



1. Desenvolupament de nous indicadors ecològics en quiròpters per avaluar efectes del canvi climàtic i de modificació del paisatge

2. La plataforma www.ratpenats.org com a mostra de l'evolució del seguiment de ratpenats als espais naturals



Contents lists available at ScienceDirect

Ecological Indicators

journal homepage: <http://ees.elsevier.com>

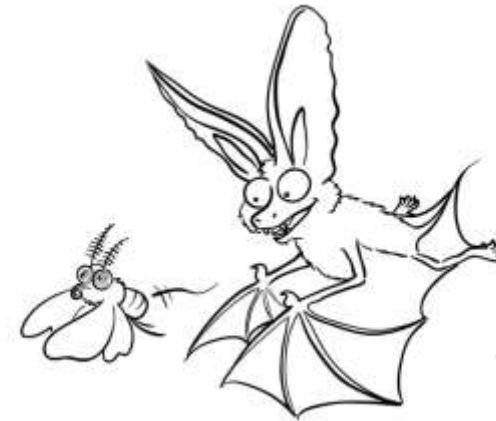
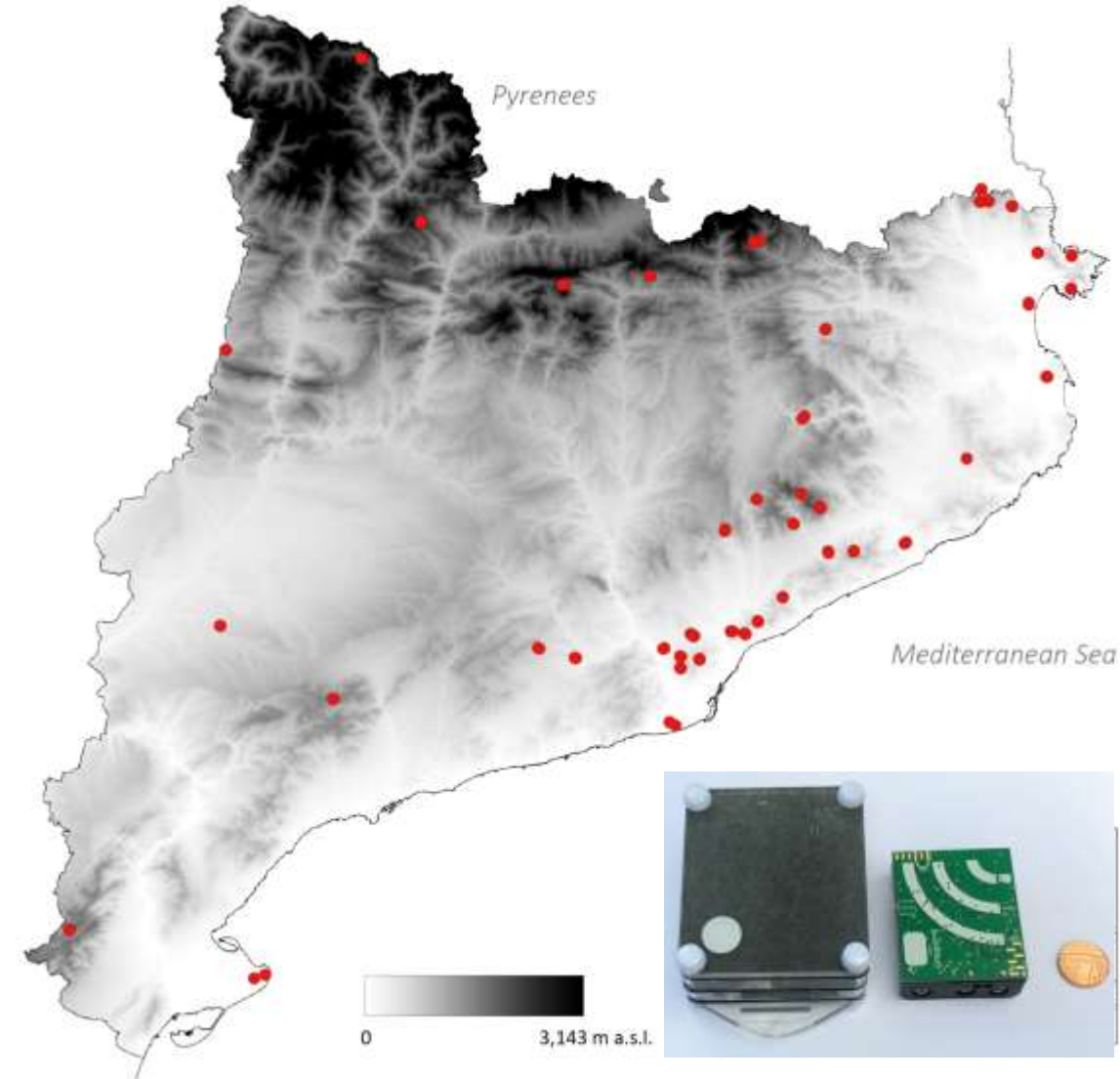


Ecological indices in long-term acoustic bat surveys for assessing and monitoring bats' responses to climatic and land-cover changes

Carme Tuneu-Corral^a, Xavier Puig-Montserrat^{a,b}, Carles Flaquer^a, Maria Mas^a, Adrià López-Baucells^a



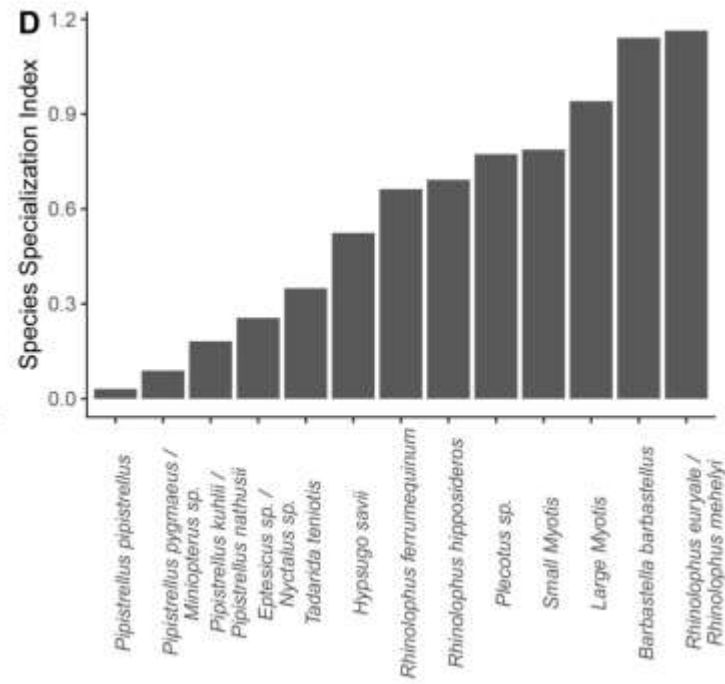
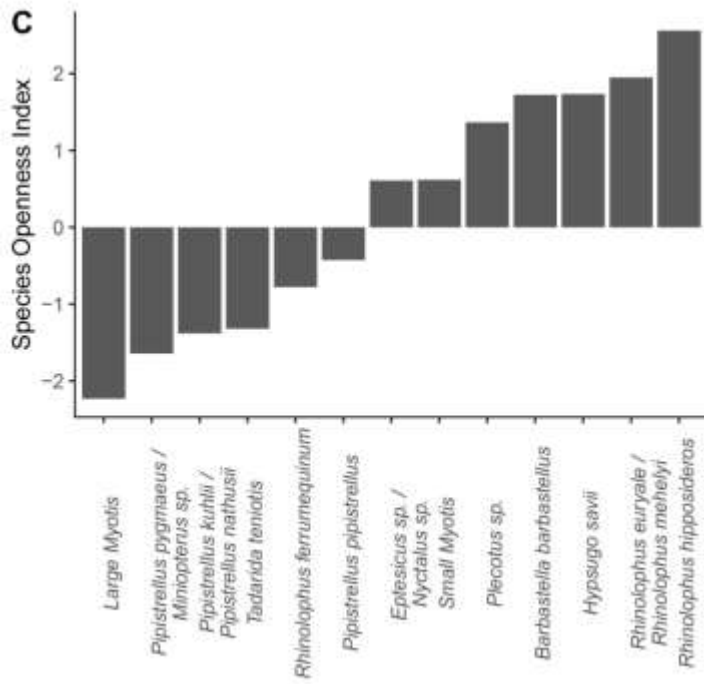
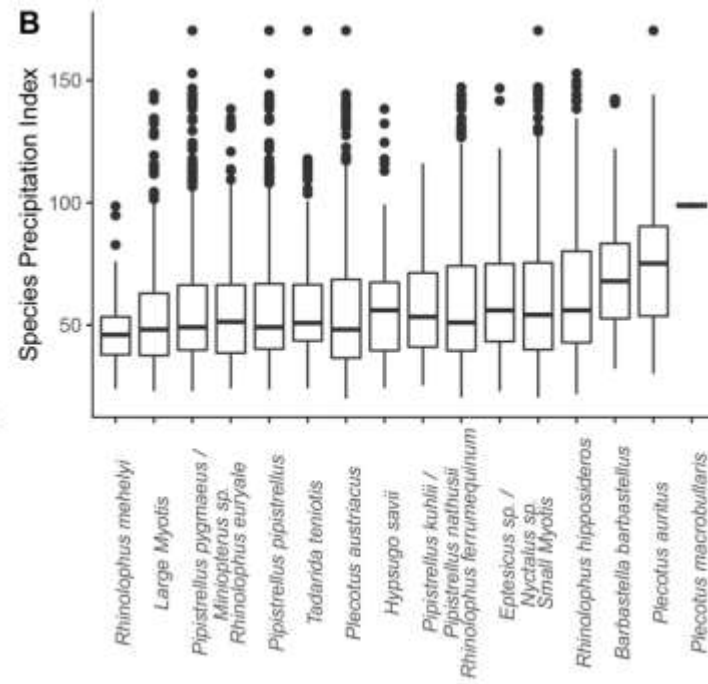
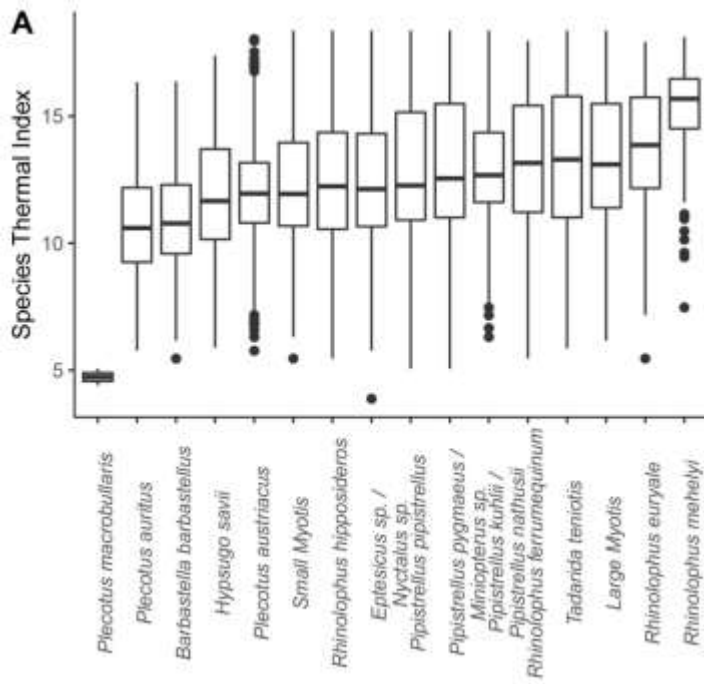
Oriol Massana



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Estacions amb detectors d'ultrasons Quirohàbitats

90 sampling points (localities) in over 10 different habitats at altitudes ranging from 0 to 1842m a.s.l. Twenty-six sampling points were established in **coniferous forests**, 17 in ***Quercus ilex forests***, 10 in **mixed deciduous forests**, 10 in **shrublands**, six in **arable land**, five in **urban areas**, four in ***Fagus sylvatica forests***, four in **wetlands**, three in ***Quercus suber forests***, three in **tree crops** and two in **meadows**

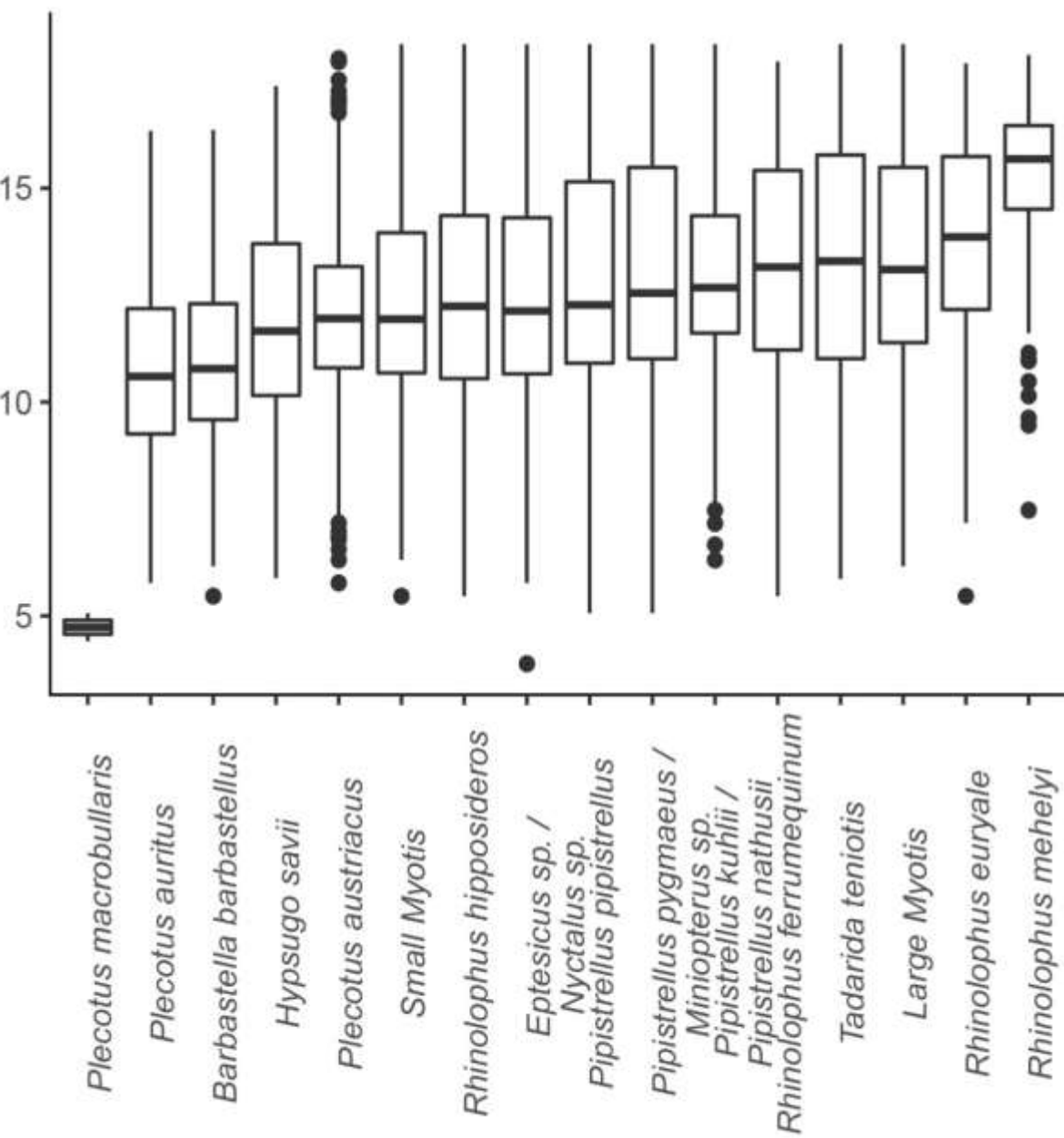


Índexs testats per primer cop amb ratpenats

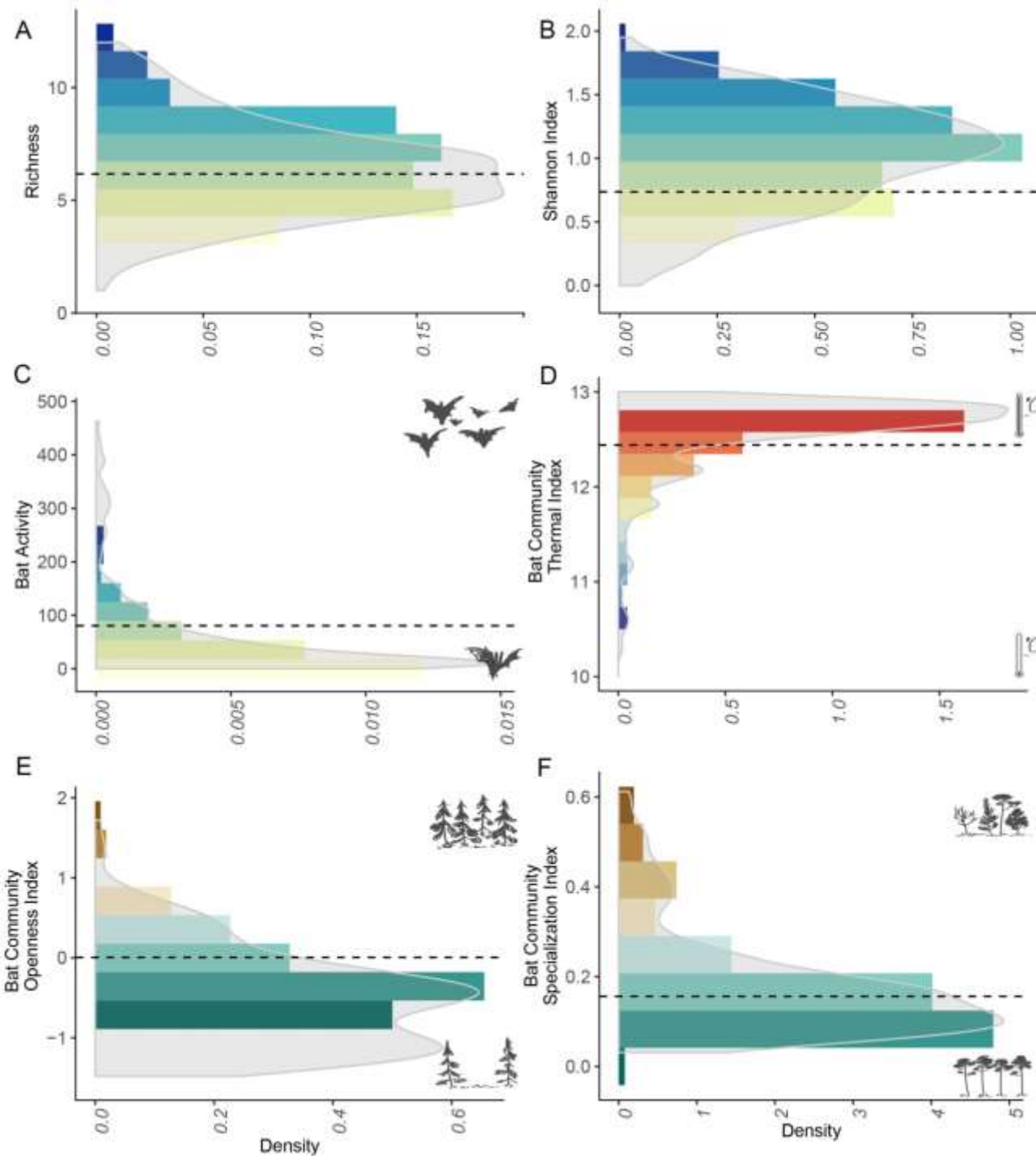
Species-specific indices for: **(A)** Species Thermal Index (STI), arranged from coldest to hottest values; **(B)** Species Precipitation Index (SPI), arranged from driest to most humid values; **(C)** Species Openness Index (SOI), arranged from open-associated (negative) to forest-associated (positive) values; **(D)** Species Specialization Index (SSI) obtained for each species/sonotype, arranged from generalist to specialist values.

A

Species Thermal Index

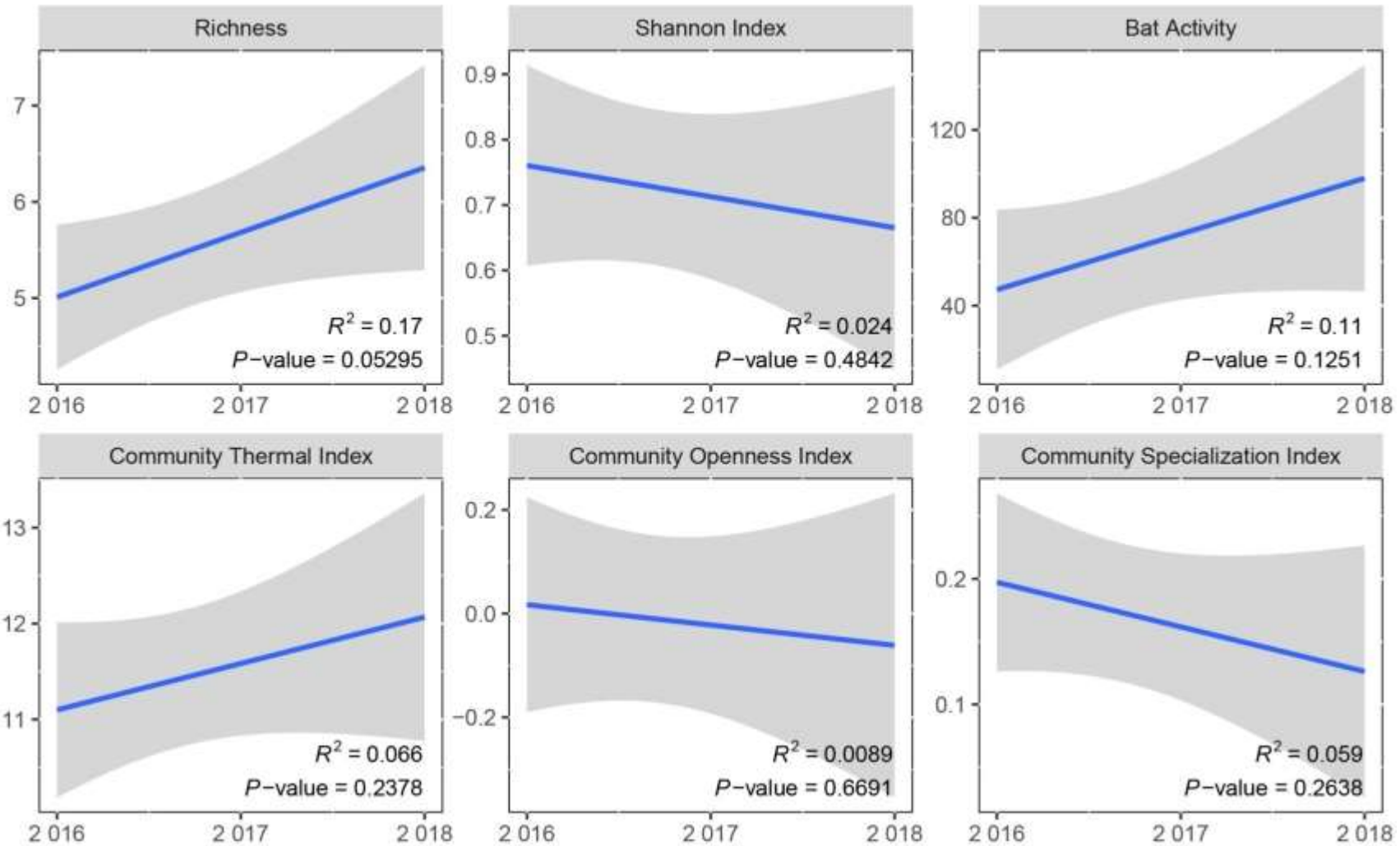


A) Species Thermal Index (STI), arranged from coldest to hottest values (average temperature in the Spanish occurrence range of the species).



Exemple de què permeten representar els índexs

Kernel density histograms of the value distributions for all indices obtained per night for a certain type of habitat (e.g. coniferous forest) in a single year (e.g. 2018): **(A)** Richness, **(B)** Shannon Index, **(C)** Bat Activity, **(D)** Community Thermal Index (STI), **(E)** Community Openness Index (SOI), **(F)** Community Specialization Index (SSI). The dotted black line represents the position of the corresponding averaged index value obtained from the selected locality (Molleres de Gresolet).



Exemple de tendències

Temporal trends of all indices obtained from Molleres de Gresolet in 2016–2018. Blue lines represent the trend lines for each index with their corresponding p-values and R^2 . The shaded area corresponds to the 95% confidence interval for predictions from each generalized linear model.

Plataforma per crear una base de dades conjunta que inclogui tots els seguiments i estigui al servei dels Ciutadans

<http://www.ratpenats.org/>



Bat Monitoring Program

The Bat Monitoring Program, led by the Natural Sciences Museum of Granollers, is an online platform to effectively monitor bat populations across the territory based on a joint effort by a network of professionals and volunteers.



This initiative includes 4 different protocols that have been developed and optimised during the last years: the [ChiroRivers](#), the [ChiroHabitats](#), the [ChiroBoxes](#) and the [ChiroRoosts](#). Each one of them has been specifically designed for monitoring a certain group of [species](#), either forest-dwelling species, cave-dwelling species, urban species, etc. with the aim that the combination of all 4 monitoring programs would provide a complete image of the health status of all bat species populations in all environments.

If you would like to participate chose a program and contact us for further information! info@batmonitoring.org 



Rivers

Monitoring of bat species present in aquatic ecosystems, used as Ecological Indicators of water and riparian forest quality.

[Read more...](#)



Habitats

Monitoring of bat species in all habitats across the territory in passive acoustic monitoring.

[Read more...](#)



Boxes

Monitoring of fissure-dwelling and forest-dwelling bat species using bat boxes across a network of bat box stations.

[Read more...](#)

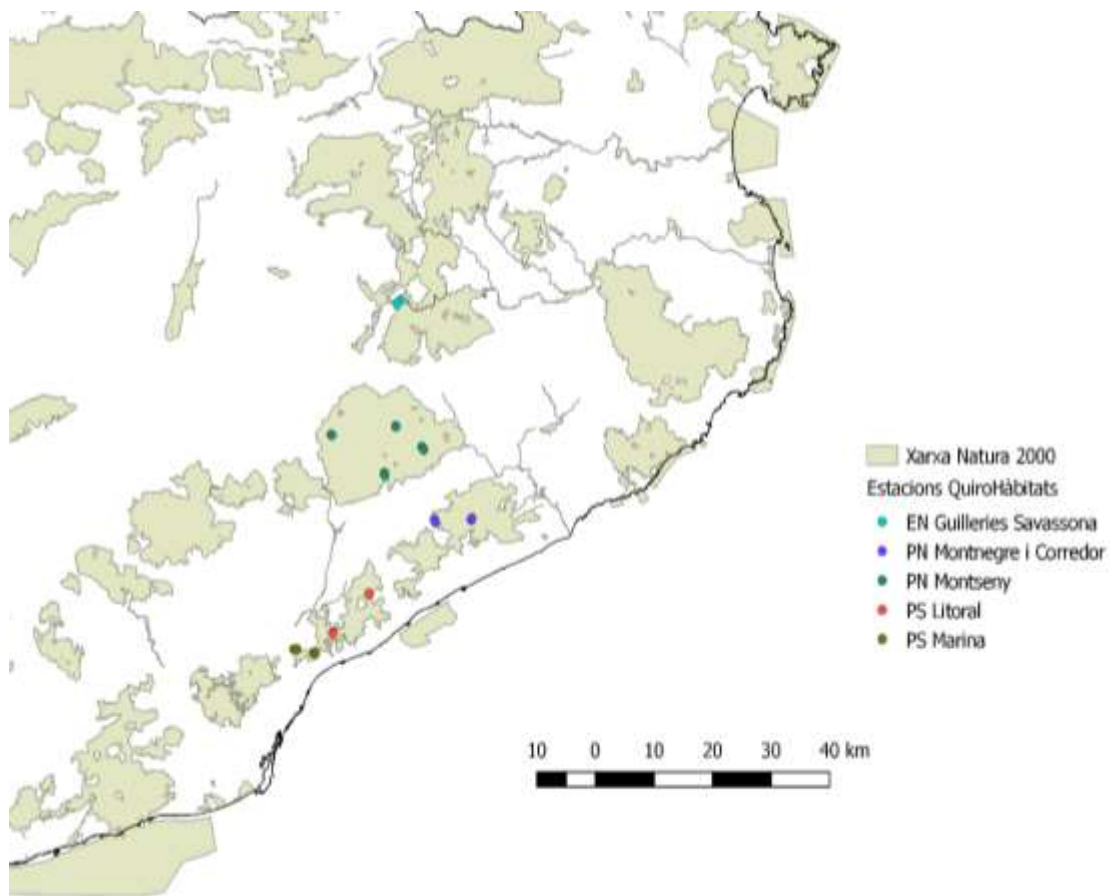


Roosts

Monitoring of bat colonies in natural and artificial roosts (e.g. caves, mines, tunnels, churches, old buildings, etc.)

[Read more...](#)

Estacions professionals a la Serralada Litoral Central i Montnegre i el Corredor



Olzinelles_2

DADES GENERALS	
Sol	Sorrida a les 07:42 i posta a les 17:27 (UTC+2)
Coordenades geogràfiques	41.668, 2.500
Coordenades UTM	31T 4613064 458359
Altura	196
Municipi	Sant Celoni
Habitat	Aizinar
Sesselons	3
Especies i grups fonics	11

Especie / grup fonol	Contactes totals
Pipistrellus kuhlii / Pipistrellus nathusii	4776
Pipistrellus pygmaeus / Miniopterus sp.	2000
Pipistrellus pipistrellus	2288
Eptesicus sp. / Nyctalus sp.	1888
Hypsugo sevil	240
Tadarida teniata	158
Myotis sp.	20
Plecotus sp.	6
Rhinolophus euryale	4
Rhinolophus ferrumequinum	4
Rhinolophus hipposideros	4





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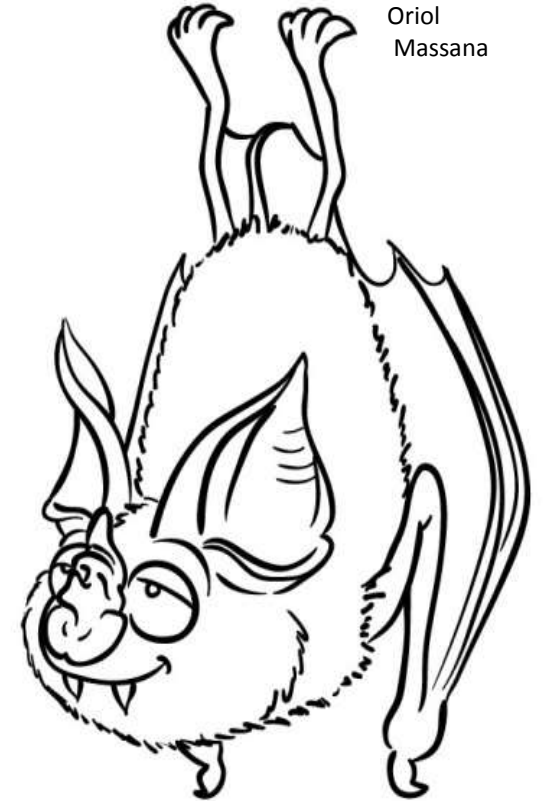


MUSEU DE CIÈNCIES NATURALS
DE GRANOLLERS



MUSEU DE GRANOLLERS
CIÈNCIES NATURALS
ÀREA D'INVESTIGACIÓ
DE QUADROPTERS

Gràcies!!



Oriol
Massana