

MULTI-SPECTRAL

*Uso de imágenes espectrales en el
contexto del cambio global*

IP: Ramón Perea (UPM)

Co-IP: Emmanuel Serrano (UAB)

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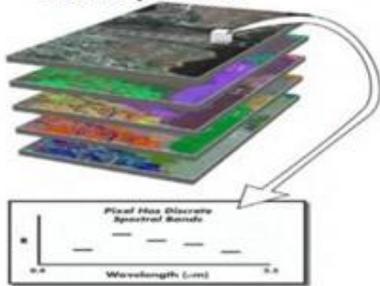
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18/04/2024

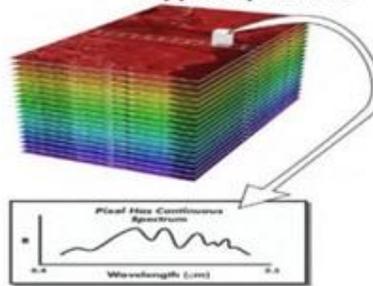


CONTENIDO

Multispectral



Hyperspectral

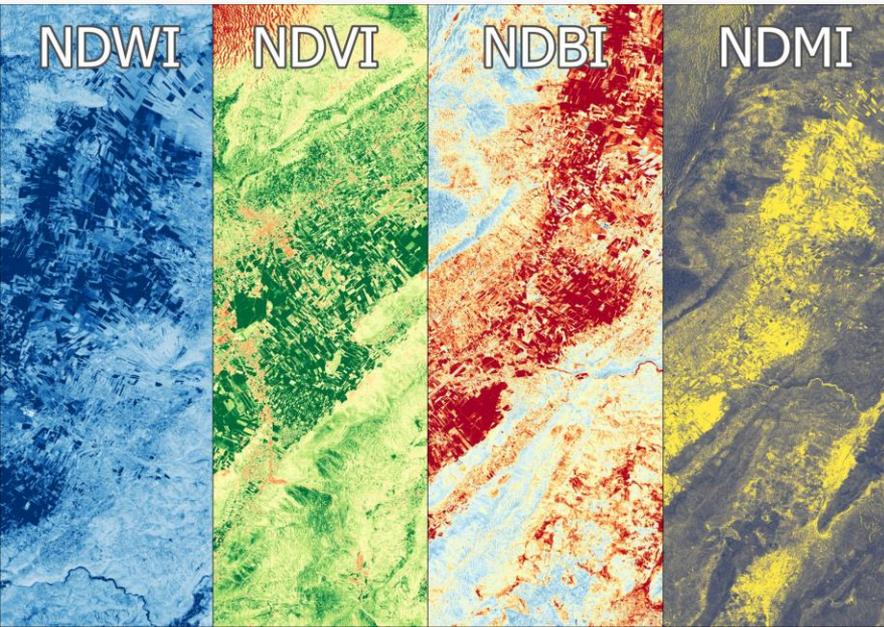


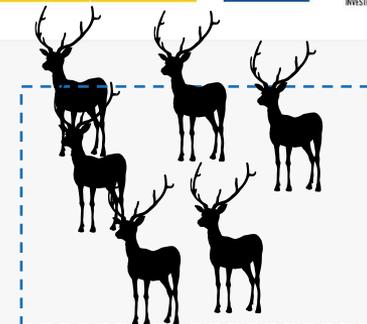
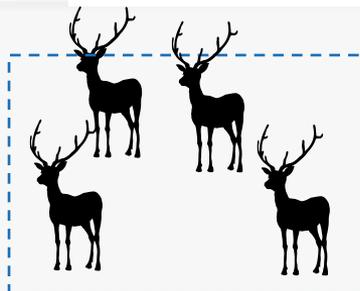
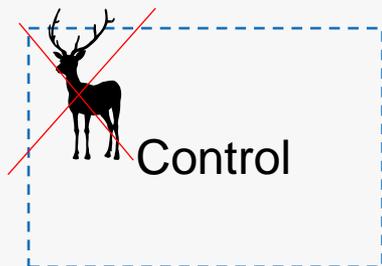
01. INTRODUCCIÓN.
LAS IMÁGENES ESPECTRALES

02. METODOLOGÍA Y UTILIDAD

03. PARTICIPANTES

04. RESULTADOS PRELIMINARES





Quintos de
Mora

Muela de
Cortes

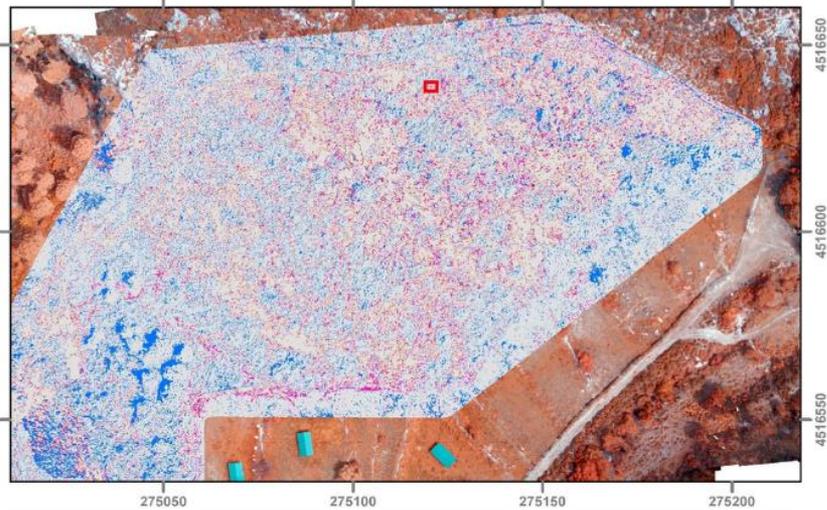
ÁREAS DE ESTUDIO



CERCADOS DE QUINTOS DE MORA

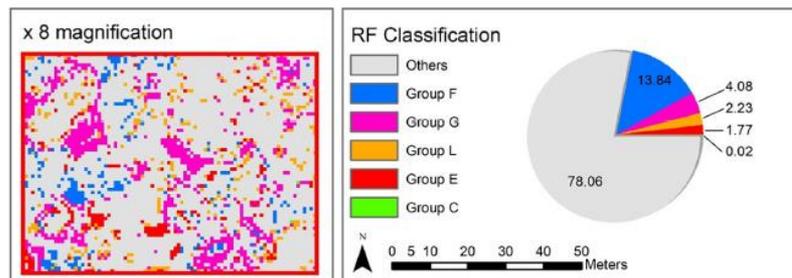


Impacto del ciervo en la vegetación anual (A) y perenne (B, C) en cercados de Quintos de Mora, Toledo, España. Nuestro proyecto tiene como objetivo detectar estos impactos en la vegetación objetivo de forma remota.



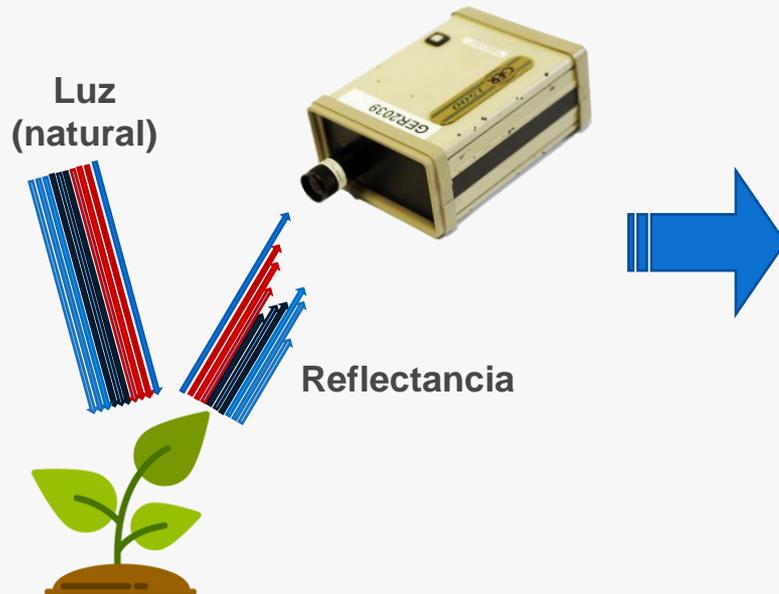
FOODSCAPES (Mapas of plant resources for herbivores)

- Identificación de especies
- Cambios fenológicos
- Relación de la firma espectral con el estrés



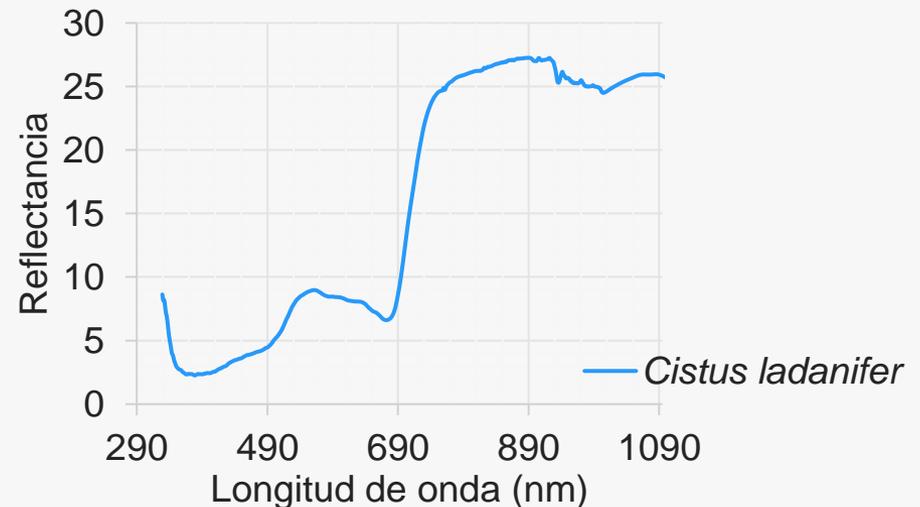
Alonso et al. (2020). Sci Tot Environ

RADIÓMETRO

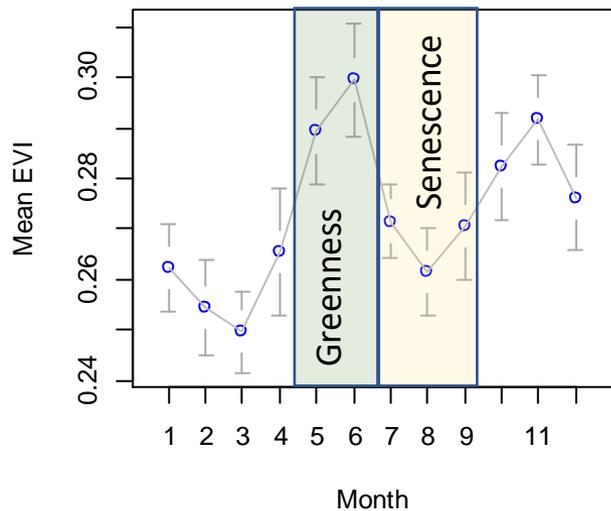


Bandas (512): de 285 nm a 1095 nm.

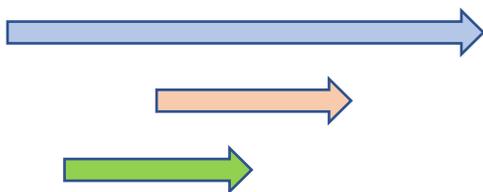
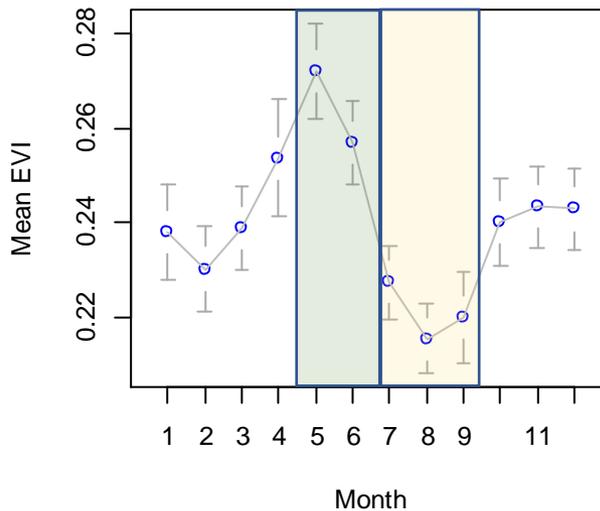
Índices: $(R_{675} \cdot R_{690}) / (R_{683}^2)$; R_{750} / R_{800} ;
 R_{685} / R_{655} ; R_{690} / R_{655} ; R_{680} / R_{630} ; R_{685} / R_{630} ;
 R_{687} / R_{630} ; R_{690} / R_{630} ; $(R_{685}^2) / (R_{675} \cdot R_{690})$;
 R_{690} / R_{600} ; R_{740} / R_{800} ; $(R_{683}^2) / (R_{675} \cdot R_{690})$;
 NDVI; SRPI; NDPI; SIPI; WI; PRI; cPRI; PRI13;
 NDVlchl; Ant; SR; R_{735} / R_{645} ; R_{735} / R_{660} ;
 R_{735} / R_{680} ; EVI



Quintos-Toledo



Muela-Valencia



DATA AVAILABILITY

RED DEER DIET quality and composition, 216 faecal samples from March 21 to July 22 

PLEIADES MULTISPECTRAL IMAGES (1.5 x 1.5 m resolution): 3 images, May, July, and September 2021 

FIELD-PORTABLE SPECTRORADIOMETER: March 21, July 21 and July 22 

PLANT-O-METER



Datos: Medida, Parcela, Latitud, Longitud, Fecha

Bandas (6): Blue, Green, Red, Red Edge, NIR1, NIR2

Índices: NDVIr NDVIg NDVIb NDRE SR SIPI
MSR RDVI IPVI EVI GSAVI GOSAVI NPCI
GCI GRVI PSRI NLI TDVI VARI WDRVI
GRNDVI GBNDVI RBNDVI PNDVI ISR NDWI
RRI1 RRI2 NDRER CCCI SQRT

Medición: pitch and roll angle (ángulo de cabeceo y balanceo), Temperatura, Humedad



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Participantes



Wildlife Ecology
& Health



PLANT & ANIMAL
ECOLOGY LAB
PAELLA



Universitat
de les Illes Balears



DOCTORADOS
INDUSTRIALES
Comunidad de Madrid





Field-portable spectroradiometer
with 512 spectral bands

397 individuals



Erica scoparia



Rosmarinus officinallis



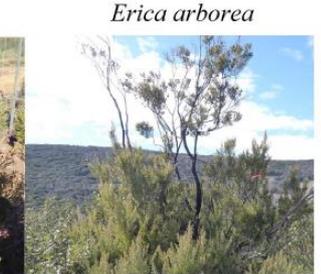
Cistus ladanifer



Quercus ilex



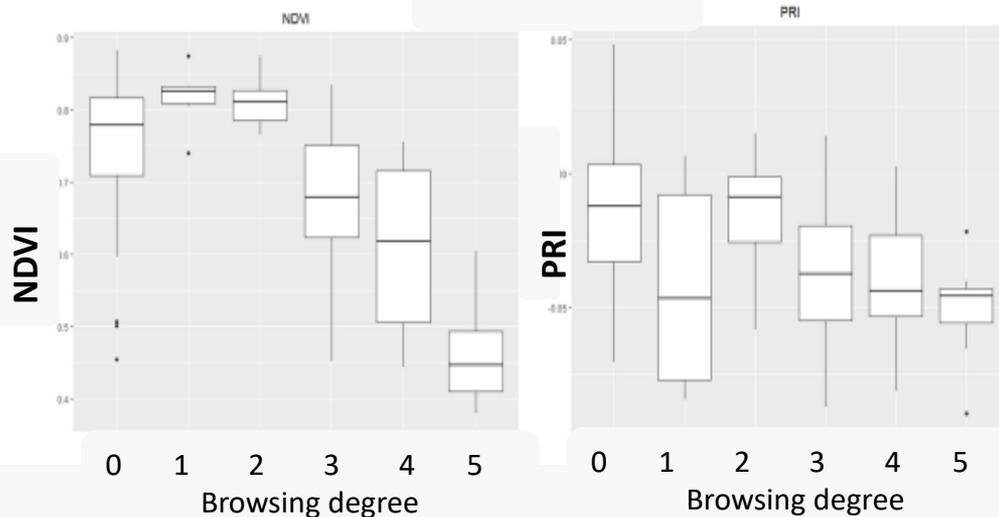
Erica australis



Erica arborea

Fig. 3 The six most common woody species in the study area.

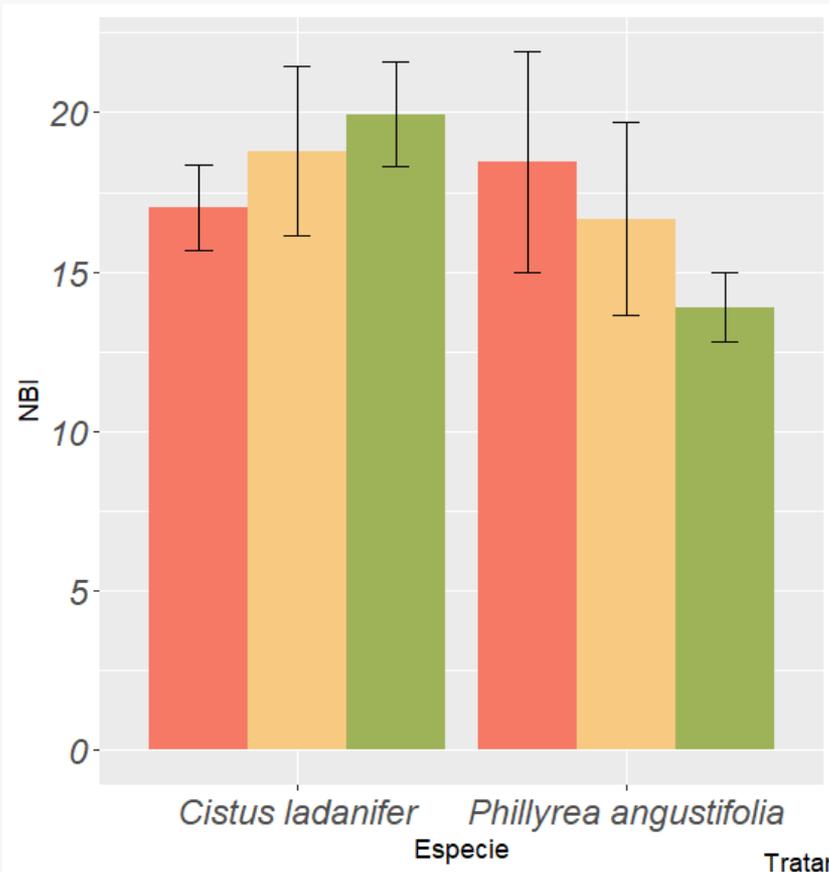
Quercus ilex



- Índices espectrales diferentes
- Diferente sensibilidad a la herbivoría
- Depende de palatabilidad

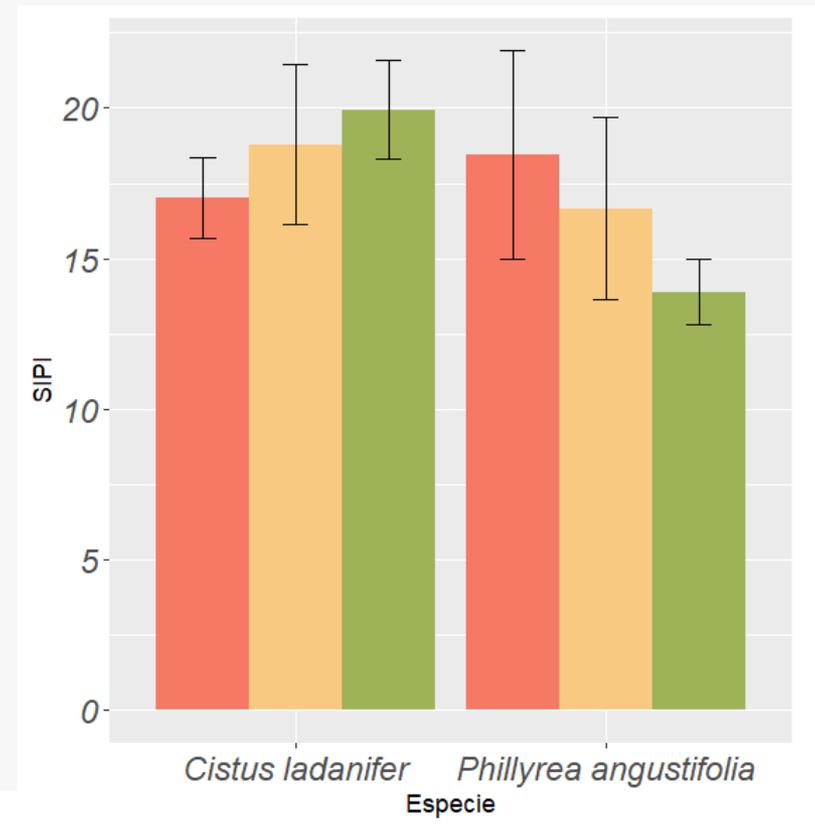
NBI

(Nitrogen Balance Index)



SIPI

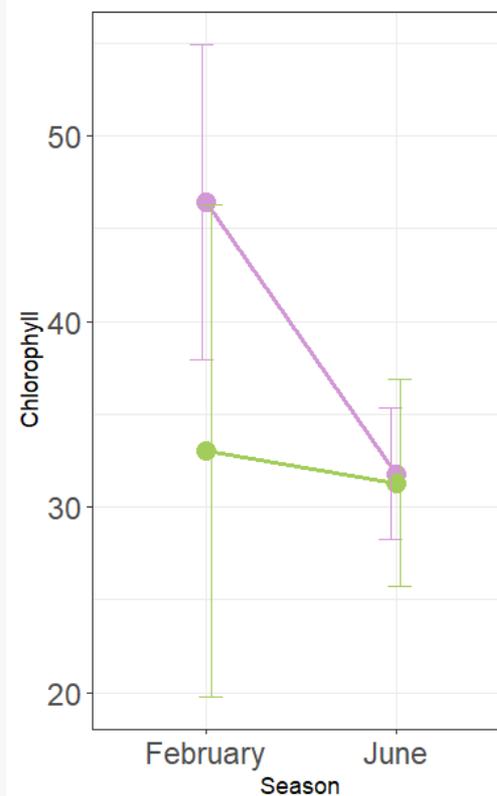
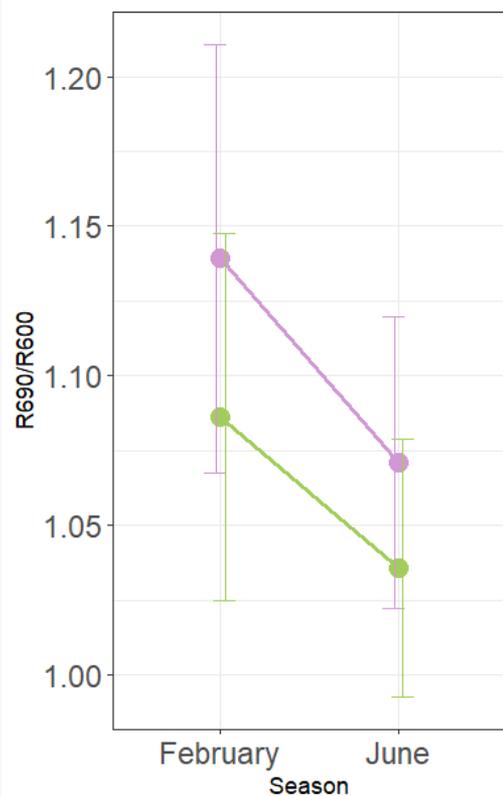
(Structure Intensive Pigment Index)



Tratamiento

- Ramoneo natural intenso
- Ramoneo simulado
- Sin ramoneo

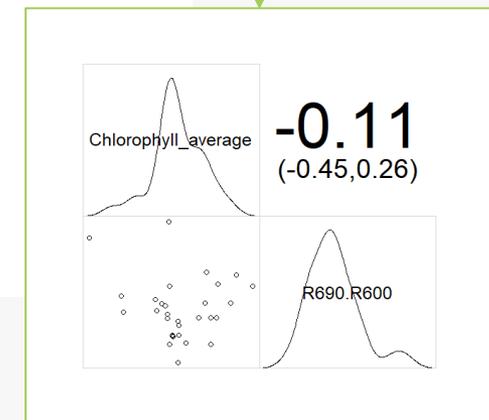
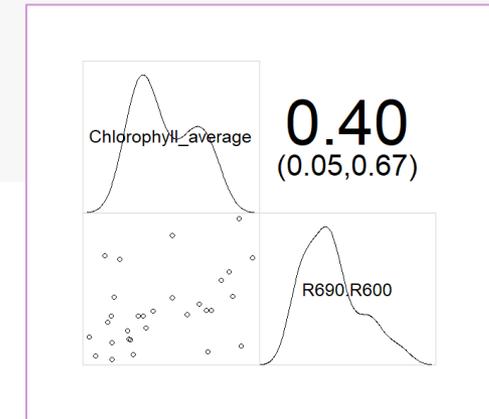
¿Relación fisiología-respuesta espectral?



Specie

● *Cistus_ladanifer*

● *Phillyrea_angustifolia*





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ramon.perea@upm.es*



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