

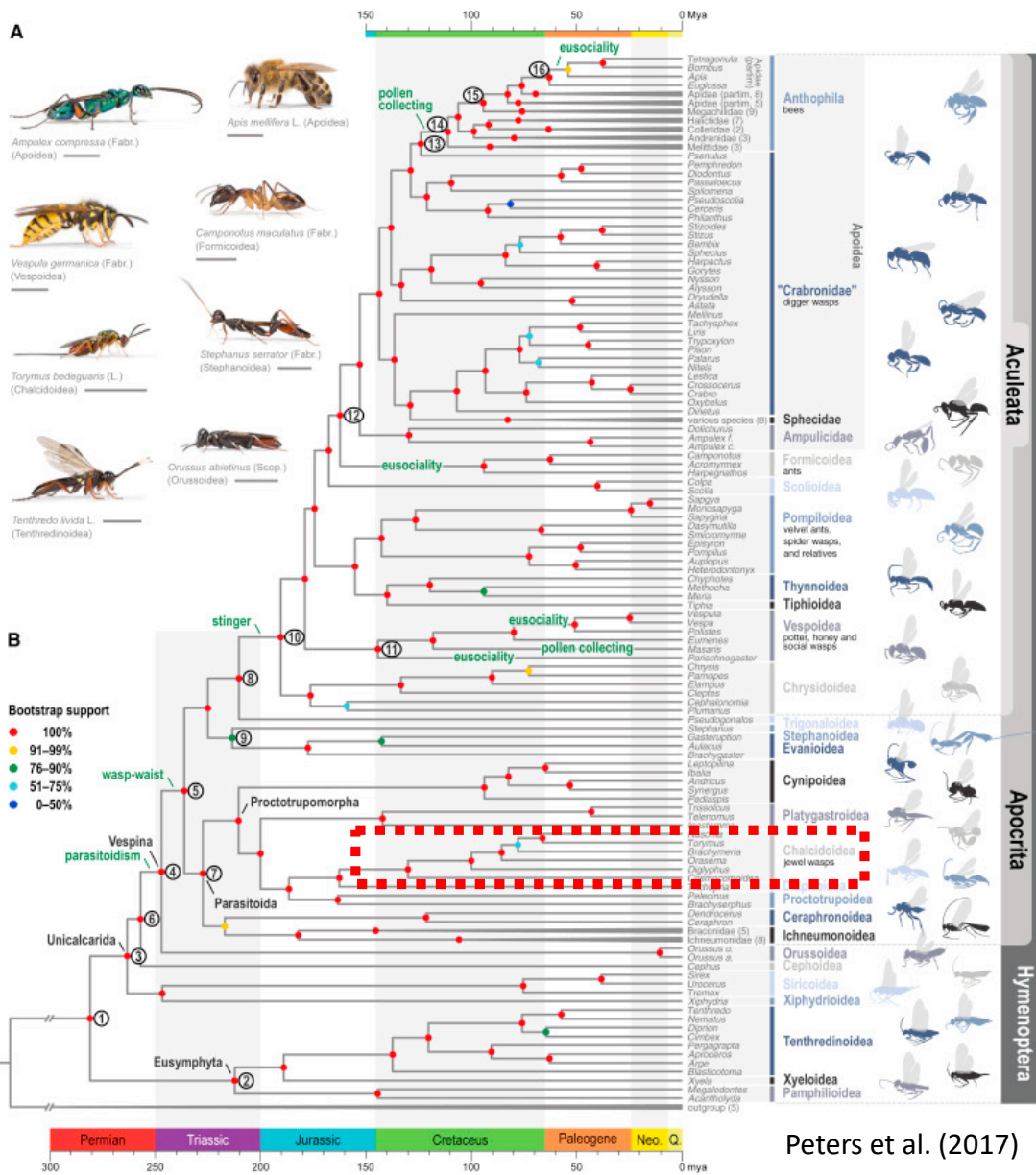
# Who am I ? what am I doing ?

- INRA Director of Research  
Lab CBGP Montpellier  
Entomologist
- Taxonomist of chalcid wasps and fig trees
- Phylogeneticist of insects (Carabid, moths, chalcids)
- Projects on phylogenomic of Chalcids, Bark beetles, Spingid & Saturniid moths, Carabids
- Biology & ecology of *Xylella fastidiosa* vectors



• [https://www.researchgate.net/profile/Jean-Yves\\_Rasplus](https://www.researchgate.net/profile/Jean-Yves_Rasplus)





# Superfamily Chalcidoidea

- One of the superfamilies of parasitic wasps
- One of the **megadiverse groups of insects**
- estimates +500000 species, of which #24 000 described
- 23 families (for the time being), ca 2100 genera
- **Huge morphological disparity**
- **Classification highly unstable**
- Spectacular radiation in a relatively short time
- Oldest fossils in Cretaceous amber deposits, ca 100 Ma
- range in size from 0.13 mm to 20 mm
- **Convergent morphology** is also rampant
- Parasitic in eggs, larvae and adults of most insect orders
- one of the **most important groups for biological control** of other insects
- Hyperparasitic or phytophagous, gall makers
- **Poor phylogenetic hypotheses** (morphology, SANGER sequencing)

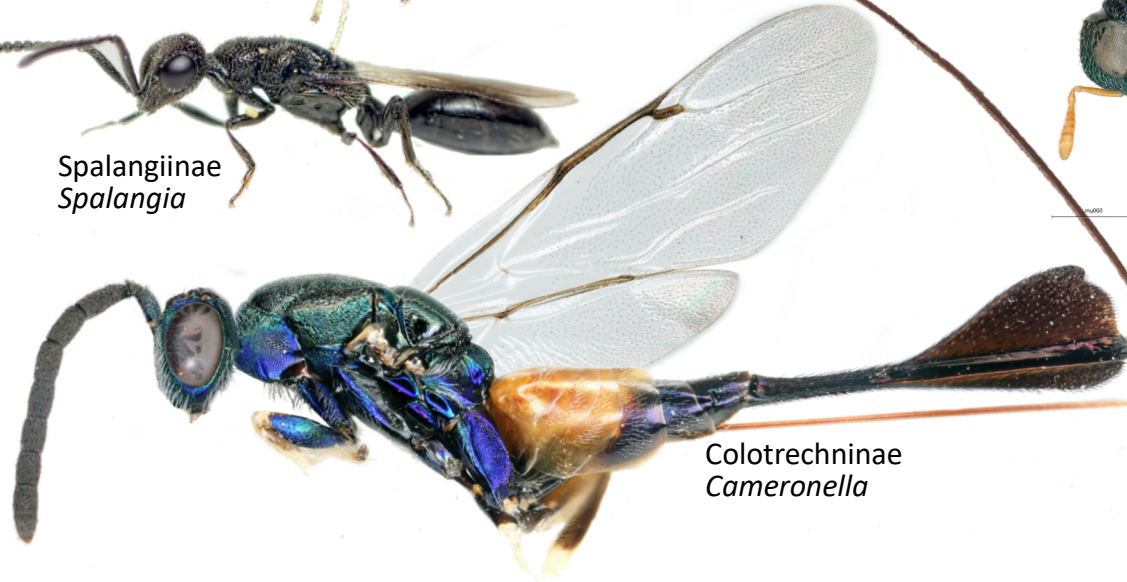
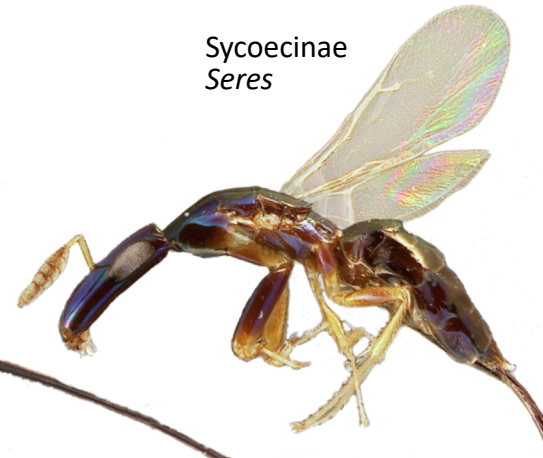
# Pteromalids, huge diversity and disparity

Asaphinae  
*Enoggera*

Sycoryctinae  
*Sycoscapter*

Sycoecinae  
*Seres*

Epichrysomallinae  
*Sycobia*



Eunotinae  
*Moranila*

Spalangiinae  
*Spalangia*

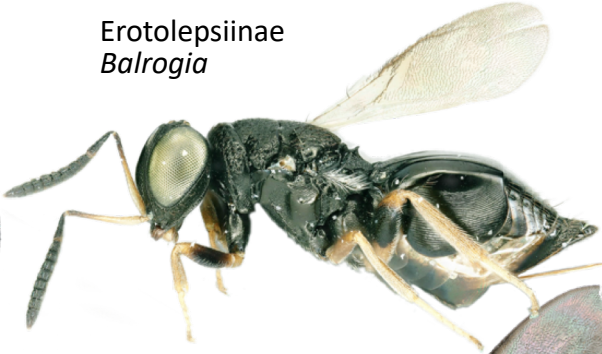
Eunotinae  
*Scutellista*

Colotrechninae  
*Cameronella*

Austroterobiinae  
*Teasienna*

# Pteromalids, huge diversity and disparity

Erotolepsiinae  
*Balrogia*



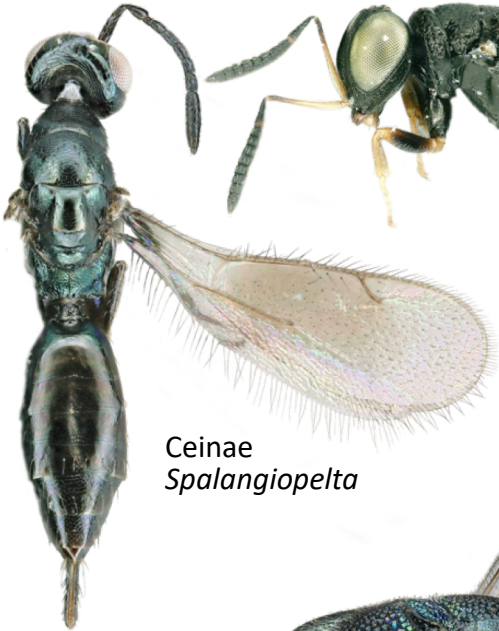
Pteromalinae  
*Pestra*



Cerocephalinae  
*Acercephala*



Ceinae  
*Spalangiopelta*



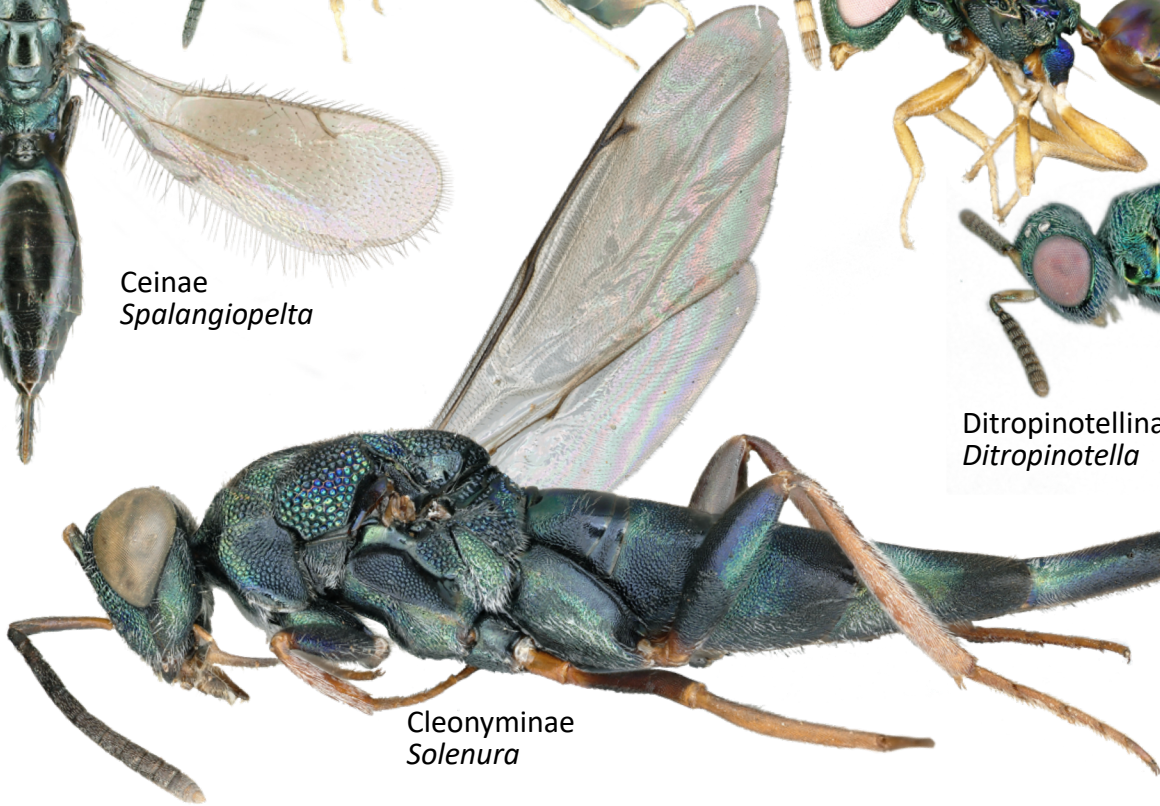
Ditropinotellinae  
*Ditropinotella*



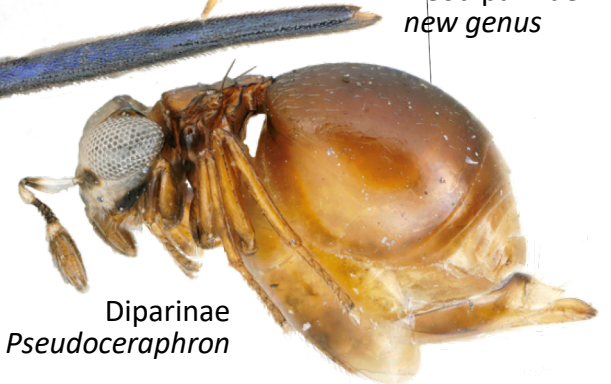
Neodiparinae  
*new genus*



Cleonyminae  
*Solenura*



Diparinae  
*Pseudoceraphron*

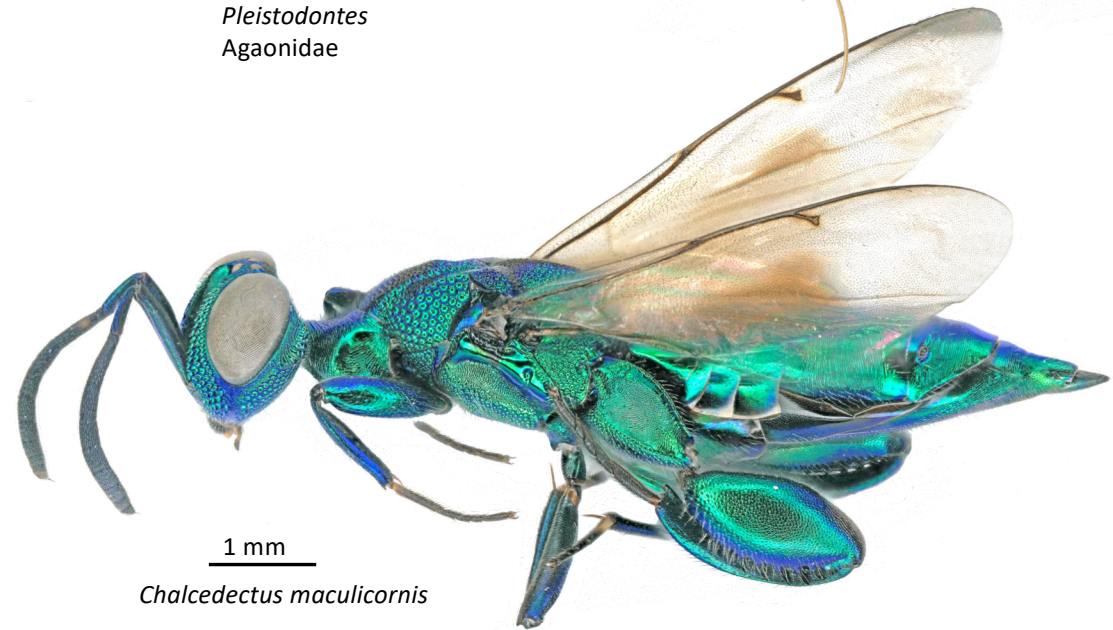


## Our main aims ...

- Resolve higher-level relationships within Chalcidoidea, by including members of all major lineages
- Compare that phylogeny to two others based on Anchored Elements and transcriptomes presently built at Riverside (J. Heraty's lab) and Bonn (R. Peters)
- Propose a refined classification system for chalcid wasps
- Reconstruct the origins and evolution of this hyperdiverse group and its main families
- Investigate the timing and patterns of diversification of chalcids wasps and compare these against patterns of diversity changes in their hosts



*Pleistodontes*  
Agaonidae



*Chalcedectus maculicornis*