



CESAB

Newsletter n°1 - July 2019

Centre for the Synthesis and Analysis of Biodiversity - [CESAB](#)

[@FRBiodiv](#) [#CESAB](#)

### A word from the scientific director

The CESAB has moved to Montpellier after 8 years of in Aix-en-Provence. 2018 has been a year of transition and we are still adjusting to our new environment in 2019! Moving has been an incredible challenge and I want to thank here the former CESAB director and staff as well as the FRB for having worked hard to make it happen.



Moving to Montpellier is for the CESAB a great opportunity to evolve and match the new challenges of biodiversity science. There is a real need for us to secure more funding for open calls but also to open our calls and the CESAB to other actors concerned with biodiversity research and conservation. IPBES 7th Plenary in Paris has been an incredible catalyzer for biodiversity science, and I hope we will meet together the challenge we face to provide both an understanding of biodiversity dynamics and large-scale predictions of its fate in a changing world.

For us, these last months have been the occasion for rethinking our functioning and to test some new tools and initiatives, we have hired new staff, launched two specific calls: one with the AFB (French Agency for Biodiversity) and one joint call with the sDiv (German Biodiversity Synthesis Center), renewed our scientific comity, are working to propose formation for students, and have done our best to help the ongoing and new CESAB groups. This has been done in only few months, which illustrates our collective motivation to continue the CESAB and to help more than ever the scientific community working on biodiversity. I want here to thanks the new FRB staff dedicated to CESAB without whom I would never have survived to this first half of 2019 and all FRB team for their trust and help! I also want to make homage to Eric Garnier and Alison Specht, former scientific directors of the CESAB, who have worked to make the CESAB a leading research organization with a high scientific level and international influence.

Biodiversity centers are the right tools to meet the challenges we face with the biodiversity crisis. I really hope 2019 will be the year when public and private actors concerned with the state of biodiversity, will realize how much we have a collective responsibility to give these centers the means they need to support the science of biodiversity synthesis!

Nicolas Mouquet

P.S.: don't hesitate to share our newsletter!

### NEWS

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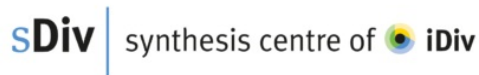
moved in January 2019 to Montpellier. By joining one of the world's most dynamic scientific communities in ecology (the University of Montpellier was ranked world's leading university in Ecology by ARWU in 2018 and 2019), this is an opportunity for the CESAB to renew its team and to start a fresh development.

Researchers can find at CESAB the necessary means and infrastructure to share and enhance existing information, and to conduct analyses that **address major scientific challenges in biodiversity research**. Advancing knowledge, developing synthesis research and collaboration, facilitating the links between all scientific disciplines: these are the main assets of CESAB which host a large number of researchers every year from all the continents, during work sessions spread over the project timeline.

CESAB renewed its [scientific committee](#) and is composed of 19 researchers. Their missions are to prepare and evaluate calls for proposals as well as to support CESAB actions and working groups.

The CESAB launched last months two calls for proposals: one with the support of the French Agency for Biodiversity (AFB) on **endocrine disruption and biodiversity** (pre-proposals are now under evaluation), and one with the sDiv on the **coexistence and stability in high-diversity communities**.

## • CALL FOR PROPOSALS



### CESAB-sDiv SYNERGY: Coexistence and stability in high-diversity communities

CESAB and sDiv are instruments of the French FRB (Foundation for Research on Biodiversity) and German iDiv (German Centre for Integrative Biodiversity Research Halle-Jena-Leipzig). Two groups of 5-7 researchers will be funded and will share their meetings between the two centers.

Modern coexistence theory provides a useful framework for understanding the coexistence of dominant species, but is limited to few interacting species, and is not predictive or extendable to novel or real setting contexts. This joint call aims at fostering a **synthesis to understand coexistence and stability in typical high-diversity communities** that are often composed of relatively few dominant species and many low-abundance species.

[Read the full call for proposals and apply here](#)

## • UPCOMING EVENTS & COURSES



### Challenges and Perspectives in Large Scale Conservation

29th November 2019  
Montpellier

The working group [Pelagic](#) and the CESAB are organizing a symposium in Montpellier on Friday the 29th of November 2019. During this symposium a groups of international researchers will present the new challenges associated with monitoring both wildlife and human activities in Protected Area using up to date technologies.

[Find more information and register here.](#)



**Course: Data Toolbox for Ecologists**  
**5-9 December 2019**  
**Montpellier**

**Save the Date!** - Registration will open end of September

CESAB and the GDR Ecostat will dispense a 5-days workshop untitled Data Toolbox for Ecologist. The objective of this workshop is to train young researchers in good practices in biodiversity research (data access and management, visualization, versioning, reproducibility, packages development), using open source softwares (R, Python, git, markdown). This workshop will be given in French.

[Find more information here.](#)

## • POSTDOCTORAL OFFERS

### **Score-Reef - Coral reef health in space and time (2 years)**

Location: CRIOBE, Perpignan, France and FRB – CESAB, Montpellier, France  
Closing date: 31 July 2019  
Starting date: 1 October 2019

### **Forcis - Marine climate and plankton diversity (2 years)**

Location: CEREGE – Technopôle de l'Arbois, Aix en Provence, France  
Closing date: 31 August 2019  
Starting date: 1 November 2019

### **DiveRS - An angiosperm-wide analysis of breeding system evolution and associated traits (2 years)**

Location: FRB – CESAB, Montpellier, France  
Closing date: 31 August 2019  
Starting date: 1 November 2019

[Find more information on our postdoctoral offers here.](#)

## CESAB WORKING GROUPS

### • NEW PUBLICATIONS

**Geisha** - Anneville O., Chang C.W., Dur G., Souissi S., Rimet F., Hsieh C.H. The paradox of re-oligotrophication: the role of bottom-up versus top-down controls on the phytoplankton community. *Oikos*, accepted. doi: [10.1111/oik.06399](https://doi.org/10.1111/oik.06399)

**Discoweed, Divgrass** - Bourgeois B, Munoz F, Fried G, Mahaut L, Armengot L, Denelle P, Storkey J, Gaba S & Violle C (2019) What makes a weed a weed? A large-scale evaluation of arable weeds through a functional lens. *American Journal of Botany*, **106**, 90–100. doi: [10.1002/ajb2.1213](https://doi.org/10.1002/ajb2.1213).

**Free** - Denelle P, Violle C & Munoz F (2019) Distinguishing the signatures of local environmental filtering and regional trait range limits in the study of trait–environment relationships. *Oikos*, accepted. doi: [10.1111/oik.05851](https://doi.org/10.1111/oik.05851).

**Raard** - Jonsen ID, McMahon CR, Patterson TA, Auger-Méthé M, Harcourt R, Hindell MA & Bestley S (2019) Movement responses to environment: Fast inference of variation among southern elephant seals with a mixed effects model. *Ecology*, **100**. doi: [10.1002/ecy.2566](https://doi.org/10.1002/ecy.2566).

**Woodiv** - Médail F, Monnet AC, Pavon D, Nikolic T, Dimopoulos P, Bacchetta G, Arroyo J,

Barina Z, Albassatneh MC, Domina G, Fady B, Matevski V, Mifsud S & Leriche A (2019) What is a tree in the Mediterranean Basin hotspot? A critical analysis. *Forest Ecosystems*, **6**, 17. doi: [10.1186/s40663-019-0170-6](https://doi.org/10.1186/s40663-019-0170-6).

**Free** - McLean M, Auber A, Graham NAJ, Houk P, Villéger S, Violle C, Thuiller W, Wilson SK & Mouillot D (2019) Trait structure and redundancy determine sensitivity to disturbance in marine fish communities. *Global Change Biology*, accepted. doi: [10.1111/gcb.14662](https://doi.org/10.1111/gcb.14662).

**Functionalwebs** - de Omena PM, Srivastava DS & Romero GQ (2019) Consumptive effects and mismatch in predator–prey turnover rates cause inversion of biomass pyramids. *Oecologia*, accepted. doi: [10.1007/s00442-019-04394-0](https://doi.org/10.1007/s00442-019-04394-0).

**Geisha** - Perkins DM, Perna A, Adrian R, Cermeño P, Gaedke U, Huete-Ortega M, White EP & Yvon-Durocher G (2019) Energetic equivalence underpins the size structure of tree and phytoplankton communities. *Nature Communications*, **10**, 255. doi: [10.1038/s41467-018-08039-3](https://doi.org/10.1038/s41467-018-08039-3).

**Free** - Thuiller W, Gravel D, Ficetola GF, Lavergne S, Münkemüller T, Pollock LJ, Zimmermann NE & Mazel F (2019) Productivity begets less phylogenetic diversity but higher uniqueness than expected. *Journal of Biogeography*, accepted. doi: [10.1111/jbi.13630](https://doi.org/10.1111/jbi.13630).

## • WORKING GROUPS

**There are currently 9 groups working with CESAB, including 4 starting this year.**

### **Actias**

Global patterns of moth diversity, distribution and evolutionary distinctness

PI: Rodolphe ROUGERIE – MNHN (France)

### **Discoweed**

Disentangling the role of anthropic disturbances and ecological processes on weed community assembly

PI: Sabrina GABA – INRA Dijon (France)

### **DiveRS**

How evolution of breeding systems and associated traits shapes plant species diversity?

PIs: Sylvain GLEMIN – CNRS Montpellier (France); Jos KAFER – CNRS Lyon (France)

### **Forcis**

Foraminifera Response to Climate Stress: evaluating biodiversity changes of calcifying zooplankton in response to multiple stressors

PIs: Thibault de GARIDEL-THORON – CEREGE, CNRS (France); Ralf SCHIEBEL – Max Planck Institute for Geochemistry (Germany)

### **Free**

Causes and consequences of functional rarity from local to global scales

PIs: Cyrille VIOLLE – CEFE-CNRS (France); Caroline TUCKER – University of Colorado (USA)

### **Geisha**

Evaluation of global impact of storms on phytoplankton freshwater communities

PIs: Orlane ANNEVILLE – INRA (France); Jason STOCKWELL – University of Vermont USA); Vijay PATIL – US Geological Survey, Alaska (USA)

### **JustConservation**

Towards 'just conservation': linking theories and practices of justice in biodiversity conservation

PI: Brendan COOLSAET – Lille Catholic University (France)

### **Score-Reef**

Spatio-temporal variability of coral reefs at the global scale: causalities, idiosyncrasies and implications for ecological indicators

PIs: Valeriano PARRAVICINI – EPHE (France); Mehdi ADJEROUD – IRD (France)

### **Woodiv**



Working groups Free, Geisha, Forcis, DiveRS and JustConservation at CESAB

• 2019 CALENDAR

1 <sup>st</sup> Semester	March	April	May	June
W1			DiveRS Meeting 1	Forcis Meeting 1
W2				JustConservation Meeting 1
W3			Free Meeting 2	Woodiv Meeting 4
W4	Actias Meeting 6		Geisha Meeting 6	

2 <sup>nd</sup> Semester	September	October	November	December
W1			DiveRS Meeting 2	Course Toolbox
W2		Parsec Meeting 1		Forcis Meeting 2 [TBC]
W3				
W4	Score-Reef Meeting 1		After-Pelagic Conference Pelagic 29/11	

ABOUT CESAB



**24**

Projects funded  
since 2010

**3 years**

Duration of funded  
projects

**5 days**

Duration of meetings,  
twice a year

**8**

Private and public  
partners contributed to  
fund the projects

**180**

Scientific  
publications

**400**

Participants in CESAB  
projects

#### CONTACT DETAILS

[cesab@fondationbiodiversite.fr](mailto:cesab@fondationbiodiversite.fr)

Scientific Director: [Nicolas Mouquet](#)

Deputy Director: [Claire Salomon](#)

Administrator: [Maud Calmet](#)

Data Scientist: [Nicolas Casajus](#)

Communication Officer: [Marie-Claire Danner](#)



#### CESAB – FRB

Institut Bouisson Bertrand  
5, rue de l'École de médecine  
34000 MONTPELLIER

195 rue Saint-Jacques, 75005 Paris, FRANCE • [www.fondationbiodiversite.fr](http://www.fondationbiodiversite.fr)



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