

RHEINISCHE FRIEDRICH-WILHELMS-UNIVERSITÄT BONN
Fachgruppe Biologie
Zoologisches Forschungsmuseum Alexander Koenig
Biologisches Kolloquium

Sommersemester 2018

Montag, den 14. 5. 2018, 17 Uhr c.t.

im Hörsaal Zoologie, Poppelsdorfer Schloss

Dr. Susann Wicke

Institute Evolution & Biodiversity, Universität Münster

***“Causes and Consequences of Parasitism
in Plants“***

Einladung: Prof. Dr. D. Quandt (Nees Institut)

Abstract:

Parasitic plants steal water and nutrients from other plants by connecting directly to their vascular tissues. The transition to a nonphotosynthetic way of life brings about extreme morphological changes and massive reconfigurations at the molecular level. My talk will provide an overview of the evolution of parasitism in plants and discuss the progression of the so-called parasitic reduction syndrome. Utilizing the natural diversity of parasitic specializations and phylo-statistical hypothesis testing revealed that already the establishment of obligate parasitism triggers genomic reconfigurations, and that after the eventual loss of photosynthesis functional and physical reduction proceed rapidly, accompanied by a gradual acceleration of molecular evolutionary rates. Besides discussing the series of lifestyle-associated changes, I will present a mechanistic model of genome degeneration and molecular evolutionary rate variation en route to a non-photosynthetic lifestyle in plants.