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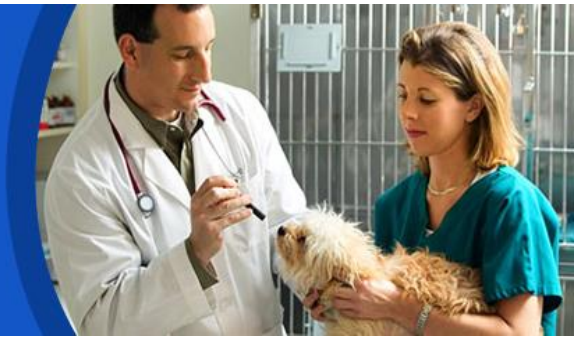

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A report of wild birds in transmission of ectoparasites in commercial layer chicken

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Abstract
The study was conducted at different commercial layer poultry farms located in and around Thalaivasal, Salem district, Tamil Nadu for role of wild birds in ectoparasitic infestations of commercial layer chicken. In the hope to ensure whether frequenting of wild birds has any part in the prevalence of ectoparasitic problems in layers, wild birds such crow and myna that were seen dead inside the shed were collected and examined for ectoparasites. The result of present study showed that, feather mite like *Megninia ginglymura* was recovered from myna and crow that were found dead inside the layer sheds of the farms under study.

Keywords: Wild birds, Feather mite, *Megninia ginglymura*, Ectoparasite in Myna and Crow

Introduction
Poultry, an economic and effective source for the production of animal protein within a shortest possible time, is playing a vital role in narrowing down the gap of animal protein supply worldwide especially in the developing countries (Khattak, *et al.*, 2012) [2]. India ranks 3rd in egg production and 5th in chicken meat production in the world. About 3.4 million tons of eggs are produced from 260 million layers per annum in India. Approximately 75 percent of egg production is contributed by commercial poultry farms, remaining comes from household/ backyard poultry. In Tamil Nadu, poultry population stands at 12.08 crore according to 20th Livestock Census of India (2019).
Chickens are easily infected with several types of bacterial, viral, fungal and parasitic infections. Parasites are a threat not only to the health of poultry, but also to workers in the poultry industry (Windhorst, 2017) [7]. Ectoparasites of poultry play an important role in the transmission of certain pathogens which cause heavy economic losses to the poultry industry (Moller *et al*., 2009) [4]. Ectoparasites like lice, mites, bugs, fleas and ticks parasitize the commercial layers causing sub-optimal egg production, ill-health and mortality. The problem of external parasites is common in tropical countries because of the favourable climatic conditions for their development and the poor standards of husbandry practices (Mungube *et al*., 2006) [5]. Nowadays, the ectoparasitic infestation appears to be a major issue in layer farms. Hence, the current study was undertaken with the following objective,
Role of wild birds in transmission of ectoparasitic infestations in commercial layer chicken.

Materials and Methods
The study was conducted at different poultry farms located in and around Thalaivasal which is 18 km away from the Sub-district Headquarter Attur and 70 km away from the Salem district headquarter, Tamil Nadu for role of wild birds in the prevalence of ectoparasites in layer chickens. Thalaivasal which is one of the Taluks of the Salem district lies between latitude of 11° 35′ 7.74″ N and longitude 78° 45′ 36.46″ E. The mean maximum temperature is 25 °C – 42 °C and the mean minimum temperature is 19 °C – 25 °C. The mean annual rainfall is 939 mm of which 47.6 percent (447 mm) is commonly received during the North East monsoon, 33.7 percent (316 mm) during the South West monsoon, 17.4 percent (164 mm) during summer and 1.3 percent (12 mm) during winter in this region where 4 million white

leghorn layer chickens are being reared. In order to ensure whether frequenting of wild birds has any role in the prevalence of ectoparasitic problems in layers, wild birds such crow and myna that were seen dead inside the shed were collected and examined for ectoparasites.

Results and Discussion

In the interest to determine the role of wild birds in spreading ectoparasites to layers, examination of wild birds such as myna and crow that were found dead in the layer sheds revealed the presence of feather mite *Megninia ginglymura* (Plate 1.1, 1.2, 1.3, 1.4, 1.5 and 1.6)

Plate 1.1: A crow on the cage

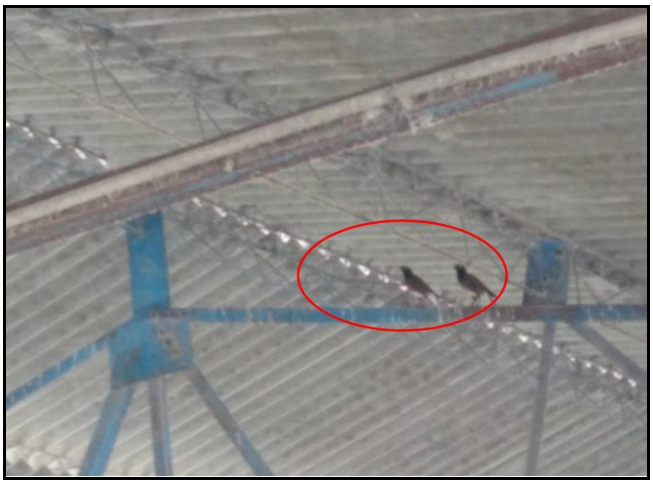

Plate 1.2: A pair of myna perching on the truss

Plate 1.3: A house sparrow inside the layer shed

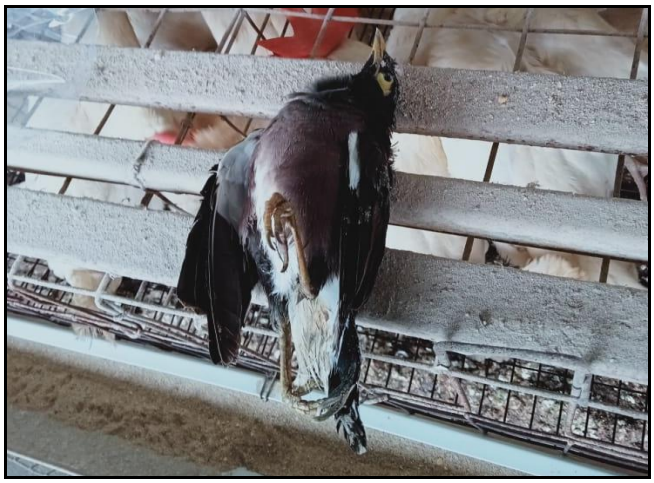

Plate 1.4: A myna found dead in the layer shed

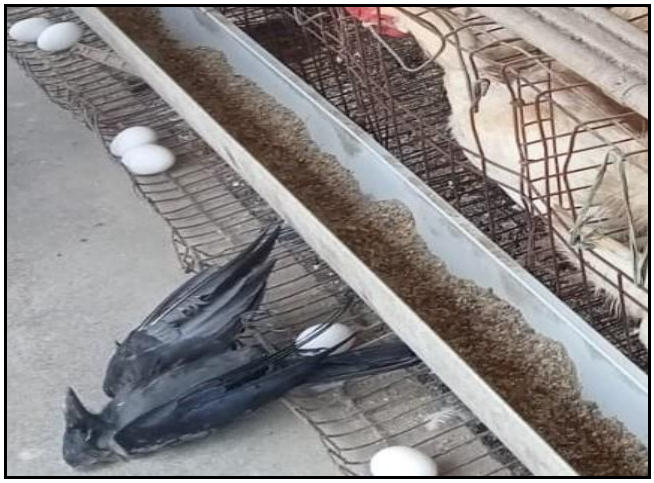

Plate 1.5: A crow found dead in the layer shed

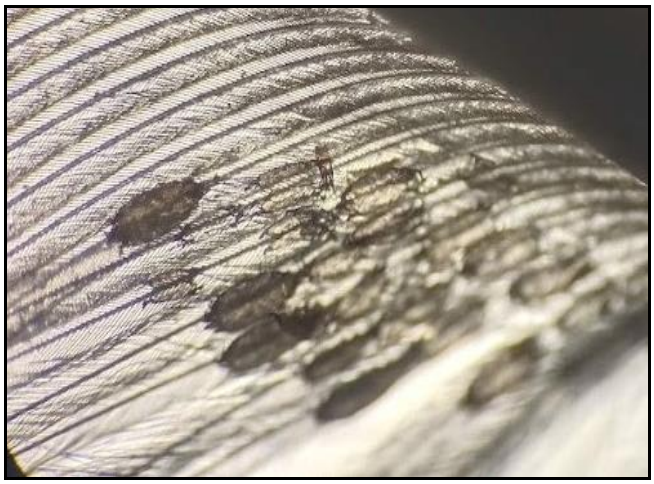

Plate 1.6: *Megninia ginglymura* in wing of dead myna and crow

In the present study, feather mite *M. ginglymura* was recovered from myna and crow that were found dead inside the layer sheds of the farms under study. The occurrence of mite infestation in a fresh batch of growers that have been placed in the shed that was thoroughly cleaned and disinfected could be due to transmission of mites and other ectoparasites from wild birds frequenting the poultry houses. Based on the findings, the wild birds are suspected to be one of the sources of ectoparasitic infestation to the layers. This observation supports the observation of Mccrea *et al*. (2005) [3] who reported that chicken mites have a broad host range including a number of wild birds and advised that it is

important to prevent the wild birds from entering into the flocks treated to control new infections. The findings of the present study are in consonance with observation of Rosen *et al.* (2002) [6] who reported that poultry red mite *Dermanyssus gallinae* also feeds on synanthropic birds like pigeon and sparrow. This observation supports findings of De Lope and Moller (1993) [1] stated that poultry pest can also attack other avian species; hence the wild birds which can enter in open poultry systems likely to carry red mites and boost prevalence rate of ectoparasites in poultry.

Conclusion

Dead myna and crow examined to ascertain their role in the transmission of ectoparasites to layers were found to be harbouring feather mite *Megninia ginglymura*. It can be concluded that wild birds myna, crow, jungle babbler (*Argya* spp.), house sparrow etc., can act as a constant source of different ectoparasites to layer chickens reared in open houses as they are attracted by the availability of feed, water and eggs. Thus, eliminating/preventing ectoparasitic infestation in layers kept in open houses becomes a humongous task, especially in open sided poultry houses.

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