

Research and publications

Research

Undergraduate dissertation:	<p>Hewavithana D. K., 2012. <i>An ecological study on dung associated beetles with special reference to dung beetles (Family Scarabaeidae; subfamily Scarabaeinae) in the Wasgomuwa National Park, Sri Lanka</i>. B.Sc. dissertation, University of Colombo, Sri Lanka.</p> <p>Summary- The overall objective of this study was to investigate the composition and ecology of dung -associated invertebrate fauna, with special focus on dung beetles, on large mammal dung. To investigate preferences of dung beetles, pitfall traps were set in five habitat types, using five dung types as bait. The study revealed the presence of coleopterans, lepidopterans and other invertebrate species from the orders Hymenoptera, Diptera and Blattoidea in the different dung types tested. The present investigation revealed habitat and dung preferences among dung beetles in Sri Lanka.</p> <p>The project involved conducting strenuous field work in the Wasgomuwa National Park and identification of various invertebrate groups. Fresh dung samples were obtained from the National Zoological Gardens, Dehiwala one day prior to leaving to the field, to be used as bait. I was able to coordinate with the zookeepers and obtain dung as required. Further, to identify the invertebrate species recorded, in addition to referring to the library, I coordinated with the National Museum of Sri Lanka and with experts on dung beetle identification who are based in the Sabaragamuwa University of Sri Lanka.</p> <p>Publications- Two full papers (includes a science citation indexed journal) and two communications (local and international symposia).</p>
MSc dissertation :	<p>Hewavithana D. K., 2017. <i>Conservation and Sustainable use of Beddagana Biodiversity Park, Sri Lanka</i>. MSc. Dissertation, University of Peradeniya, Sri Lanka.</p> <p>Summary- The overall objective of this study was to establish baseline of information on biodiversity at this urban wetland park prior to opening it for the public. This data will then be used as a baseline to monitor the health of the ecosystem. This survey used transect and point count methods to assess the biodiversity and to assess variation in abundance of several selected bird species. Moreover, this study established baseline data, on population size and on habitat of preference of five selected bird species and the spread of alien invasive species within the park for monitoring purposes.</p> <p>This research was a timely needed for the Urban Development Authority which was the organization in charge of developing the park into an urban wetland park for public use. As a voluntary service, upon completion, a copy of the thesis and the publications produced through this work were shared with the Urban Development Authority. In addition, I designed a series of information boards on fauna and flora species that are observed within the park. Some of these boards were</p>

	<p>selected for displaying and are presently displayed with due credit for my efforts.</p> <p>Publications- One full paper publication and one communication</p>
<p>Ph.D. dissertation title :</p>	<p>“Planning for the future: Ecological impacts of Sri Lanka’s growing linear infrastructure network and the way forward” - an interdisciplinary approach.</p> <p>This is an interdisciplinary study where I attempt to find solutions for linear development induced impacts on wildlife by looking at it from different perspectives. Firstly, I perform an extensive analysis using GIS on how the linear infrastructure network has fragmented the Sri Lankan forest network over time. Then via a series of field work I am trying to find impacts of roads, railway and powerline on fauna. Finally, I conducted interview surveys and a content analysis of Environmental Impact Assessment (EIA) Reports on the same subject to understand how perspectives on impact of linear infrastructure has changed over time within three stakeholder groups (i.e. ecologists, decision makers in the government sector and funding agencies).</p> <p>I based myself in the field for two complete years, in order to conduct field work for this project. I used an array of techniques to collect data in this study. For ecological data collection, I used point count surveys, road-kill surveys, sand traps and camera traps and for the social science component of the project, I used interviews and report content analysis techniques. At the moment, I have completed all the field work in this project and am in the process of writing my thesis and manuscripts. Funds for fieldwork of this project were provided by the National Research Council of Sri Lanka. I compiled the grant proposal, requesting funds from National Research Council of Sri Lanka in 2016, under the supervision of Prof. Devaka Weerakoon.</p> <p>Publications- five communications in both local and international symposia</p>
<p>Other</p>	<p>A study on gastrointestinal parasites in wild mammals was conducted in Wasgomuwa National Park. This survey generated baseline data, as a large number of parasites recorded during this survey were first time records for wild mammals in Sri Lanka. A comparison made with the captive counter parts of study mammals (with already published data) the study revealed that there were significant differences in parasite diversity and load between captive and wild mammals. The information on parasites would no doubt be invaluable to overcome challenges of parasitic diseases among wild mammals and hence would facilitate better conservation action.</p> <p>Publications- one full paper in review and two communications</p>

Publications

Full papers

- Mothes, C. C., Clements, S. L., **Hewavithana, D. K.**, Howell, H. J., David, A. S., Leventhal, N. D., & Searcy, C. A. (2019). Use of standardized methods to improve extinction-risk classification. *Conservation Biology*, (October). <https://doi.org/10.1111/cobi.13421>
- **Hewavithana, D.**, Peries, N., Weerakoon, D., & Wijesinghe, M. R. (2017). Establishing baseline information for dragonflies and butterflies of the newly established Beddagana wetlands park. *The Sri Lanka Forester*, 38, 47–59.
- **Hewavithana, D.K.**, Wijesinghe, M.R., 2017. Discovery of a large nesting colony of the Blue-tailed Bee-eater (*Merops philippinus*) in Oluvil, Ampara. *Wildlanka* 5, 11–16.
- **Dishane K.H.**, Mayuri R.W., Chandima D & Gayan D 2016, Habitat and dung preferences of scarab beetles of the subfamily Scarabaeinae: a case study in a tropical monsoon forest in Sri Lanka. *International Journal of Tropical Insect Science*, vol. 36, no. 02, pp. 97-105.
- **Dishane K.H.**, Mayuri R.W., Chandima D, Lekamge D & de Silva C 2015, The diversity of true dung beetles in large mammal dung within the Wasgomuwa National Park, Sri Lanka, during the dry season. *Taprobatica.*, vol. 07, no. 04, pp. 219–223.
- **Dishane K.H.**, Mayuri RW and Udagama P (manuscript accepted with moderate revisions- International Journal for Parasitology: Parasites and Wildlife) Gastrointestinal Parasitic infections in Wild large mammals of Sri Lanka.

Book chapter

- **Hewavithana, D.K.**, Wickramanayake, E., Gunawardena, M., Sathananthana, D., 2019. Central Highlands of Sri Lanka, in: Bindra, P.S., Ghosh, S., Roy, A., Mathur, V. (Eds.), *Wild Treasures: Reflections on Natural World Heritage Sites in Asia- An Anthology*. pp. 1–503.

Communications

- **Hewavithana, D. K.**, Weerakoon, D. K., Wijesinghe, M. R., Searcy, C. A., Weerakoon, D. K., Wijesinghe, M. R., Searcy, C. A., (Abstract- talk) 2021 (12-14th January). Do culverts contribute to reduce the number of roadkills? A study on roadkills along the Habarana-Polonnaruwa road, Sri Lanka. *IENE 2020 International Conference "LIFE LINES – Linear Infrastructure Networks with Ecological Solutions"*, Évora, Portugal.
- **Hewavithana, D. K.**, Weerakoon, D. K., Wijesinghe, M. R., Searcy, C. A., (Abstract- talk) 2021 (12-14th January). Level and spatial scale of impact from different linear development types. *IENE 2020 International Conference "LIFE LINES – Linear Infrastructure Networks with Ecological Solutions"*, Évora, Portugal.
- **Hewavithana, D. K.**, Weerakoon, D. K., Searcy, C. A., (Abstract- talk) 2021 (12-14th January). Making the road more permeable to wildlife using existing infrastructure. *IENE 2020 International Conference "LIFE LINES – Linear Infrastructure Networks with Ecological Solutions"*, Évora, Portugal.

- **Hewavithana, D. K.**, Peries, T. N., Weerakoon, D. K., Wijesinghe, M. R., Searcy, C. A., (Abstract-poster) 2019 (11th to 13th September). Are current roadkill mitigatory measures adequate? *Association for Tropical Biology and Conservation (ATBC) Asia Pacific Conference held in Thihariya, Sri Lanka.*
- **Hewavithana, D. K.**, Weerakoon, D. K., Wijesinghe, M. R., Searcy, C. A., (Abstract-poster) 2019 (2nd to 10th July). Planning for the future: Ecological impacts of Sri Lanka's growing linear infrastructure network. *Student Conference on Conservation Science (SCCS)*. Brisbane, Australia.
- **Hewavithana, D. K.**, Peries, T. N. Weerakoon, D. K., Wijesinghe, M. R., Searcy, C. A. (Abstract-poster) 2018 (5-7th October), Roadkill hotspots to inform future infrastructure development. *Southeastern Ecology and Evolution Conference (SEEC)* at University of Miami, Coral Gables, FL, USA.
(The poster presented at this conference won the award for the best poster presentation)
- **Hewavithana, D. K.**, Werakoon, D.K., Wijesinghe, M. R., and Peries, N. (Abstract-poster) 2016, Establishing Baseline Data to Monitor Viability of the Newly Established Beddagana Wetland Park. *International Research Symposium on Blue Green Economy and Environment. on 18th October 2016 at BMICH, Colombo 07, Sri Lanka.*
- **Hewavithana, D.K.**, Wijesinghe, M.R. and Dangalla, C. (Abstract-Poster) 2013 (**25th to 28th September 2013**) , Lepidopteran inhabitants on mammalian dung in the Wasgomuwa National Park. *Student Conference on Conservation Science (SCCS) held in Bangalore, Karnataka.* <http://journals.sjp.ac.lk/index.php/fesympo/article/view/1888>
(This work was well recognised and got published in international and local newspapers as well,
India Times- <http://timesofindia.indiatimes.com/home/environment/flora-fauna/Young-conservators-tap-kids-power/articleshow/23064939.cms>).
- **Hewavithana, D. K.**, Wijesingha, M. R., Lekamge, D. and de Silva, C. (Abstract-talk) 2013, Habitat Selection in Dung Beetles (Family Scrabaeidae; Subfamily Scarabaeinae) in the Wasgomuwa National Park. *18th International Forestry and Environment Symposium held at MAS Fabric Park, Thulhiriya, Sri Lanka.*
<http://journals.sjp.ac.lk/index.php/fesympo/article/viewFile/1888/993>
- **Hewavithana, D. K.**, Wijesinghe, M. R. and Udagama, P. (Abstrac-talkt) 2013, A comparison of gastrointestinal parasites of large mammals in the Wasgomuwa National Park with their counterparts at the Zoological Gardens, Sri Lanka. *33rd Annual Sessions of the Institute Of Biology (IOB) held at Sri Lanka Institute of Development Administration, Colombo 7, Sri Lanka.*
- **Hewavithana, D. K.**, Wijesinghe, M. R. and Udagama, P. (Abstract-talk) 2013, Diversity and Abundance of Gastrointestinal Parasites in Large Mammals in the Wasgomuwa National Park, Sri Lanka. *69th Annual Scientific Sessions of Sri Lanka Association for the Advancement of Science (SLAAS) held at University of Kelaniya Sri Lanka.*