Spatio-temporal variations of fish assemblages in seagrass ecosystem of Karang Congkak Island, Kepulauan Seribu

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Abstract	Seagrass are globally known as an essential habitat for marine fishes. The study of fish assemblages in seagrass ecosystem is needed as the first base to select the most suitable coastal fisheries management. The study aims to reveal the composition of fish assemblages both seasonally and spatially in Karang Congkak Island, Kepulauan Seribu. Sampling was performed six times in NW monsoon (March), first transitional monsoon (April-May) and SE monsoon (Juni, August, September) 2018. Fish were sampled at four sites at seagrass ecosystem of Karang Congkak Island, namely eastern, southern, western, and northern by using beach seine net. The differences of juvenile fish assemblages were analyzed using One-Way ANOSIM. A total of 6,326 fish were collected belonging to 78 species, 31 families and 10 orders in which Labridae was the most diverse family. The result indicates strong spatial and temporal variation in fish composition. Fish compositions were dominated by juvenile both spatially and temporally. The most common species that inhabits seagrass beds of the Karang Congkak Island as temporary resident such as Gerres oyena and Siganus canaliculatus, and regular visitor namely Halichoeres argus. Cannonical correspondence analysis indicated strong correlation between several fish species and environmental variables. Abstrak Penelitian kumpulan ikan dilakukan untuk mengungkap komposisi ikan secara spasial dan temporal di ekosistem lamun Pulau Karang Congkak. Frekuensi pengambilan sampel ikan dilakukan selama enam kali yaitu pada musim barat (Maret), peralihan (April-Mei) dan timur (Juli, Agustus, September) 2018 pada empat lokasi lamun yakni zona timur, selatan, barat, dan utara Pulau Karang Congkak dengan menggunakan pukat tarik pantai. Perbedaan komposisi spasial dan temporal kumpulan ikan dianalisis menggunakan analisis similaritas satu arah (One-Way ANOSIM). Kumpulan ikan yang terkoleksi terdiri atas 78 spesies dari 31 famili dan 10 ordo. Famili ikan yang dominan adalah Labridae. Hasil analisis similaritas mengindikasikan adanya perbedaan komposisi spesies ikan secara spasial dan temporal. Kumpulan ikan di ekosistem lamun Pulau Karang Congkak didominansi oleh yuwana baik secara spasial maupun temporal. Ikan yang paling banyak ditemukan menghuni ekosistem lamun Pulau Karang Congkak berasal dari kelompok penghuni sementara seperti Gerres oyena dan Siganus canaliculatus, serta ikan pengunjung tetap, yakni Halichoeres argus. Hasil analisis korelasi kumpulan ikan dan lingkungan menunjukkan adanya korelasi erat antara beberapa spesies ikan dengan variabel lingkungan.
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Author	ADINDA KURNIA PUTRI, S.Pi, M.Si