

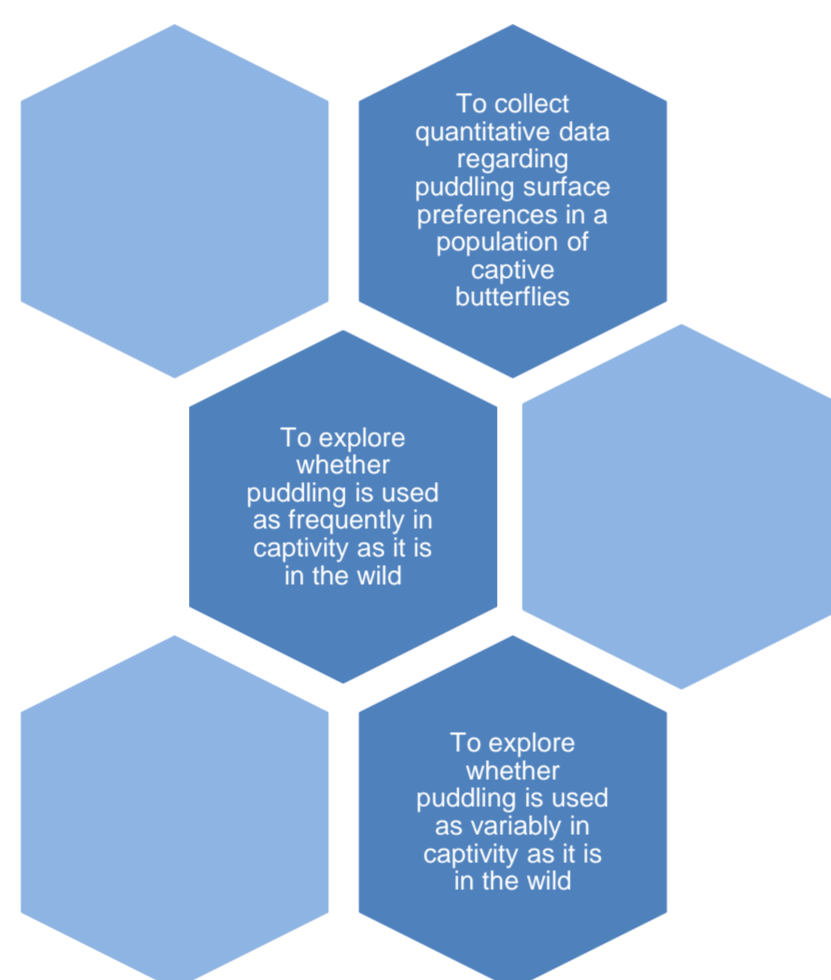
# Is there a preference for puddling surfaces amongst a population of captive butterflies?

## WHAT IS PUDDLING?

Mud puddling, or as its more commonly known as-puddling, is a behaviour carried out by many insects, but most notably Lepidopterans (butterflies and moths). The behaviour involves withdrawing supplementary nutrients from a variety of surfaces for use in flight and reproduction.



## AIMS



## EXISTING RESEARCH

Little research has been conducted into butterfly puddling behaviour. Existing research has mainly focused on two main areas: the nutrients absorbed and the sex differences. A small number of studies have been conducted into a species specific preference for puddling surface in wild butterflies (2) but none can be found on which surface is favoured as a whole in a captive setting- which is the gap this research is aiming to fill.

## METHODOLOGY

15 hours of observation were carried out at Stratford-upon-Avon butterfly farm; a tropical greenhouse containing approximately 2000 free-flying individuals comprised of 250 species.

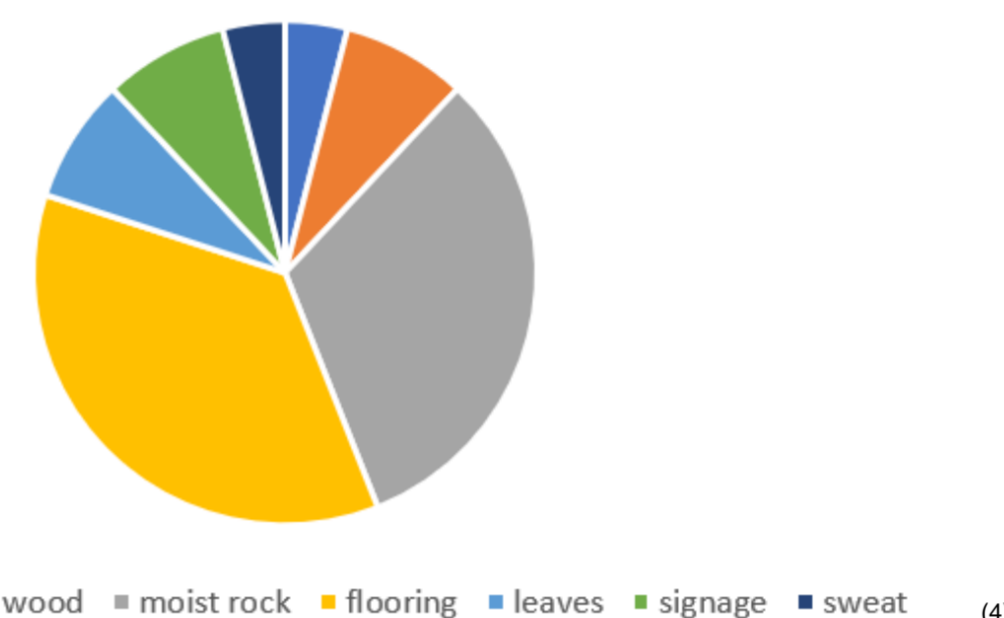
Observation followed an all occurrence sampling approach with use of an identification table pictured below



Once a puddling instance was seen, a video was taken of the butterfly and the species was noted down using an identification table. Also noted was the puddling surface, scientific name and family of butterfly.

## KEY RESULTS

surfaces used for puddling behaviour and their occurrences



From viewing the graph above, we can see that two surfaces are used to a much higher degree than the others. A Kruskal Wallis test was conducted and a p-value of 0.423 was developed, therefore we cannot state a significant difference was found between the surface use in this study.

Flooring may have been used most as it received the highest level of sunlight during observation hours. Literature shows that surfaces receiving most sunlight provide butterflies with water vapour and the most readily accessible form of nutrients (5).

Sweat was used the least. Due to the seasonal impact on the research (much research being conducted in winter months December- February) and lack of sweat production from visitors.

## CONCLUSIONS

Based on current statistics, the null hypothesis must be accepted, and there is no significant difference amongst the puddling surfaces in terms of a preference amongst this population of captive butterflies.

This research has numerous applications in terms of future and current literature into puddling surface preference, nutrient availability and species preference.