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Research Article

First Report of the Yellow Blotched Pearl Moth, *Eurrhyparodes bracteolalis* (Guenée, 1854) (Lepidoptera: Crambidae) in Nigeria

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ABSTRACT
The study aimed at reporting the first sighting of the Yellow-Blotched Pearl Moth, *Eurrhyparodes bracteolalis* (Guenée, 1854). The species is widely distributed in the family Crambidae. It can be found in Tropical Africa, Asia and Oceania. A single adult of *Eurrhyparodes bracteolalis* (Guenée, 1854) was observed and photographed at the Federal University Wukari Mosque, Taraba State, Nigeria, on 6 September 2025. The specimen was identified through photographic comparison using Afromoths and BOLD Systems and iNaturalist. This observation represents the first confirmed photographic record of the species in Nigeria. This record will increase the known range of *Eurrhyparodes bracteolalis* in West Africa, thereby contributing to the additional knowledge about the species, especially in Nigeria.

Keywords: Crambidae; Distribution; Moths; Nigeria; University campus

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INTRODUCTION

Lepidoptera is one of the most diverse groups, representing 157,424 described species globally (van Nieukerken *et al.,* 2011). Lepidopterans are most sensitive indicators determining environmental quality changes (Thomas, 2005; Wirooks, 2005). In Europe, diurnal Lepidoptera (moths & butterflies) are used as indicators for accessing the state of semi-natural grasslands (Rákosy & Schmitt, 2011). Moths are widely accepted as the most sensitive indicators determining the quality of environment and changes occurring in it (Wirooks, 2005). They are also considered vital for ecosystem services because of various roles such as agricultural pests (Sharma & Bisen, 2013), food for various organisms, night pollinators (Macgregor *et al.,* 2015). In addition, they are identified easily, ecologically very sensitive and behavioral monitoring of moths can be paired easily with diversity studies. Geometrid moth assemblage is closely related to the environmental factor and vegetation at a particular altitude (Axmacher *et al.,* 2004). According to Abdul *et al*. (2025), plants functional traits had positive impact on biodiversity such as birds. Despite their importance, moths remain under-studied in tropical Africa compared to butterflies and other insect taxa. In Nigeria, most Lepidoptera research has focused on butterflies (Musa *et al*., 2024; Abdullahi *et al*., 2025; Abdul *et al*., 2025), while moth diversity has received limited scientific attention. This knowledge gap hinders effective biodiversity conservation and ecological monitoring in savanna ecosystems, which are undergoing rapid human-driven transformations (Nneji *et al*., 2020)

MATERIALS AND METHODS

Study Area, specimen collection and Identification

The single adult species (*E. bracteolalis*) was sighted on 6th September, 2025 at the University Mosque, Federal University Wukari, Taraba State, Nigeria (7.844306° N, 9.774136° E) (Figure 1). The moth species was seen on the wall attracted to light at night and was photographed using Redmi note 13 mobile phone and the location recorded. The species was identified morphologically based on descriptions of diagnostic images from Ratnasingham *et al*. (2024) (Bold Systems), Afromoths (De Prins, 2019; De Prins & De Prins, 2025) and iNaturalist. The photographs of the species was uploaded to iNaturalist for confirmation of the identification (iNaturalist profile name = ibrahimdanazumi).

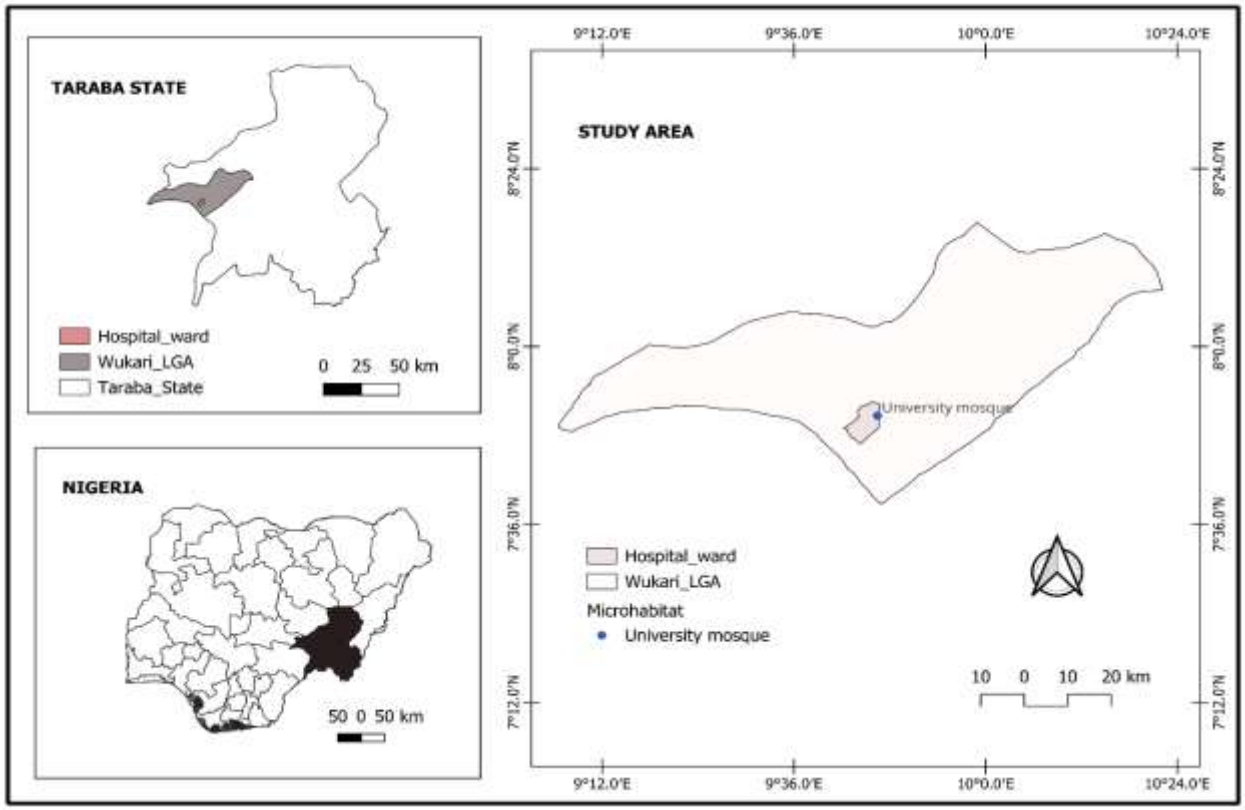

Figure 1. Map of the Study Area

RESULTS

The moth specimen displays the feature of *E. bracteolalis,* with a yellowish color haven black patch (blotch) making uneven horizontal bands over the two wings (forewings and hindwings) and a white fringe on the edge of the margin (Plate 1). The length of the wings is around 21-24 mm. The moth species was found resting flat on a wall (which is common for Crambidae members) close to light bulb around 21: 00 GMT +1. The mosque setting was an open field with trees, plants and short grasses. Several nocturnal insects seemed drawn to the artificial lighting, which is in line with findings indicating Crambidae members frequently display positive phototaxis (Muirhead-Thomson, 1991). During the observation, only one *E. bracteolalis* individual was noted; nevertheless, its unique markings allowed for easy photographic identification. This finding extends the known distribution of *E. bracteolalis* from previously identified Afrotropical regions and is the first verified reported photographic evidence of the species in Nigeria.

Plate 1. *Eurrhyparodes bracteolalis* observed at Federal University Wukari mosque, Taraba State, Nigeria (Photo: Abdul, Ibrahim Danazumi, 6 September 2025).

DICUSSION

This marked the first confirmed record of *Eurrhyparodes bracteolalis* in Nigeria. The specie's occurrence in Federal University Wukari, Taraba State coincide with the known range in Tropical Africa, and the proximity of Taraba and Cameroon border may indicate possible range extension and dispersal as documented by Afromoth (De Prins & De Prins, 2025). The known Afrotropical range of *Eurrhyparodes bracteolalis* is expanded by its presence in Taraba State. BOLD Systems has one bar-coded specimen from Kenya (Ratnasingham & Hebert, 2007; Ratnasingham *et al*., 2024), while Afromoths lists verified sightings from Kenya and Uganda (De Prins, 2019; De Prins & De Prins, 2025). The species from southern African nations like South Africa and Zimbabwe are documented by extra pictorial observations on iNaturalist (2025). Thus, the current Nigerian record shows a consistent or at least dispersed population range throughout sub-Saharan Africa, bridging the divide across East and Southern Africa. The discovery of *E. bracteolalis* in a suburban mosque compound shows that the species may take advantage of altered habitats. Many Lepidoptera species are known to be drawn to artificial lighting (van Langevelde *et al*., 2011), which may make it easier to find them in man-made environments. The observation next to an electric lightbulb is consistent with earlier research showing that moth populations and flight behaviour can be affected by light pollution (Somers-Yeates *et al*., 2013). The usefulness of citizen-science platforms like iNaturalist for biodiversity preservation is highlighted by the use of photographic evidence that has been confirmed through internet resources (Silvertown, 2009; Chandler *et al*., 2017).

CONCLUSION

This marked the marked the first reported record of *E. bracteolalis* in Taraba State, Nigeria. This finding highlights the usefulness of citizen science (such as iNaturalist) within Nigerian communities and tertiary institutions. Due to paucity of data, many species of biodiversity like moths remain under-reported. To determine whether *E. bracteolalis* is more common or incidental, additional surveys throughout Nigeria are advised. Its population status, range, and potential host plant relationships may be discovered using targeted trapped light in both modified and natural settings (Chey *et al*., 1997).

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CONFLICT OF INTEREST

There was no conflict of interest

AUTHOR CONTRIBUTIONS

Observation, photography, identification, and manuscript writing were all done by Abdul, Ibrahim Danazumi

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