Dermatophytosis in captive Bengal tiger (Panthera tigris)
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Keywords: tiger, dermatophytosis, treatment

Introduction and objectives
Microsporum canis is the predominately keratinophilic fungi that caused dermatophytosis. Dermatophytosis was commonly infected in the dog and cat, but it had a few documents in other species [1]. The young or immunocompromised animals were more susceptible than the healthy adult including developing more prolonged or generalized disease [1,3]. All wild felids were susceptible to infection by dermatophytes [4] while a few cases of dermatophytosis has been reported in a tiger [3]. Many antifungal drug had been approved to treatment of dermatophytosis [2]. This is the first report of tiger dermatophytosis and its treatment in Thailand.

Materials and methods
A 1-year-old male Bengal tiger (Panthera tigris) weighted 70 kg was kept in individual cage. The tiger showed diffuse circular alopecia, 1-4 cm in diameter with erythema of the skin (Fig.1). Pruritus was also observed by the keeper. A punch biopsy of the margin of the lesion was performed for histopathology. Sample was collected and fixed in 10% buffered formalin and embedded in paraffin. Five micrometer sections were stained with hematoxylin and eosin (HE) and Periodic acid-Shiff (PAS). Hairs were aseptically collected and submitted for fungal culture on Sabouraud dextrose agar and incubated at 25 °C for 10 days. The tiger was treated with fluconazole (2.5 mg/kg) once a week for 2 weeks and followed by every 3 day for 2 months accompanied with shampoo containing ketoconazole 2% soaking three times a week for 2 weeks.

Results and discussion
Macroscopically, the skin showed diffuse circular alopecia with erythema (Fig.1). The hair were brittle and easily to pull out from the hair follicle [1]. The tiger developing more generalized lesions because it occurred in the young tiger [1]. No other clinical sign could be observed.

MycoLOGY, hair culture yielded pure growth of the fungal colonies. The fungal identification was diagnosed as Microsporum canis by its colony appearance and morphology of the macroconidias similarly in previous report [3]. Microscopically, the epidermis showed mild hyperkeratosis and increasing melanocytes at the stratum basal. Pale-staining fungal hypha and dark-staining spores were observed in the superficial hairs and intrafollicular hairs (Fig.2A). Focal folliculitis characterized by the infiltration of lymphocytes, macrophages and a few degenerated neutrophils was presented in the dermis. PAS staining (Fig.2B) demonstrated fungal hypha in the hair shaft and numerous bright magenta spores surround hair shaft. Based on the pathological changes, special staining and mycoLOGY result, tiger dermatophytosis was diagnosed in this case as previously report [3]. The tiger had good response to treatment regimen including no gross lesion, regrowth of the hair and no fungal growth which proved that this treatment regimen could be the alternative treatment for tiger dermatophytosis. Although fluconazole had been reported for dimorphic fungi treatment [2].

Figure 1 Diffuse circular alopecia on the skin (arrows)
Figure 2 Spores (arrow) and fungal hyphae (H) heavily colonized on the hair (A; HE, B; PAS stain)

Acknowledgement
We would like to thanks Mrs. Waree Niyomtham for fungal culture.

References