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Letter to the Editor

Comments on the "First Report of Adult *Brachylaima* sp. (Digenea: Brachylaimidae) Parasitizing Wild Pigeons (*Columba livia*) in the United Arab Emirates"

***Mohamad Ghanimatdan [1,2], Seyed Reza Shahrokhi [3], Mohammad Saleh Bahreini [4], Ali Pouryousef [5]**

1. Department of Basic Sciences, MMS.C., Islamic Azad University, Mashhad, Iran
2. Innovative Medical Research Centre, MMS.C., Islamic Azad University, Mashhad, Iran
3. Department of Medical Parasitology and Mycology, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran
4. Basic Sciences in Infectious Disease Research Center, Shiraz University of Medical Sciences, Shiraz, Iran
5. Leishmaniasis Research Center, Sabzevar University of Medical Sciences, Sabzevar, Iran

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* **Correspondence Emails:**
ghanimatdan.mohamad@gmail.com,
ghanimatdan@iau.ac.ir

Dear Editor in-Chief

We read with great interest the recent report by Sulieman et al. describing adult *Brachylaima* sp. from wild pigeons (*Columba livia*) in the United Arab Emirates (UAE) (1). This study contributes valuable morphological data on *Brachylaima* diversity in an understudied region. However, several taxonomic and ecological considerations should be addressed regarding the interpretation of this first report.

The primary concern relates to the taxonomic resolution supported by the available evidence. The authors identified the specimens as *Brachylaima* sp. mainly based on morphological characteristics and comparative morphometrics (1). Although morphology remains fundamental in helminth taxonomy, species delimitation within *Brachylaima* and related Brachylaimoidea taxa can be challenging because closely related species may exhibit

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overlapping morphological features. Therefore, morphology alone may not always provide sufficient evidence for definitive species identification, particularly within Brachylaimoidea (2).

This limitation is reflected in Table 1 of that paper, where The UAE specimens share several morphological and morphometric similarities with previously described *Brachylaima* species in body measurements and organ dimensions (1). The comparative data therefore highlight the difficulty of distinguishing closely related taxa rather than providing definitive species-level resolution. In addition, the study does not identify a combination of diagnostic morphological characters that clearly separates the UAE specimens from related congeners. Because identification relied primarily on morphology, reporting the diagnostic keys, taxonomic revisions, or authoritative references used for species assessment would improve methodological transparency.

Modern parasitological taxonomy increasingly relies on integrative approaches combining morphology, molecular phylogenetics, ecology, and biogeography to establish robust species hypotheses (3,4). Molecular characterization using nuclear ribosomal and mitochondrial markers has improved species delimitation and recognition of cryptic diversity among trematodes. Previous studies on Brachylaimoidea have demonstrated that integrating molecular and morphological evidence enhances taxonomic resolution (2). Therefore, future molecular investigations would strengthen species identification and allow evaluation of whether geographically separated populations represent the same or distinct species.

The reproducibility of morphological evidence also requires consideration. Although the study provides photomicrographs and magnification values, the absence of embedded scale bars in Figure 1 limits direct assessment of morphological proportions. Furthermore, for reports involving taxa with unresolved species boundaries, deposition of representative voucher specimens in recognized collections, together with accession information, is essential for future verification and taxonomic reassessment (5).

The ecological interpretation of the findings also requires caution. Although the authors suggest that irrigation-associated habitats may support terrestrial snail populations and facilitate the life cycle of *Brachylaima* sp. (1), intermediate hosts and larval developmental stages were not investigated. Therefore, transmission hypotheses should be considered preliminary until supported by targeted malacological and life-cycle studies. Moreover, detection of an unidentified *Brachylaima* species in birds alone does not establish zoonotic significance, which requires confirmed species identity and demonstrated transmission pathways.

These considerations do not diminish the importance of Sulieman et al.'s contribution (1), which represents a valuable regional observation of *Brachylaima* infection in wild pigeons. Rather, they emphasize the importance of aligning taxonomic and ecological interpretations with the strength of available evidence. Future integrative studies combining morphology, molecular phylogenetics, voucher documentation, and life-cycle investigations will provide more robust evidence for *Brachylaima* species delimitation, distribution, and host associations.

Conflict of Interest

The authors declare that they have no competing interests.

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