

Appendix S2 Explanatory variables deleted in the various phases of the screening analysis and those finally selected. Variance inflation factor (V): variables deleted by having a V value <5 in the geographical background (GB) of the native area of *Digitonthophagus gazella*.

Index (I): variables deleted after applying the instability index to identify those with the highest capacity to discriminate between the environmental conditions in the presence cells against those prevailing in the GB area. F: finally selected variables

Environmental predictors	V	I	F	Source
Elevation		x		www.eros.usgs.gov
Elevation diversity		x		www.eros.usgs.gov
Slope		x		www.eros.usgs.gov
Slope diversity		x		www.eros.usgs.gov
Aspect diversity		x		www.eros.usgs.gov
Edaphic diversity			x	www.nrcs.usda.gov
Annual mean temperature	x			http://www.worldclim.org
Mean diurnal range of temperature			x	http://www.worldclim.org
Isothermality			x	http://www.worldclim.org
Temperature seasonality	x			http://www.worldclim.org
Maximum temperature of warmest month	x			http://www.worldclim.org
Minimum temperature of coldest month	x			http://www.worldclim.org
Temperature annual range	x			http://www.worldclim.org
Mean temperature of wettest quarter			x	http://www.worldclim.org
Mean temperature of driest quarter	x			http://www.worldclim.org
Mean temperature of warmest quarter	x			http://www.worldclim.org
Mean temperature of coldest quarter	x			http://www.worldclim.org
Annual precipitation	x			http://www.worldclim.org
Precipitation of wettest month			x	http://www.worldclim.org
Precipitation of driest month			x	http://www.worldclim.org
Precipitation seasonality			x	http://www.worldclim.org
Precipitation of wettest quarter	x			http://www.worldclim.org
Precipitation of driest quarter	x			http://www.worldclim.org
Precipitation of warmest quarter			x	http://www.worldclim.org
Precipitation of coldest quarter		x		http://www.worldclim.org
Continentality			x	Valencia-Barrera et al., 2002
Aridity	x			Valencia-Barrera et al., 2002