

## Gastrointestinal foreign body in a banning tortoise (*Manouria emys*) at Bandung Zoo

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**ABSTRACT:** Turtles have the habit of swallowing foreign objects, known as geophagy. Swallowed foreign objects can obstruct the digestive tract. A banning tortoise (*Manouria emys*), male, weighing 13.5 kg, was reported to have decreased appetite, weakness, inability to defecate, and watery eyes. Physical examination and radiographic examination (X-ray) showed the accumulation of foreign objects in the digestive tract. The treatment was performed by installing a feeding tube, administering glycerin, and administering biodin. After treatment, the turtle expelled the foreign object in the form of sand during defecation and experienced an improvement in body condition. The turtle was active again and was declared cured after 18 d of treatment.

### Keywords:

corpus alienum, feeding tube, glycerin, banning tortoise, *Manouria emys*

### ■ INTRODUCTION

Turtles are widely found in Indonesia and have diverse types and species (Kursini & Yazid 2005). The banning turtle (*Manouria emys*) is the largest turtle species in Southeast Asia and is spread across lowlands and mountainous rainforests in Sumatra and Kalimantan. This turtle is classified as an endangered species by the IUCN and is included in Appendix II of the CITES (Asian Turtle Trade Working Group 2000).

Turtles have a habit of swallowing foreign objects, which is called geophagy. Swallowed foreign objects can damage the digestive tract walls, inhibit nutrient absorption, and cause gastrointestinal obstruction and death (Yamgar *et al.* 2019). Gastrointestinal obstruction cases have been recorded in arrau turtles (*Podocnemis expansa*) (Lescano *et al.* 2015), marginated tortoises (*Testudo marginata*) (Nicholas & Warwick 2011), and red-eared sliders (*Trachemys scripta elegans*) (Miloš & Ana 2024). This case report describes the clinical management of a gastrointestinal obstruction caused by corpus alienum (sand ingestion) in a banning tortoise.

### ■ CASE

**Symptoms and Anamnesis:** A male banning tortoise, named Lalan, weighing 13.5 kg was reported by the keeper to have experienced a decrease in appetite (anorexia) for several days and did not defecate. During observation, the tortoise showed a decrease in appetite and only wanted to consume taro leaves from all types of food. **Physical Examination:** The tortoise

was found in a weak condition, did not want to eat, and looked watery. **Supporting Examination:** Radiographic examination (portable X-ray, Mikasa RHF-1B, Japan) showed a formation that was evenly radiopaque, smooth and flat edges, measuring around 0.5-1.0 mm, with a fairly large number, and located in the abdominal region in the colon organ (Figure 1A). **Diagnosis:** Corpus alienum. **Prognosis:** Fausta. **Therapy:** The therapy was administered by installing a feeding tube for 2 weeks, giving 10 mL of glycerin orally and anally (cloaca) for 3 days, and injecting 3 mL of biodin IM for 4 days. When the feeding tube was installed, rinsing was performed with 50 mL of physiological NaCl to prevent blockage. High-fiber feed, such as pak choi vegetables, papaya fruit, and melon mixed with physiological NaCl, is provided through the feeding tube.

### ■ RESULTS AND DISCUSSION

Anamnesis, physical examination, and supporting examinations of the turtle indicated the presence of foreign objects in the colon (Figure 1A). Foreign objects swallowed by turtles in large quantities can cause total blockage (obstruction) of the gastrointestinal tract (Music & Strunk 2016). Clinical

**Received:** 07-03-2025 | **Revised:** 13-04-2025 | **Accepted:** 18-04-2025

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symptoms of gastrointestinal tract obstruction in turtles include lethargy, inability to move, red eyes, and watery eyes, with complications such as ulceration and peritonitis (Rodrigues *et al.* 2015).

In this case, the turtle was placed in an esophagostomy feeding tube for two weeks (Figure 1B). Esophagostomy involves installation of a feeding tube through the lateral side of the neck of the turtle until it reaches the lumen of the esophagus. The procedure was performed while the turtles were anesthetized. The tip of the tube was directed to the dorsal part and attached to the carapace with tape to facilitate the administration of food, fluids, and drugs. The feeding tubes were maintained for 1-2 weeks until the turtle's appetite returned to normal (Rickyawan *et al.* 2020).

Glycerin administration via the oral route (feeding tube) and cloaca aims to remove the accumulation of mass in the colon. Glycerin is applied as a laxative to help remove feces or solid material that is swallowed and causes impaction in the gastrointestinal tract. The animal defecated after administration of glycerin as an enema (cloaca). The accumulation of mass in the feces was confirmed to be grains of sand through macroscopic observation and palpation (Figure 1C). Administration of laxatives without surgery has also been reported in red-eared slider turtles (*Trachemys scripta elegans*) (Miloš & Ana 2024).

The purpose of administering biotin is to increase the energy consumption of the animal. Biotin contains ATP, aspartate, selenite, and vitamin B12 so that it can improve the animal's body condition. The feeding tube was removed on the 14th day. After the therapy, the animals showed clinical improvement in the form of increased activity and began to eat independently. On the 18th day, the turtle was declared cured and returned to its exhibit cage. The turtle was bathed for cleanliness and the exhibit cage was cemented to prevent similar incidents from happening again.

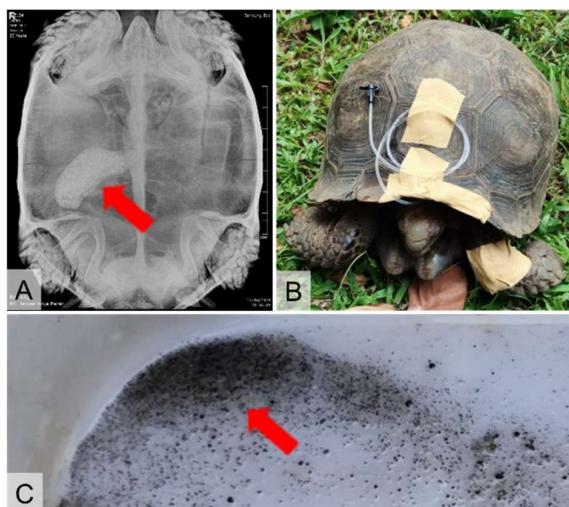


Figure 1 Banning tortoise (*Manouria emys*) with foreign body. (A) X-ray of mass accumulation in the colon (arrow), (B) insertion of feeding tube, (C) foreign body (sand) emerging during defecation (arrow).

## ■ CONCLUSION

The banning tortoise experienced gastrointestinal tract obstruction caused by a corpus alienum in the form of sand. The administration of glycerin and installation of a feeding tube proved effective in handling this case. The animal returned to activity and was declared cured after 18 d of treatment.

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## ■ ACKNOWLEDGEMENTS

The author would like to thank the veterinary nurses who assisted with the care as well as the management of Bandung Zoo for permission to do the internship and publish this case study.

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