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Introduction

Non-invasive techniques have the advantage of keeping subjects undisturbed during collection of samples which help to x baseline values[1]. Hormonal studies are currently being incorporated in wildlife research as a means to evaluate the health and physiology of individuals[2]. Wild pigs are animals that are habitat generalists and they survive in a wide range of adverse conditions without losing their proli cacy. Of late these animals have been seen wandering into human inhabitations and have started to co-exist sharing the same resources [3]. e wild pigs have been least tolerated because of their constant crop raiding activity throughout the year. is brings them into con ict with the humans, who retaliate to these animals by a most common method of poisoning. is has tragic circumstances when the balance is altered and the apex predators are washed out by either direct or indirect toxin uptake [4]. Farmers lose over 50% of their produce because of wild pigs by direct or indirect losses. e factors that drive them in an unpredictable manner have to be pointed out; therefore, assessing their stress quotients become pivotal. Due to the fact that stressful events have potential deleterious e ects on animal reproduction and immune systems, it is of special concern to monitor

In this regard, it becomes noteworthy to mention the report furnished by Pride [19] who quoted that glucocorticoid measures could be useful predictors of individual survival probabilities in the wild populations and existence of high glucocorticoid levels indicated the lowered individual tness or even population variability. Mason [20] opined that elevation of cortisol observed at emergence might facilitate the acquisition of anti-predator behaviors. e elevated level of faecal cortisol concentrations in majority of individual wild pigs, compared to the maximum range of (177.48 ng/g) of faecal cortisol in desi pigs indicated the existence of stress-causing factors pertaining to the wild pigs belonging to Mudumalai, Sathyamangalam and Anaimalai wild life regions. Hence it could logically be assumed that the wild pigs get involved in human-animal con icts by interfering with the agriculture elds developed by the farming communities inhabiting the immediate adjoining areas of these three wildlife regions. However, in order to arrive at a concrete conclusion, the undertaking of further research comprising of more number of wild pigs inhabiting especially the core areas of selected wildlife regions is warranted.

Similarly, the mean faecal cortisol level of desi pigs revealed (Table 5) highly signi cant variations (P 0.01) when compared with the mean faecal cortisol level of cross bred pigs in case of adjoining areas of Sathyamangalam regions only. e reasons for encountering highly signi cant rise in the mean faecal cortisol level in desi pigs might be attributed to the lack of availability of feed resources and drinking water, inconvenient housing arrangements made by the owners and lesser health-care related measures in the areas that were studied. e mean faecal cortisol level within pigs of di erent regions however failed to reveal any signi cant variations within the wild pigs of adjoining areas (Table 6) of Mudumalai, Sathyamangalam and Anaimalai. Lesser disturbances in terms of number of visitors, however, might be assigned as the reason for the occurrence of lesser mean faecal concentration level in wild pigs of the adjoining areas of Sathyamangalam region. Similarly, the di erent types of housing arrangements, variations in feeding regiment, variations in the husbandry and management related practices, variations in the health-care related measures, variations in the environmental conditions etc. might be assigned as the causal factors for the encountering highly signi cant variations (P 0.01) pertaining to the mean faecal cortisol concentrations in case of cross bred pigs.

Comparison of overall mean faecal cortisol concentration in wild pigs of the Western Ghats comprising of regions adjoining Mudumalai and Anaimalai with that of the Eastern Ghats comprising of regions adjoining Sathyamangalam revealed elevated mean faecal cortisol concentrations in case of faecal samples obtained from the Western Ghats. e increased number of visitors, varying types of habitat, etc. [3]. e increased faecal cortisol level as encountered in wild pigs of this study when compared to desi pigs or cross bred pigs might be due to the stress factors operating on this species.

pigs are o en neglected o enders in the list of con ict-causing animals, but their cumulative damage may lead to tragic outcomes. It is very essential to try and intervene in regulating the wild pig population, otherwise a catastrophe is in store and the damage will be irreversible.

References

1. Mostl E, Palme R (2002) Hormones as indicators of stress. Domestic Animal Endocrinology 23: 67-74.