**RESEARCH ARTICLE**
**JIVA 20 (2) August 2022**
https://doi.org/10.55296/JIVA/20.2.2022.46-50

**Received: 10/06/2022**
**Accepted: 01/07/2022**

# INCIDENCE OF FELINE LYNXACAROSIS IN THRISSUR

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## ABSTRACT

The cat fur mite, *Lynxacarus radovskyi* is a hair clasping surface feeder. The infestation has been recorded from different parts of the globe. This mite is highly contagious to cats and is also zoonotic, and it spreads through direct contact, or through grooming tools and recently contaminated surfaces. In the current study the incidence of mite infestation was recorded from cats in and around Thrissur during the past two years. Skin scrapings from the cats were analysed for the presence of mite infestation by light microscopic examination in the clinical parasitology laboratory of University Veterinary Hospital (UVH), Kokkali, Thrissur and clinical veterinary laboratory of Teaching Veterinary Clinical Complex (TVCC), Mannuthy. Out of 25 samples tested positive for the mite, 12 had concurrent infestation with mites and fungal spores. The communication records concurrent infestation of *L. radovskyi* either with *Notoedres cati* or *Otodectes cyanotis* and fungal spores in the state.

**Keywords:** Cat fur mite, Listrophorid mite, Hair clasping mite, Skin scrapings

## INTRODUCTION

Thrissur has a large population of client owned and community owned cats that cohabitate with humans. Infestation with mites belonging to the genera of *Notoedres*, *Otodectes* and *Psoroptes* are is usually observed in cats of this region. In addition to these, *Lynxacarus radovskyi* infestation has been documented in Persian cats of Thrissur (Lakshmanan *et al*., 2019). *Lynxacarus radovskyi* is a non-follicular mite from the Listrophoridae family of the Astigmata order. These mites are obligatory parasites with cylindrical to laterally flattened bodies. They primarily feed on sebaceous secretions and normally cause little or no harm (Mullen and Durden, 2019). Despite the fact that the mite is thought to be cat-specific, Jaffe *et al*. (2005) discovered this mite from dog in which the dog and mite infested cat were sharing the same habitat. Infested cats have dry dull and rust-coloured hair

coat with tan coloured mites, giving a granular appearance popularly called "salt and pepper" appearance. These mite infestations are typically asymptomatic, but they have also been linked to pruritus, alopecia, increased hair balls, and irritation (Divya *et al.,* 2021). The severity of pruritus is determined by the intensity of mite infestation. Clinical symptoms such as papules and crust formation were also observed (Divya *et al*., 2021). Studies pertaining to documentation of concurrent infections are sparse and hence this communication envisages to analyse the lynxacarosis in cats and concurrent mite as well as fungal infections, which would throw light on the importance of comprehensive treatment strategies.

## MATERIALS AND METHODS

Skin scrapings that were collected at the clinical parasitology laboratory in the UVH, Kokkali and clinical veterinary laboratory, TVCC, Mannuthy during the period of 2 years, from May 2020 to May 2022 were analysed. To detect the infestations with cat fur mites, hair plucks, superficial and deep skin scrapings were collected from the cats exhibiting clinical signs. Skin scrapings were examined in the light microscope for the presence of mites and eggs.To the skin scrapings a drop of 10 per cent potassium hydroxide (KOH) was added and then the coverslip was placed on top, which is then observed under the 10X objective lens of light microscope to check for the presence of mites and their eggs (Divya *et al*., 2021).

## RESULTS AND DISCUSSION

A total of 25 cat skin scraping samples were found to be positive for the presence of *L. radovskyi* from the study area. Out of 25 positive skin scrapings, 15 were collected from male cats. Cats of 3 months to 1 year age group were found to be more commonly affected, with 18 out of 25 positive samples from that age group. Skin scrapings from 6 cats had *N. cati* mites along with *L. radovskyi* mites. Skin scrapings from 3 cats had *O. cyanotis* mite along with *L. radovskyi* mites. Skin scrapings from 3 cats had coinfection with fungal species. So, a total of 12 cats had coinfestations along with *L. radovskyi* (Table 1).

*L. radovskyi* mites were cylindrical, laterally compressed with a dorsally arched body and ventrally directed head. Well-developed head plate, propodosomal plate and legs were observed. The anterior coxal fields, together with the anterior legs, function as attachment organs for gripping host hairs (Mullen and Durden, 2019). They cling to the hairs so tightly that they are difficult to remove, and they

**Table 1:** Details of samples positive for *L. radovskyi*

| S.No | Gender | Age | Co-infection |
|---|---|---|---|
| 1 | Female | 7 months | *N. cati* |
| 2 | Male | 3 months | *N. cati* |
| 3 | Female | 1 ½ years | Fungal spores |
| 4 | Male | 5 months | Fungal spores |
| 5 | Male | 7 months | Fungal spores |
| 6 | Male | 1 year | *N. cati* |
| 7 | Male | 7 months | - |
| 8 | Female | 4 months | *N. cati* |
| 9 | Female | 4 months | - |
| 10 | Male | 7 months | - |
| 11 | Male | 3 months | - |
| 12 | Male | 1 year | - |
| 13 | Male | 4 months | *O.cyanotis* |
| 14 | Female | 5 months | - |
| 15 | Female | 1 year | - |
| 16 | Male | 1 ½ year | - |
| 17 | Female | 1 ½ month | - |
| 18 | Male | 3 months | *O.cyanotis* |
| 19 | Male | 1 ½ year | - |
| 20 | Female | 1 year | *N. cati* |
| 21 | Male | 4 ½ years | - |
| 22 | Male | 1 ½ years | *N. cati* |
| 23 | Male | 1 ½ years | *O.cyanotis* |
| 24 | Female | 2 years | - |
| 25 | Female | 1 year | - |

can harm the hair by bending or crimping them. The heavily striated abdomen gives a characteristic finger print appearance to the mites (Fig.1). Eggs were found attached to the hair with a small projection (Fig. 2) and the yolk also had a projection at the posterior end (Jayanthy *et al.,* 2017). The infestation has been recorded from

**Fig. 1.** Adult *Lynxacarus radovskyi* mite

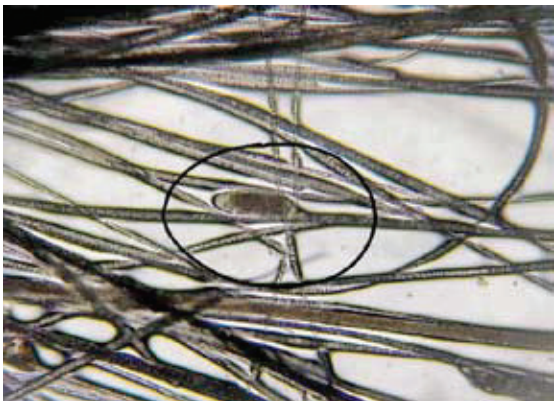

**Fig. 2.** Egg of *Lynxacarus radovskyi*

Hawaii, New Zealand, Malaysia, Australia, Florida, Fiji, Philippines, Brazil, and India (Jayanthy *et al.,* 2017). The Persian breed of cat is more susceptible to lynxacarosis, which is due to the good coat conditions that allow the mite to survive in the hot and humid environment of Kerala (Radhika *et al.,* 2018). Lakshmanan *et al*. (2019) had observed incidence of lynxacarosis in cats of 6 weeks to 1 year age, without any mention on co-infections. Fipronil, selamectin, lime sulphur, and ivermectin, which are effective against other cat ectoparasites, were found to be efficient in the management of *L. radovskyi* infestations (Radhika *et*

*al.,* 2018). Lakshmanan *et al*. (2019) has reported that selamectin spot on was very effective in controlling lynxacarosis in Persian cats.

Concurrent infestation of *L. radovskyi* with *O. cyanotis* has been reported by Divya *et al*. (2021). *O.cyanotis* is the ear mite of dogs and cats, leading to irritation of ear canal and hypersensitivity resulting in pruritis, head shaking, and heavy discoloured dark ear wax. These mites can leave the ear canal and enter the head, neck, rump, and tail leading to irritation in these regions (Foley, 1991). Feline scabies caused by *N. cati* is a highly contagious infection that spreads through direct contact. Clinical signs include pruritis, crusting, alopecia, scaling of face, ear tips and distal extremities (Foley, 1991). Therefore, deep scrapings are needed from head, ear tips, neck, rump and distal extremities to diagnose these concurrent infestations. Concurrent infection with *L. radovskyi* and *N. cati* had not been reported earlier in this geographical region.

Infestations by cat fur mites are usually subclinical, but may lead to clinical manifestations due to massive numbers of mites and concurrent infestation. Furthermore, it may produce papular rashes in humans who handle infected cats, and hence cat handlers or immunocompromised humans should exercise extra caution in such situations to avoid zoonotic transmission (Preena *et al*., 2018). There is probability that the *L. radovskyi* might be an opportunistic infestation that may flare up due to the weakening of host immune responses by concurrent skin infestations and infections. Hence assessing the effect of treatment should not only be directed to superficial skin scrapings but also deep skin scrapings.

## CONCLISION

The present communication records the incidence of feline lynxacarosis along with concurrent infections in Thrissur.As cat fur mite infestations are being documented in Kerala, further studies on mite life cycle, epidemiology and prevention are deemed necessary to contain the spread of infestation.Coinfestation of *L. radovskyi* with *N.cati* has not been reported and hence this communication also highlights the need to rule out concurrent infections with ectoparasites for effective control of infestations.

## REFERENCES

Divya, V., Gopalakrishnan, M.A., James, A.A. Ram, R.S., Linija, M.L. and Mohan, R. M., 2021. Concurrent infestation of *Lynxacarus radovskyi* and *Otodectes cynotis* in a Persian cat. *J. Pharm. Innov.***10**(10): 325-328.

Foley, R. H., 1991. Parasitic mites of dogs and cats. *The compendium on continuing education for the practicing veterinarian (USA)*,**13**(5):794-796.

Jaffe, E., Grillo, S., Costa, C.L.A., Vaz, C.E.S., Alves, L.C. and Almosny, N.R., 2005. Infestação por *Lynxacarus radovskyi* em cães e gatos domésticos na cidade de Niterói (RJ): relato de caso. *Rev. Bras. Ciência Vet*. **12**:110- 113.

Jayanthy, C., Nagarajan, B., and Latha, B.R., 2017. Cat fur mite *Lynxacarus radovskyi* in India. *J. Parasit. Dis.***41**(4):1102-1104

Lakshmanan, B., Chirayath, D., Dhivyabharathi, R., Vipin, T. P. and Ajithkumar, S. 2019. Control of *Lynxacarus radovskyi* infestation in persian cats in Kerala: A Case Study. *Indian Vet. J.* **96**(7)**:** 61-62.

Mullen, G.R. and Durden, L.A. 2009. *Medical and Veterinary Entomology*. (3rd Ed.). Academic press, London, 794p.

Preena, P., Dilna, K.P., Kumar, K.V., Padmaraj, P.K., Kumar, V.R., Muraleedharan, K., Babu, M.P. and Mathew, D.P. 2018. Cat fur mite, *Lynxacarus radovskyi* in Persian cats of Kannur district, Kerala. *Vet. Parasitol.* **32**(2): 92-94.

Radhika, R., Mohan, N. and John A., 2018. Infestation with the cat fur mite, *Lynxacarus radovskyi* Tenorio, 1974 (Acarina: Astigmata: Listrophoridae) in Persian cats of Thrissur, Kerala. *In: Proceedings of 10th Kerala Veterinary Science Congress.* November 10-11, 2018, Kannur. p:294-295.