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SONIA KLEINDORFER, PHD
VOCAL PERFORMANCE IN BIRDS SHAPED BY IN-NEST EXPERIENCE

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Vocal learning songbirds vary in vocal performance, which can affect their fitness via mate attraction or territory defence. Previous research has shown that developmental stress in nestling birds negatively affects vocal performance in adults. New lines of research have shown that song bird embryos can discriminate sound, and there are questions about possible ontogenetic benefits of prenatal sound exposure. Here, I review three case studies with evidence for effects of early-life experience on adult vocal performance. (1) In Darwin's finches, an introduced parasite causes naris deformation in nestlings that changes the beak and song of the adult finch. (2) Superb fairy-wren (*Malurus cyaneus*) mothers call to their embryos during incubation and embryos that respond to their mother's calls learn more vocal elements as fledglings. (3) Zebra finch (*Taeniopygia guttata*) embryos experimentally reared with incubation calls are more likely to approach females and acquire non-paternal vocal syllables as adults. These studies identify ontogenetic pathways that affect vocal performance in songbirds that may also have evolutionary consequences.

Prof. Sonia Kleindorfer is an organismal systems biologist with a research focus on how animal behaviour shapes evolutionary dynamics in birds and parasites. She did her university study at University of Pennsylvania (Bachelor: Biological Basis of Behaviour), University of Vienna (PhD: Zoology), and University of Washington School of Medicine (Postdoc: Medicine). Field work underpins Sonia's core research activity, which she conducts in Australia and the Pacific Islands (Galapagos, Fiji). She is Scientific Director of the Flinders Research Centre for Climate Adaptation and Animal Behaviour and Head of the Core Facility Konrad Lorenz Research Station for Behaviour and Cognition at Grünau, Upper Austria. She received the D.L. Serventy Medal in 2016 for outstanding research contribution to ornithology.