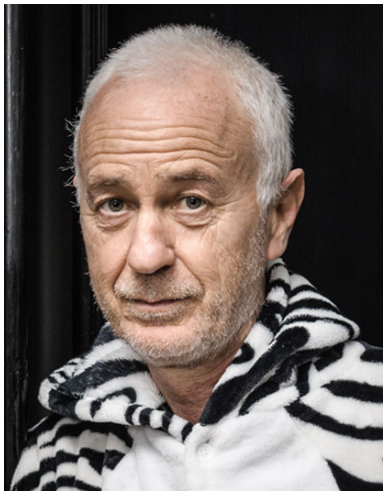

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SCHWERPUNKT

ARBEITSVORHABEN

The Colours of Animals

At the turn of the 19th century, Alfred Russel Wallace, the undoubted father of the field, constructed a scheme for thinking about colouration. He viewed colouration as being intimately concerned with protecting prey from predators (two of his categories); the first of these we now call background matching. His second category fulfilled the same function but in a different way: colouration warns predators not to attack (aposematism). His third category was sexual colours, which, contrary to Darwin who focused on ornamentation in males, he saw as being linked to protection in females. His fourth was "typical" colours - a sort of ragbag that includes signalling between conspecifics and lures. These ideas about colouration were developed by Edward Poulton in regards to aposematism and by Abbott Thayer in relation to countershading and disruptive colouration (breaking up the animal's outline), but then the field went quiet. In 1940, Hugh B. Cott published his benchmark volume called "Adaptive Coloration in Animals", in which he painstakingly documented the different ways that animals conceal themselves, including disruptive colouration and masquerade. But again there was a 30-year hiatus until the late 1970s, when behavioural ecologists interested in mating systems started to think about one aspect of coloration, bright ornamentation in (principally) male birds, in the context of sexually selected traits. Finally, in the early 2000s, a different group of scientists began to systematically test century-old hypotheses about background matching, disruptive colouration, countershading and warning colouration. At Wiko we are convening a focus group that will attempt to integrate modelling exercises, observational work, experimental studies and comparative analyses in order to consolidate understanding and formulate new exciting directions in explaining colouration in nature. We will address questions like: why do chameleons change colour? Why do butterflies have wing spots? Why are parrots so brilliantly coloured? And why are zebras black and white? We hope to engage both humanities colleagues and the public in the excitement of understanding the beauty of nature.

Recommended Reading

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Caro, T. and P. W. Sherman (2011). "Endangered species and a threatened discipline: behavioural ecology." Trends in Ecology and Evolution 26: 111-118.
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DIENSTAGSKOLLOQUIUM, 10.11.2015

Farben: Von Wallace zum Wiko

In meinem Vortrag beschäftige ich mich mit der sehr umfassenden Frage, warum Tiere und Pflanzen außen farbig sind. Ich befasse mich mit diesem Thema, indem ich die Perspektive von Alfred Russel Wallace einnehme; er hat die Forschung zur Färbung bei Tieren begründet und war der Mitentdecker der natürlichen Auslese. Dann gehe ich mit Ihnen systematisch das Wissen ab, das wir seit seinem Tod vor 102 Jahren gewinnen konnten, und beschreibe, an welchen Forschungen die Wissenschaftler/innen jetzt arbeiten (das schließt auch die Mitglieder der Schwerpunktgruppe am Wiko ein).

Ich möchte dazu beitragen, dass Sie erstens die biologische Bedeutung von Farben in der Natur verstehen; zweitens möchte ich Ihnen eine historische Sichtweise auf die Disziplin vermitteln und Ihnen drittens zeigen, warum dieses Thema so faszinierend ist; viertens möchte ich dafür sorgen, dass Sie 60 Minuten lang wach bleiben. In erster Linie gilt mein Vortrag denjenigen von Ihnen, die wenig über Färbung in der Natur wissen.

PUBLIKATIONEN AUS DER FELLOWBIBLIOTHEK

Caro, Tim (Oxford,2018)

Flash behavior increases prey survival

https://kxp.k10plus.de/DB=9.663/PPNSET?PPN=1040569102

Caro, Tim (London,2017)

Interspecific visual signalling in animals and plants : a functional classification

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Caro, Tim (Washington, DC,2017)

The biology of color

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Interspecific visual signalling in animals and plants : a functional classificaiton

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Animal coloration research : why it matters

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Animal coloration : production, perception, function and application

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Wallace on coloration : contemporary perspective and unresolved insights

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The ecology of multiple colour defences

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Guidelines for wildlife monitoring : savannah herbivores

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