Observation and comments on issues with moths in the ACE Paper 8/2023

Section	Observation/Comment
Moths	
3.3	Details on survey methodology remain incomplete. Locations, orientations of the moth traps were not given. Also no info on what habitat they are placed in were provided. For instance, factors like time of year, weather, moon phase, duration of recording (moth flight times) and alternative recording methods will greatly impact upon the species observed.
3.4	The additional surveys conducted in September and October 2022 recorded 28 species. of these, **24 species (over 85%)** were new records that were not reported in the submitted EIA Report, where a total of 59 species of moth were recorded in the 12-month study. This clearly indicates that the previous surveys are far from representative, and that assessment has significantly underestimated the moth diversity at Fanling Golf Course.
3.4	The surveys conducted by HKGC in the 2022-23 dry season recorded 323 species of moths. Together with the data from the 2018 & 2020, a total of **729** moth species has now been documented by HKGC. The EIA study (combined with the findings from the additional surveys) recorded **83** species, which is less than **12%** of the HKGC total. This again indicates that the combined surveys are still not representative, and the relevant impact assessments have significantly underestimated moth diversity and downplayed the ecological value at Fanling Golf Course.
3.4	In the EIA Study Brief, it is stated that ecological characteristics including but not limited to species diversity and abundance of major taxa groups, community structure, seasonal patterns, and inter-dependence of the habitats and species should be described. This remains outstanding for moths (and indeed for other faunal groups). Whilst the overall moth species diversity and species of conservation importance have been presented, there were no attempts to discuss other ecological attributes of moths. (Please refer to Section L34 in the Separate Document).
3.7.1 and Table 3D	Prof. Wang Min is a butterfly specialist and is not an expert on Hong Kong moths. Furthermore, Prof. Wang Min is responsible for identification, and not survey set-up nor sample collection. Table 3Dshows that none of the survey staff have specific experience and knowledge on moths and moth surveys. The "relevant experience" provided mostly refer to experience with butterfly and "insects", with none having experience with moths.
3.7.1 and Table 3B	The small number and diversity of "micro-moths" collected as compared to that of "macro-moths" also suggests inexperience of the staff responsible for sample collection. In the supplementary information, these is no indication as to whether specimens were retained or photos taken; and there is no assignment of unique identifier to follow up. These indicate significant short-comings in the sampling and recording practices.
Table 3B	A number of taxa were not placed to species, including genera whose species should be readily identifiable. Two out of the 28 listed species were only identified to family level, but not lower (e.g. subfamily or genus). This suggests insufficient effort put into identification.
Table 3B	*Leucania designata* is not easy to identify as there are a lot of confusion with species in this genus. On the contrary, many of the unidentified species in the list are easier to identify. There is clear disparity here on the identification skills.
Table 3B	*Pleuroptya chlorophanta* and *Xenoplia trivalis* are new to Hong Kong, but the conservation importance of both is not discussed in the report.