

BRIEF REPORT

Freshwater Catfish Envenoming in a Tropical Country

Sujeewa P.B. Thalaspitiya, MBBS, MS; Buddhika T.B. Wijerathne, MBBS, MRSPH;
Nuwan P. Siriwardhana, MBBS

From the Department of Surgery, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka, Saliyapura, Anuradhapura, Sri Lanka (Drs Thalaspitiya and Siriwardhana); and the Department of Community Medicine, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka, Saliyapura, Anuradhapura, Sri Lanka (Dr Wijerathne).

Objective.—Freshwater catfish are known to cause painful stings in humans. Stings usually cause mild envenomation and, in some instances, can lead to severe secondary bacterial infections. Sri Lanka is a tropical country where catfish stings are not rare. However, presenting signs and symptoms, complications, and management options are scarce in the literature.

Methods.—A retrospective, descriptive, cross-sectional study was conducted by reviewing patient records in the university surgical units and surgical clinic in the teaching hospital in Anuradhapura, Sri Lanka, during 2015.

Results.—Ten patients presented to the hospital following catfish stings. The common presenting features following stings were severe pain, swelling, and lymphadenopathy followed by cellulitis. Late complication such as tenosynovitis were also observed.

Conclusions.—Routine procedures are sufficient to reduce further complications. However, people who are at high risk of encountering catfish, and travelers visiting tropical countries, should be aware of the possibility of stings and take necessary precautions.

Keywords: catfish, *Heteropneustes fossilis*, Sri Lanka

Introduction

Catfish comprise more than 425 genera containing at least 3200 species. The majority are freshwater catfishes that live in tropical countries, and the minority are marine species.^{1,2} Freshwater catfish are known to inflict painful stings on humans.³ Stings are a recognized occupational hazard among catfish farmers.⁴ Stings can cause mild to severe envenomation or secondary bacterial infection.^{5,6}

Freshwater catfish have 2 pairs of long barbels (maxillary and mandibular) that resemble cat's whiskers. Despite the common belief that these barbels are harmful, they provide only a sensory function.² However, the majority of fresh and saltwater catfish also possess spines with basilar venom glands, which are covered by a thin integumentary sheath associated with

their pectoral fins and dorsal fins.^{7,8} When compressed, the series of sharp recurving rays in the fins breach the victim's skin and, subsequently, the integumentary sheath also gets damaged. The latter event leads to exposing the venom-containing cells and release of venom into the victim's skin and underlying tissues.^{7,9} As a result, an inflammatory reaction may occur that may be later complicated by bacterial superinfection.^{5,9} Foot injuries occur when the catfish are stepped upon; most of these stings are from the dorsal spine.⁹ Pectoral spine stings predominate in disentangling, cleaning, or fileting injuries.⁹ Anal fins are involved in reproduction, and are not armed with spines.

Sri Lanka is a tropical country and considered a biodiversity hotspot.¹⁰ There are 91 species of freshwater fish, 50 of which are endemic.¹¹ Airsac catfish belong to the family *Heteropneustidae*, and the species found in Sri Lanka is known as the stinging catfish (*Hunga* in Sinhala),⁷ and is also widely known as the fossil catfish. It is a widely distributed species in lowlands in the dry zone.¹² *Heteropneustes fossilis* (Figure 1A) has spines in its 2 pectoral fins and a venom gland at its base (Figure 2A and B).¹³ When the

Corresponding author: Buddhika T.B. Wijerathne, MBBS, MRSPH, Department of Community Medicine, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka, Saliyapura, Anuradhapura, Sri Lanka, 50008; e-mail: buddhikatbw@gmail.com.

Submitted for publication July 2016.

Accepted for publication March 2017.

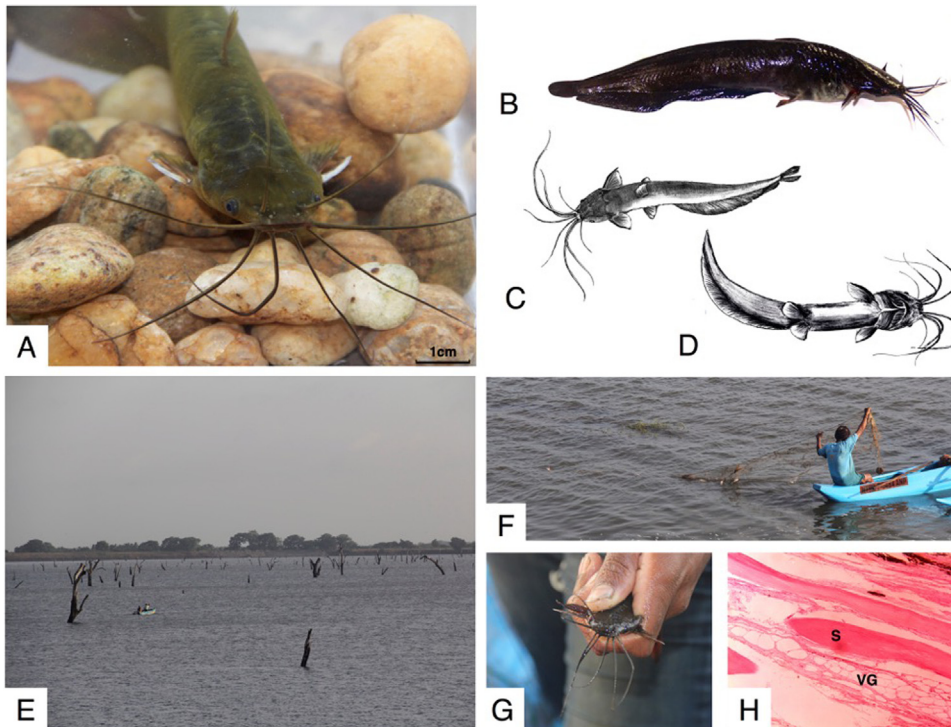


Figure 1. A, Stinging catfish (*Hunga* in Sinhala) *H. fossilis*. B, Specimen of catfish showing grey-brown colored sides of the body and darker dorsally. C, Dorsal view of *H. fossilis*. D, Ventral view of *H. fossilis*. E, Mahakanadarawa tank (manmade lake). Location: 8.3771 N, 80.541 E. F, Fisherman pulling a net that was set to catch bottom-dwelling fishes. G, Fisherman carefully holding caught *H. fossilis*. H, Microscopy of venom gland and spine of *H. fossilis* (200x). VG, venom glands; S, spine.

fish is provoked, these spines become extended and deliver the venom into the person who is in contact with the catfish.^{1,6} *H. fossilis* is commonly found in muddy rivers, manmade lakes (also known as “tanks,” or “Wewa” in Sinhala), flooded lakes, forest pools,

ditches, swamps, and marshes. It prefers and can tolerate still, muddy, turbid water bodies and brackish waters.¹² The length of the adult *H. fossilis* is usually 20 to 30 cm. The sides of the body are gray-brown and become darker dorsally (Figure 1A and B). Occasionally,



Figure 2. A, Healed wound of patient 6 after 6 months. B, Wound following *Heteropneustes fossilis* sting of patient 7.

Download English Version:

<https://daneshyari.com/en/article/5563745>

Download Persian Version:

<https://daneshyari.com/article/5563745>

[Daneshyari.com](https://daneshyari.com)