

Intisari

Tebu (*Saccharum officinarum* L.) merupakan komoditas perkebunan dan berperan sebagai bahan baku industri gula. Lahan tebu jarang sekali terjadi ledakan hama (*outbreak*) karena peran arthropoda yang beragam. Penelitian ini bertujuan untuk mengetahui jenis-jenis arthropoda dan perannya yang terdapat pada tanaman tebu di Kabupaten Sleman dan mengetahui indeks keanekaragaman, indeks kemerataan, dan indeks dominasi arthropoda yang diperoleh pada lahan tebu. Penelitian dilaksanakan pada bulan Oktober 2023 – Juni 2024, di lahan Tebu *Plant Cane* (PC) dan *Ratoon Cane* (RC) yang beralamat di Planden, Sendangrejo, Minggir, Sleman dan di Laboratorium Vertebrata Hama, Departemen Hama dan Penyakit Tumbuhan, Universitas Gadjah Mada, Yogyakarta. Penelitian ini mengamati arthropoda hama pada tanaman tebu yang diambil dengan metode acak sistematis. Sampel tanaman yang diambil 5 tanaman tebu pada setiap blok. Penelitian ini juga menggunakan perangkat berupa *yellow sticky trap* yang dipasang pada kedua lahan (PC) dan (RC). Lahan PC dan RC memiliki 4 blok dan masing-masing blok dipasang 5 ulangan *yellow sticky trap*. Perangkat dipasang dengan interval waktu 1 minggu yang kemudian dipanen dan diidentifikasi morfologi menggunakan mikroskop digital. Hasil identifikasi dihitung dengan rumus indeks biodiversitas. Hasil penelitian pengamatan visual arthropoda hama yang diperoleh adalah hama penggerek *Chilo sacchariphagus* dan *Scirpophaga excerptalis*. Nilai Indeks Keanekaragaman arthropoda pada lahan PC tergolong sedang, sedangkan pada lahan RC tergolong tinggi. Indeks Kemerataan lahan PC sedang, sedangkan lahan RC tinggi. Indeks Dominansi kedua lahan tergolong rendah.

Kata kunci : Arthropoda, Keanekaragaman, Tanaman Tebu

Abstract

*Sugarcane (Saccharum officinarum L.) is a plantation commodity crucial for the sugar industry. Sugarcane fields rarely experience pest outbreaks due to the diverse roles played by arthropods. This study aims to identify the types and roles of arthropods found in sugarcane plants in Sleman Regency, and to determine the diversity index, evenness index, and dominance index of these arthropods in sugarcane fields. The research was conducted from October 2023 to June 2024 in Tebu Plant Cane (PC) and Ratoon Cane (RC) fields located at Planden, Sendangrejo, Minggir, Sleman, as well as in the Vertebrate Pest Laboratory, Department of Pest and Plant Disease, Gadjah Mada University, Yogyakarta. The study observed pest arthropods on sugarcane using a systematic random sampling method, collecting samples from 5 sugarcane plants per block. Yellow sticky traps were also used in both PC and RC fields, with each having 4 blocks and 5 replicates of traps per block. Traps were set weekly, harvested, and morphologically identified using a digital microscope. Biodiversity indices were calculated based on identification results. The visual observation of pest arthropods identified stem borers such as *Chilo sacchariphagus* and *Scirpophaga excerptalis*. The Arthropod Diversity Index in PC fields was moderate, while in RC fields it was high. Evenness indices were moderate in PC and high in RC fields. Dominance indices for both fields were low.*

Keywords: *Arthropods, Biodiversity, Sugarcane*