

Von Fliegen und Erdkröten: Myiasis bei Anuren im Drachenfelder Ländchen bei Bonn – Fliegenarten, Phänologie, Schlupferfolg und Dichteeffekte im Amphibienkadaver

Klaus Weddeling

Biologische Station im Rhein-Sieg-Kreis e. V., Robert Rösigen-Platz 1, D-53783 Eitorf,
weddeling@biostation-rhein-sieg.de

A tale from flies and common toads: myiasis in amphibians from an agricultural landscape near Bonn – fly species composition, phenology, hatching success and effects of larval crowding

At drift fences located at five ponds in an agricultural landscape near Bonn, Germany, a high number of common toads (*Bufo bufo*) suffering from blowfly strike (myiasis) was observed between May and September in 2000–2002. Overall 14.3% of 782 toads captured during this time period were infested. Infestation rate significantly differed between ponds, years and body size of toads, increasing from 5% in subadults up to 70% in large sized adults. Possible reasons with respect to fly oviposition behaviour and toad moulting frequency are discussed. A sample of 53 infested hosts (52 common toads and one water frog *Pelophylax esculentus*) was taken to the laboratory and kept until death. Oviposition of other fly species at cadavers was accepted to reflect natural conditions. Each carcass was put on moist soil in a flower pot to allow fly maggots to pupate. Emerging imagines were captured under gauze, killed with alcohol spray, counted, determined and partially measured for body size. More than 1,100 fly imagines hatched from the soil below the corpses, belonging to at least 11 fly species. Although *Lucilia bufonivora* and two *Muscina* species dominated the carcass community, surprisingly *L. bufonivora* was not present in all cadavers. In a noteworthy number of cadavers neither flies nor pupae were found. Fly species composition and numbers of emerging imagines significantly differed between carcasses. Smaller imagines hatched from hosts with higher maggot density than from those with lower density. Bigger hosts released a higher amount of imagines and pupae than smaller toads. As of August a high portion of pupae stayed in diapause until following spring. Overall, the results show that myiasis of common toads is much more complicated than previously expected.

Key words: Myiasis, *Lucilia bufonivora*, parasite, parasitoid, phenology, *Bufo bufo*, *Pelophylax esculentus*.

Zusammenfassung

An fünf Kleingewässern im Drachenfelder Ländchen bei Bonn wurden an ganzjährigen Fangzäunen in den Sommermonaten Mai bis September der Jahre 2000–2002 zahlreiche Anuren (fast ausschließlich Erdkröten, *Bufo bufo*) mit Fliegenmadenbefall (Myiasis) beobachtet und untersucht. 14,3 % von 782 registrierten Erdkröten waren befallen. Die Befallsrate war zwischen den Jahren und Gewässern signifikant unterschiedlich und stieg signifikant mit der Körpergröße der Wirte an, bis max. ca. 70 %