97	0.0801
New Leaf - Flowering	**14.31**	**0.0005**	**6.13**	**0.0100**	**19.83**	**< 0.0001**
Green Fruit - Mature Fruit	**15.20**	**0.0004**	**9.59**	**0.0030**	**25.30**	**< 0.0001**
Green Fruit - Flowering	2.02	0.1691	1.68	0.2221	3.88	0.0501
Mature Fruit - Flowering	**9.03**	**0.0030**	**4.63**	**0.0305**	**14**	**0.0005**

Table S3. Correlation between the phenophases from the whole sample and climatic variables. ρ is Spearman's coefficient and p the significance of the correlation. Tmean, Tmax and Tmin are respectively mean, maximum and minimum monthly temperature; Prec means mean monthly precipitation.

	Tmean		**Tmax**		**Tmin**		**Prec**	
	ρ	*P*	ρ	*P*	ρ	*P*	ρ	*P*
New Leaf	0.41	0.0502	0.17	0.4061	**0.44**	**0.0200**	**0.51**	**0.0101**
Flowering	**-0.56**	**0.0401**	**-0.56**	**0.0030**	**-0.55**	**0.0051**	**-0.54**	**0.0050**
Green Fruit	**-0.73**	**<0.0001**	**-0.45**	**0.0011**	**-0.73**	**<0.0001**	**-0.66**	**0.0004**
Mature Fruit	-0.11	0.6050	-0.26	0.2152	-0.08	0.6790	-0.13	0.5261