

**EKSPLORASI EKOLOGI DAN KEARIFAN LOKAL MASYARAKAT PESISIR
TENTANG *Telescopium telescopium* DALAM EKOSISTEM MANGROVE
(Studi Kasus: Ekosistem Mangrove Teluk Buo dan Ampiang Parak)**

Tesis



**SEKOLAH PASCASARJANA
UNIVERSITAS ANDALAS**

2026

**EKSPLORASI EKOLOGI DAN KEARIFAN LOKAL MASYARAKAT PESISIR
TENTANG *Telescopium telescopium* DALAM EKOSISTEM MANGROVE
(Studi Kasus: Ekosistem Mangrove Teluk Buo dan Ampiang Parak)**

Oleh: Mutiara Nabila Hana Nasution (2421622001)

(Dibawah bimbingan: Prof. Dr. rer. soz. Nursyirwan Effendi dan Dr. Jabang Nurdin, M.Si)

Abstrak

Ekosistem mangrove merupakan habitat penting bagi berbagai biota asosiasi, salah satunya *Telescopium telescopium*, yang berperan dalam dekomposisi bahan organik dan menjaga keseimbangan ekologi. Keberadaan spesies ini juga berkaitan dengan pengetahuan dan kearifan lokal masyarakat pesisir dalam pemanfaatan sumber daya mangrove. Penelitian ini bertujuan mengidentifikasi keberadaan *T. telescopium* pada beberapa wilayah pesisir Sumatera Barat, menganalisis kondisi ekologinya di ekosistem mangrove Teluk Buo dan Ampiang Parak, serta mengkaji pengetahuan lokal masyarakat mengenai spesies tersebut. Penelitian dilaksanakan pada Juli 2025 hingga Juli 2026 menggunakan pendekatan *mixed methods* dengan desain *sequential explanatory*. Data kuantitatif diperoleh melalui pengamatan lapangan menggunakan petak contoh 1 x 1 m² untuk mengukur parameter fisika-kimia lingkungan, kepadatan, morfometri, dan biomassa *T. telescopium*, kemudian dianalisis secara statistik. Data kualitatif dikumpulkan melalui wawancara mendalam dan observasi partisipatif, kemudian dianalisis menggunakan *Institutional Analysis and Development* (IAD). Hasil penelitian menunjukkan bahwa *T. telescopium* ditemukan pada seluruh lokasi eksplorasi di wilayah pesisir Sumatera Barat. Kondisi lingkungan di kedua lokasi masih mendukung keberadaan *T. telescopium* dengan salinitas 10-30‰, pH netral, dan substrat berlumpur. Teluk Buo memiliki biomassa lebih tinggi dengan rerata berat basah 92,81-102,60 g serta morfometri kategori besar (panjang cangkang 94,27-97,42 mm), sedangkan Ampiang Parak memiliki biomassa 17,33-23,25 g dengan morfometri kategori kecil (panjang cangkang 52,08-59,86 mm). Masyarakat pesisir memanfaatkan *T. telescopium* sebagai bahan pangan, pakan ternak, umpan, dan produk bernilai ekonomi melalui praktik sosial yang mendukung pelestarian mangrove. Penelitian ini menunjukkan bahwa integrasi aspek ekologi dan kearifan lokal merupakan landasan penting bagi pengelolaan dan konservasi ekosistem mangrove secara berkelanjutan.

Kata kunci: ekologi, kearifan lokal, konservasi mangrove, masyarakat pesisir, *Telescopium telescopium*

**ECOLOGICAL EXPLORATION AND LOCAL WISDOM OF COASTAL
COMMUNITIES REGARDING *Telescopium telescopium*
IN MANGROVE ECOSYSTEMS
(A Case Study of the Teluk Buo and Ampiang Parak Mangrove Ecosystems)**

By: Mutiara Nabila Hana Nasution (2421622001)

(Supervised by: Prof. Dr. rer. soz. Nursyirwan Effendi and Dr. Jabang Nurdin, M.Si)

Abstract

*Mangrove ecosystems provide essential habitats for a wide range of associated organisms, including *Telescopium telescopium*, which plays an important role in organic matter decomposition and the maintenance of ecological balance. The occurrence of this species is also closely associated with the local knowledge and traditional wisdom of coastal communities regarding the utilization of mangrove resources. This study aimed to identify the occurrence of *T. telescopium* in several coastal areas of West Sumatra, analyze its ecological conditions in the Teluk Buo and Ampiang Parak mangrove ecosystems, and examine local community knowledge concerning the species. The study was conducted from July 2025 to July 2026 using a mixed-methods approach with a sequential explanatory design. Quantitative data were collected through field observations using 1 x 1 m² sampling quadrats to measure environmental physicochemical parameters, population density, morphometric characteristics, and biomass of *T. telescopium*, followed by statistical analyses. Qualitative data were obtained through in-depth interviews and participatory observations and were analyzed using the Institutional Analysis and Development (IAD) framework. The results showed that *T. telescopium* was present at all surveyed coastal locations in West Sumatra. Environmental conditions at both study sites remained suitable for the species, with salinity ranging from 10 to 30‰, neutral pH, and predominantly muddy substrates. Teluk Buo exhibited higher biomass, with a mean wet weight of 92.81-102.60 g, and large-sized individuals with shell lengths ranging from 94.27 to 97.42 mm. In contrast, Ampiang Parak exhibited lower biomass (17.33-23.25 g) and was dominated by small-sized individuals with shell lengths ranging from 52.08 to 59.86 mm. Coastal communities utilize *T. telescopium* as a food source, livestock feed, fishing bait, and an economically valuable resource through social practices that contribute to mangrove conservation. These findings demonstrate that integrating ecological knowledge and local wisdom provides an important foundation for the sustainable management and conservation of mangrove ecosystems.*

Keywords: *ecology, local wisdom, mangrove conservation, coastal communities, *Telescopium telescopium**