

Kasun Harshana Bodawatta  
Postdoc  
Section for Molecular Ecology and Evolution  
**Postal address:**  
Øster Farimagsgade 5, bygning 7  
1353  
København K  
**Email:** bodawatta@sund.ku.dk  
**Phone:** +4535330646  
**Web address:** <https://globe.ku.dk/>



## Short presentation

My research work mainly focus on understanding evolution of symbiotic interaction between birds and their microorganisms. I conduct my main field work in Papua New Guinea but I am also planning to conduct research on danish bird species such as Great tits. I am interested in four main research topics related to avian-microbe symbiosis.

1. Impact of diet on bird digestive tract microbiota (DTM) - mainly looking at how different diets with different nutritional conditions might shape the DTM of birds. I am also interested in paraphyletic clade of Toxic birds to understand whether their DTM play a role in utilization of toxic intake with these bird's diets
2. Bird communities and their DTM communities - In this project I am interested in understanding whether bird DTMs are shaped by the habitat they occupy (i.e., elevation) or the phylogeny (i.e., closely related species). I will investigate DTM of niche replacemnt bird species from two to three bird communities to answer this question.
3. Role of Avian blood parasites (i.e., malaria) on bird communities - In this project I am interested in understanding how birds deal with microbial parasites and understanding the biogeographic trends this host-pathohgen symbiosis.
  - 3.1. Potential role of DTM to aid birds to cooperate with blood parasite infections: I am also interested in understanding whether DTM has a role in reducing the impact of the blood parasites on their hosts. To answer this question we will look at blood parasite communities and DTMs of one species of birds from multiple locations in PNG.
4. Investigation of Uropygial gland microbiota - In this project I am interested in identifyng the bacteria lives within bird uropygial gland. After identification through multiple coculture assays I will try to undersatnd the potential antimicrobial properties of common uropygial gland bacteria.

## Qualifications

Biology, MSc in Biology, Department of Biology  
1 Sep 2016 → 8 Jun 2018  
Award Date: 8 Jun 2018

Biology, Bachelors of Arts in Biology, Earlham College  
25 Jul 2011 → 9 May 2015  
Award Date: 9 May 2015

## Employment

### Postdoc

Section for Molecular Ecology and Evolution  
København K  
1 Mar 2022 → nu

### Research assistant

Research  
København Ø  
30 Jun 2021 → 12 Aug 2022

### PhD Student

Collections  
København K  
1 Jul 2018 → 3 Jan 2020

## Research outputs

**Multiple mutations in the Nav1.4 sodium channel of New Guinean toxic birds provide auto-resistance to deadly batrachotoxin**

Bodawatta, Kasun Harshana, Hu, H., Schalk, F., Daniel, J. M., Maiah, G., Koane, B., Iova, B., Beemelmans, C., Poulsen, Michael & Jønsson, Knud Andreas, 13 Feb 2023, (Accepted/In press) In: *Molecular Ecology*. 27 p.

**A network meta-analysis on comparison of invasive and non-invasive sampling methods to characterize intestinal microbiota of birds**

Zhou, T., Bodawatta, Kasun Harshana & Jiang, A., 2023, In: *Avian Research*. 14, 10 p., 100086.

**Comparable early-stage decomposition but contrasting underlying drivers between surface and cave habitats along an elevational gradient**

Bodawatta, Kasun Harshana, Ravn, N., Oromí, P., Esquivel, J. L. M., Michelsen, Anders, Poulsen, Michael, Jønsson, Knud Andreas & Reboleira, Ana Sofia, 2023, In: *Ecological Indicators*. 154, 12 p., 110607.

**Indirect maternal effects via nest microbiome composition drive gut colonization in altricial chicks**

Diez-Méndez, D., Bodawatta, Kasun Harshana, Freiberga, I., Klečková, I., Jønsson, Knud Andreas, Poulsen, Michael & Sam, K., 2023, In: *Molecular Ecology*. 32, 13, p. 3657-3671 15 p.

**Avian gut microbiomes taking flight**

Bodawatta, Kasun Harshana, Hird, S. M., Grond, K., Poulsen, Michael & Jønsson, Knud Andreas, 2022, In: *Trends in Microbiology*. 30, 3, p. 268-280 13 p.

**Ecological factors driving the feather mite associations in tropical avian hosts**

Bodawatta, Kasun Harshana, Shriner, I., Pigott, S., Koane, B., Vinagre-Izquierdo, C., Rios, R. S., Jønsson, Knud Andreas & Tori, W. P., 2022, In: *Journal of Avian Biology*. 2022, 6, 13 p., e02951.

**Nutrient-limited subarctic caves harbour more diverse and complex bacterial communities than their surface soil**

Reboleira, Ana Sofia, Bodawatta, Kasun Harshana, Ravn, N. M. R., Lauritzen, S., Skoglund, R. Ø., Poulsen, Michael, Michelsen, Anders & Jønsson, Knud Andreas, 2022, In: *Environmental Microbiomes*. 17, 17 p., 41.

**Satellite tracking resident songbirds in tropical forests**

Hart Reeve, A., Willemoes, M., Paul, L., Nagombi, E., Bodawatta, Kasun Harshana, Ortvad, T. E., Maiah, G. & Jønsson, Knud Andreas, 2022, In: *PLoS ONE*. 17, 12, 14 p., e0278641.

**Specific gut bacterial responses to natural diets of tropical birds**

Bodawatta, Kasun Harshana, Klečková, I., Klečka, J., Pužejová, K., Koane, B., Poulsen, Michael, Jønsson, Knud Andreas & Sam, K., 2022, In: *Scientific Reports*. 12, 15 p., 713.

**The drivers of avian-haemosporidian prevalence in tropical lowland forests of New Guinea in three dimensions**

Vinagre-Izquierdo, C., Bodawatta, Kasun Harshana, Chmel, K., Renelies-Hamilton, J., Paul, L., Munclinger, P., Poulsen, Michael & Jønsson, Knud Andreas, 2022, In: *Ecology and Evolution*. 12, 2, 14 p., e8497.

**Biotic and abiotic factors shaping avian microbial symbioses**

Bodawatta, Kasun Harshana, 2021, Natural History Museum of Denmark, Faculty of Science, University of Copenhagen. 610 p.

**Disentangling the Relative Roles of Vertical Transmission, Subsequent Colonizations, and Diet on Cockroach Microbiome Assembly**

Renelies-Hamilton, J., Germer, K., Sillam-Dussès, D., Bodawatta, Kasun Harshana & Poulsen, Michael, 2021, In: *mSphere*. 6, 1, 18 p., e01023-20.

**Flexibility and resilience of great tit (*Parus major*) gut microbiomes to changing diets**

Bodawatta, Kasun Harshana, Freiberga, I., Puzejova, K., Sam, K., Poulsen, Michael & Jønsson, Knud Andreas, 2021, In: *BMC Animal Microbiome*. 3, 14 p., 20.

### **Species- and Caste-Specific Gut Metabolomes in Fungus-Farming Termites**

Vidkjær, Nanna Hjort, Schmidt, Suzanne, Hu, H., Bodawatta, Kasun Harshana, Beemelmans, C. & Poulsen, Michael, 2021, In: *Metabolites*. 11, 12, 19 p., 839.

### **Species-specific but not phyllosymbiotic gut microbiomes of New Guinean passerine birds are shaped by diet and flight-associated gut modifications**

Bodawatta, Kasun Harshana, Koane, B., Maiah, G., Sam, K., Poulsen, Michael & Jønsson, Knud Andreas, 2021, In: *Proceedings of the Royal Society B: Biological Sciences*. 288, 1949, 10 p., 20210446.

### **Cloacal swabs and alcohol bird specimens are good proxies for compositional analyses of gut microbial communities of Great tits (*Parus major*)**

Bodawatta, Kasun Harshana, Puzejova, K., Sam, K., Poulsen, Michael & Jønsson, Knud Andreas, 2020, In: *BMC Animal Microbiome*. 2, 13 p., 9.

### **Great Tit (*Parus major*) Uropygial Gland Microbiomes and Their Potential Defensive Roles**

Bodawatta, Kasun Harshana, Schierbech, S. K., Petersen, N. R., Sam, K., Bos, N., Jønsson, Knud Andreas & Poulsen, Michael, 2020, In: *Frontiers in Microbiology*. 11, 11 p., 1735.

### **Spatiotemporal patterns of avian host-parasite interactions in the face of biogeographical range expansions**

Bodawatta, Kasun Harshana, Synek, P., Bos, N., Garcia-del-Rey, E., Koane, B., Marki, P. Z., Albrecht, T., Lifjeld, J., Poulsen, Michael, Munclinger, P., Sam, K. & Jønsson, Knud Andreas, 2020, In: *Molecular Ecology*. 29, 13, p. 2431-2448 18 p.

### **Comparative Analyses of Herbivory Rates and Leaf Phenology in Invasive and Native Shrubs in an East-Central Indiana Forest**

Bodawatta, Kasun Harshana, Clark, C., Hedrick, A., Hood, A. & Smith, B., 2019, In: *Journal of the Torrey Botanical Society*. 146, 1, p. 48 - 57

### **Foraging *Macrotermes natalensis* fungus-growing termites avoid a mycopathogen but not an entomopathogen**

Bodawatta, Kasun Harshana, Poulsen, Michael & Bos, N., 2019, In: *Insects*. 10, 7, 8 p., 185.

### **Comparative analyses of the digestive tract microbiota of New Guinean passerine birds**

Bodawatta, Kasun Harshana, Sam, K., Jønsson, Knud Andreas & Poulsen, Michael, 2018, In: *Frontiers in Microbiology*. 9, 13 p., 1830.

### **WHITE-CROWNED MANAKIN (*DIXIPHIA PIPRA*) USE OF SPACE IN THE ECUADORIAN AMAZON**

Tori, W. P., Bodawatta, Kasun Harshana, Tanager, K., Lewis, E. L., Neumeister, D. S. & Hogle, J., 2016, In: *Ornitologia Neotropical*. 27, p. 145-154 10 p.

## **Prizes**

### **Danida Travel Grant**

Bodawatta, Kasun Harshana (Recipient), 2017

### **Mini Research Grant**

Bodawatta, Kasun Harshana (Recipient), 2017