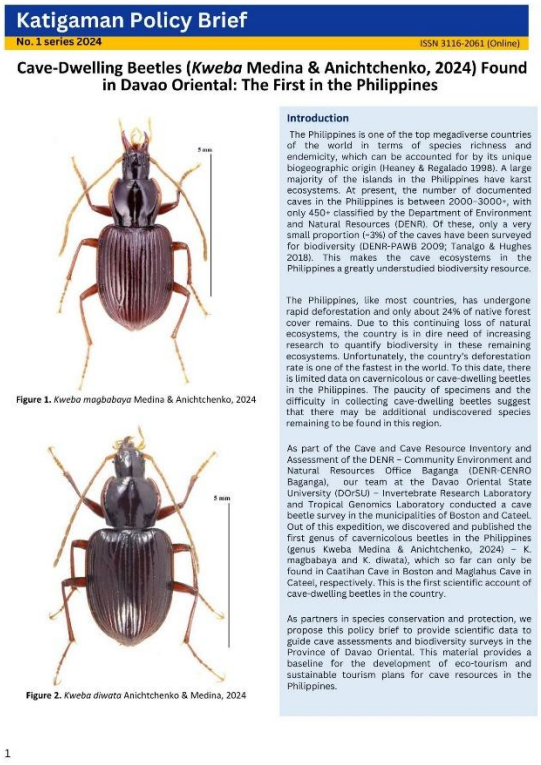
SGD 15: Indicator 15.3.1

1. **Cave-Dwelling Beetles** (***Kweba*** **Medina** & **Anichtchenko**, **2024**) **Found in Davao Oriental**: **The First in the Philippines**



Katigaman Policy Brief

No. 1 series 2024 ISSN 3116-2061 (Online)

Cave-Dwelling Beetles (*Kweba* Medina & Anichtchenko, 2024) Found in Davao Oriental: The First in the Philippines

Figure 1. *Kweba magbabaya* Medina & Anichtchenko, 2024

Figure 2. *Kweba diwata* Anichtchenko & Medina, 2024

Introduction

The Philippines is one of the top megadiverse countries of the world in terms of species richness and endemicity, which can be accounted for by its unique biogeographic origin (Heaney & Regalado 1998). A large majority of the islands in the Philippines have karst ecosystems. At present, the number of documented caves in the Philippines is between 2000-3000+, with only 450+ classified by the Department of Environment and Natural Resources (DENR). Of these, only a very small proportion (~3%) of the caves have been surveyed for biodiversity (DENR-PAWB 2009; Tanalgo & Hughes 2018). This makes the cave ecosystems in the Philippines a greatly understudied biodiversity resource.

The Philippines, like most countries, has undergone rapid deforestation and only about 24% of native forest cover remains. Due to this continuing loss of natural ecosystems, the country is in dire need of increasing research to quantify biodiversity in these remaining ecosystems. Unfortunately, the country's deforestation rate is one of the fastest in the world. To this date, there is limited data on cavernicolous or cave-dwelling beetles in the Philippines. The paucity of specimens and the difficulty in collecting cave-dwelling beetles suggest that there may be additional undiscovered species remaining to be found in this region.

As part of the Cave and Cave Resource Inventory and Assessment of the DENR – Community Environment and Natural Resources Office Baganga (DENR-CENRO Baganga), our team at the Davao Oriental State University (DOrSU) – Invertebrate Research Laboratory and Tropical Genomics Laboratory conducted a cave beetle survey in the municipalities of Boston and Cateel. Out of this expedition, we discovered and published the first genus of cavernicolous beetles in the Philippines (genus Kweba Medina & Anichtchenko, 2024) – K. magbabaya and K. diwata), which so far can only be found in Caatihan Cave in Boston and Maglahus Cave in Cateel, respectively. This is the first scientific account of cave-dwelling beetles in the country.

As partners in species conservation and protection, we propose this policy brief to provide scientific data to guide cave assessments and biodiversity surveys in the Province of Davao Oriental. This material provides a baseline for the development of eco-tourism and sustainable tourism plans for cave resources in the Philippines.

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The Center for Futures Thinking and Regenerative Development (CFTRD) under the Research, Innovation, and Extension (RIE) Division of Davao Oriental State University is pleased to launch the Katigaman Policy Brief Series under the funded projects of CFTRD.

This series marks a significant milestone in our ongoing commitment to pioneering research and extension activities aligned with the university's agenda on regenerative futures.

We are proud to present our first policy brief, titled "**Cave-Dwelling Beetles** (***Kweba*** **Medina** & **Anichtchenko**, **2024**) **Found in Davao Oriental**: **The First in the Philippines**," under the Philippine Coleoptera Expedition (PhilColEx) project of Dr. Milton Norman D. Media, Head, DOrSU Tropical Genomics Laboratory; Asst. Prof. Jhonnel P. Villegas, Resident Futurist, Center for Futures Thinking and Regenerative Development; Dr. Ann A. Cabras, Head, DOrSU Terrestrial Invertebrate Research Laboratory, who have discovered and published the first genus of cavernicolous beetles in the Philippines (*Kweba* Medina & Anichtchenko, 2024) - (*K. magbabaya* and *K. diwata*), which have been found exclusively in Caatihan Cave in Boston and Maglahus Cave in Cateel, respectively. This marks the first scientific account of cave-dwelling beetles in the country, highlighting the unique biodiversity of Davao Oriental's cave ecosystems.

This document has recently been transmitted to the Department of Environment and Natural Resources (DENR) CENRO Baganga, underscores the vital role of biodiversity conservation and the importance of informed policy-making in preserving our unique natural heritage.

The leadership of the University President, Dr. Roy G. Ponce, and the generous support of Senator Pia S. Cayetano, Chairperson of the Committee on Sustainable Development Goals, Innovation, and Futures Thinking (SDGIFT), has enabled the CFTRD to fund the dedicated team to explore and document the natural heritage of the province, contributing valuable insights to the scientific community and informing biodiversity conservation efforts.

The CFTRD is dedicated to driving high-impact research, transformative extension, and nature-based education by supporting faculty researchers who opt to contribute and mainstream the regenerative futures through research and creative works publication, which are crucial pillars in our strategic development plan.

Through this Katigaman Policy Brief Series, we aim to translate our research findings into actionable insights that can influence policy, guide decision-makers, and foster partnerships that align with our vision of positioning Davao Oriental State University as a regenerative futures university in the Asia Pacific by 2035.

Source:
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2. **Katigaman Policy Brief Series**



The Center for Futures Thinking and Regenerative Development is thrilled to announce that the **Katigaman Policy Brief Series** is now officially **ISSN-registered**!

With ISSN 3116-2061 (Online), the policy briefs are now officially registered and cataloged for wider visibility and accessibility.

"*Katigaman*" is a native Mandaya word that means knowledge. The Katigaman Policy Brief Series presents concise analyses, research-based insights, and discussions on emerging issues on regenerative futures. It seeks to provide public policy through scholarly contributions anchored in the 12 Regenerative Agenda of the Center for Futures Thinking and Regenerative Development (CFTRD).

Source:
https://www.facebook.com/share/p/1HLcasj9P2/

3. **DOrSU Presents Biodiversity Assessment Results to Support Local Conservation Ordinance in Maco, Davao de Oro**



#DOrSUBSES #rethinkingimpact

On May 21, 2025, Ms. Amy G. Ponce, Adviser of the BSES GreenPulse along with faculty and researchers from Davao Oriental State University (DOrSU) presented the summarized results of a biodiversity assessment during a Committee Hearing of the Sangguniang Bayan of Maco, Davao de Oro. The session focused on the proposed ordinance to declare the Bilawa Mainit Hot Waterfalls and Lake Leonard as Local Government Unit (LGU)-managed Conservation Areas in Barangays Mainit and New Leyte.

The presentation was made in response to an official invitation from the Sangguniang Bayan, acknowledging the essential role of science-based data in crafting effective and inclusive environmental legislation. The biodiversity assessment, conducted from October 28 to November 1, 2024, was led by Ms. Ponce, Project Leader for the Biodiversity Component of the BD Corridor Project – Eastern Mindanao Biodiversity Corridor Cluster 5, under the leadership of Dr. Misael B. Clapano. The research team comprised faculty and researchers from the BS Biology and BS

Environmental Science programs of DOrSU, in collaboration with personnel from MENRO Maco, CENRO Maco, the Davao de Oro Tourism Office, the Indigenous People Community and the barangay local government units of New Leyte and Mainit in Maco, Davao de Oro.

The assessment documented a range of important species groups, including bats, birds, herpetofauna, coleoptera, trees, and shrubs, many of which are endemic and keystone species with high conservation values, offering strong ecological evidence in support of formal conservation efforts. These findings reinforce the scientific case for the protection and sustainable management of the area, emphasizing its ecological value and biodiversity significance.

The committee hearing served as a valuable platform for dialogue, shedding light on how the proposed ordinance can be strengthened to better align with the interests and capacities of key stakeholders. It also emphasized the importance of recognizing Indigenous Peoples' rights, as the area falls within a recognized Certificate of Ancestral Domain Title (CADT). Furthermore, the hearing opened the door to exploring additional perspectives and enhancements to ensure that the ordinance is both environmentally sound and socially equitable—supporting the coexistence of nature and the communities that depend on it.

DOrSU stands firm in its vision to science-based, data-driven research as a cornerstone for policy development and informed decision-making, particularly in advancing regenerative conservation. This ensures that research does not remain confined to academic spaces but actively shapes policy—empowering communities, protecting biodiversity, and paving the way for a more resilient and regenerative future.

Source:
https://web.facebook.com/share/p/1B4RYgtrgZ/

4. Turnover of Policy Brief and Information Materials to CENRO Baganga



DOrSU's Coleoptera Research Team, represented by Dr. Milton Norman D. Medina, turned over a policy brief and information materials to the Community Environment and Natural Resources Office (CENRO) Baganga on July 23, 2024.

This is part of the university's ongoing efforts to popularize its scientific discoveries and provide science-based policy insights to partner agencies.

With the support of the Center for Futures Thinking and Regenerative Development (CFTRD), the said team was able to name the first genus of cave beetles in the Philippines, as well as two new species under this genus. These species were found in cave ecosystems in Davao Oriental.

Source:
https://web.facebook.com/share/p/1Co9ad3UCw/