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First case of cutaneous mycosis caused by *Nannizziopsis* sp. in CheloniaGiorgia Matteucci¹, Alessandro Bellese², Igor Loncaric³, Diana Binanti¹¹AbLab Veterinary Diagnostic Laboratory, Sarzana, Italy²DVM private practitioner, Venice, Italy³Institute of Medical Microbiology and Hygiene, Austrian Agency for Health and Food Safety, Vienna, Austria

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The present report characterized a case of severe superficial and deep mycoses in a yellow-bellied slider (*Trachemys scripta scripta*) caused by *Nannizziopsis* sp. detected by histopathology and fungal culture.

A female, 4-year-old, yellow-bellied slider (*Trachemys scripta scripta*) was presented for ulcerative and proliferative, chronic, skin lesions. White to pink, slightly round, with fuzzy borders, 0.5-2.5 cm in diameter, multifocal, proliferative, and ulcerative lesions were evident mainly on the left forelimb, right forelimb, pericloacal, chin, and oral cavity. The left forelimb was severely affected by a nodular subcutaneous mass.

Several courses of disinfectant therapy, antibiotic, and antifungal treatments were given with no clinical improvements. Cytological smears of the ulcerative skin lesion revealed macrophages, heterophils, and fragments of septate hyphae.

To investigate the cause of the lesions, the left forelimb was excised, fixed in 10% neutral buffered formalin, and submitted for histopathological examination. Biopsies and swabs from left forelimb, right forelimb, chin, and oral lesions were submitted for microbiological analysis.

Samples were cultured on Sabouraud Dextrose Agar (SDA) and incubated at 30°C for 10 days.

Histopathological examination showed severe pyogranulomatous dermatitis and myositis. Numerous septate, irregularly branched hyphae were evident within the pyogranulomas. Grocott methenamine silver stain (GMS) and Periodic acid-Schiff (PAS) confirmed the presence of filamentous fungi in the examined sections.

Pure cultures of the same fungal strain were obtained from all the samples.

Mature colonies on SDA showed a powdery aspect and a white felted surface. Microscopically, the hyphae were straight and branched, and conidia were clavate, sessile, or on short stalks.

Based on both macroscopic and microscopic features the fungal strain was identified as *Nannizziopsis* sp.

Susceptibility profile of the fungal isolate was tested for griseofulvin, miconazole, fluconazole, voriconazole, itraconazole, clotrimazole, and ketoconazole.

Amplification and sequencing of ITS, 18S, and SSU gene regions have been performed to identify the fungal isolate. The sequences were aligned with the most similar sequences of established species deposited in GenBank in order to define levels of relatedness. Sequences showed that the isolate clustered with Nannizziopsiaceae.

The sequence similarities of the isolate were 99% to *N. arthrosporioides* in ITS (535/543 bps), 99% to *N. vriesii* in 18S, and SSU (1648/1649 and 970/973 bps, respectively).

Based on the histopathological, microbiological, and molecular analysis, *Nannizziopsis* sp. was the primary cause of severe deep mycoses in the present turtle.

Mycoses caused by *Chrysosporium*-related fungi are an emerging infectious disease affecting reptiles. The fungi of this group were collectively identified as *Chrysosporium anamorph* of *Nannizziopsis vriesii* (CAVN) complex by their morphological characteristics. Recent molecular taxonomy studies have now re-classified *Chrysosporium*-related fungi into three genera: *Nannizziopsis*, *Paranannizziopsis*, and *Ophidiomyces*.

Until now, nine species have been isolated and identified from reptiles.

Dermatomycosis associated with *Nannizziopsis* spp. is frequently reported in lizards, terrestrial, and aquatic snakes, and crocodiles, with classical cutaneous ulcerative lesions. Cutaneous mycosis is common in turtles, however, to our knowledge this is the first case of *Nannizziopsis* cutaneous mycosis in Chelonia.