KEMELIMPAHAN BENTHIK INSEKTA AKUATIK DAN KUALITAS HUTAN LINDUNG HULU SUNGAI DAS SAMPOLAWA, SULAWESI TENGGARA

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Intisari

Komunitas bentik insekta akuatik di daerah temperate telah digunakan sebagai bioindikator kesehatan hutan di daerah hulu sungai. Penelitian ini dilakukan untuk mempelajari kemelimpahan benthik insekta akuatik dan hutan karst-riparian primer, kualitas air dan sedimen hara, kualitas tanah hutan riparian dan respon komunitas bentik insekta akuatik di Sungai Sampolawa.

Sampling benthik insekta akuatik menggunakan Surber Sampler berukuran 30 x 30 cm dengan metode stratified random sampling dalam 5 segmen sungai sepanjang 200 m dengan 4 ulangan. Data hutan riparian dikumpulkan menggunakan metode kuadrat plot, 20mx20m, dengan 4 ulangan ditempatkan pada setiap sisi sungai. Hasil penelitian menunjukkan 19 genus terdiri dari 5 fungsional feeding group *Collector filters*, *Collector gathers*, predator, *Scrapers*, dan *Shredders*. Akan tetapi, komunitas shredders sangat sedikit sekitar 2 - 4 %. Benthik insekta akuatik dominasi oleh *Collector filters* 29 %, tercermin bahwa masukan dari vegetasi terestrial adalah berupa FPOM, ini berarti bahwa hulu Sungai Sampolawa tidak sesuai dengan prediksi dari "sungai kontinum konsep" untuk hulu khas, karena pasokan energi allochthonous yang masuk dari vegetasi riparian adalah dalam bentuk detritus halus. Hasil penelitian vegetasi riparian mengungkapkan bahwa hutan Sampolawa tersusun atas 7 *growth-form*, pohon, sapling, semai, palem, herba, liana, dan *spike-moss*. Kekayaan jenis pohon pohon dan sapling adalah 33 dan 37 jenis secara berurutan. Jenis pohon *Sphatolobus* sp., *Aglaia silvestris*, dan *Canarium asperum* mendominasi hutan riparian ini. Demikian pula dominasi sapling *Sphatolobus* sp., *Aglaia* sp., dan *Chrysophyllum lanceolatum*, serta semai *Sphatolobus* sp., *Palaquium obovatum* dan *Chrysophyllum lanceolatum*. Dengan demikian, *Sphatolobus* sp. akan menjadi pohon yang dominan dimasa depan. Namun, sapling *Anthocephalus macrophyllus* tidak ditemukan, sehingga pohon ini terancam. Nutrien tanah NO_3, NH_4, PO_4, dan C organik tinggi, yang menunjukkan bahwa dekomposisi serasah terjadi di lantai hutan riparian. Hutan riparian Sampolawa merupakan hutan primer dan sangat beragam kekayaannya jenisnya tetapi memiliki kepadatan yang rendah. Semua jenis pohon, sapling, dan semai menandai hutan riparian ekosistem karst di daerah hulu sungai Sampolawa dalam suatu ekosistem karst.

***Kata Kunci**: benthik, hulu sungai, filter Collector, hutan riparian – karst*

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Abstract

Benthic insect aquatic community in temperate region has been used as bioindicator of healthy forest in the headwaters stream. This research conducted to study the abundance of benthic insect aquatic and primary karst riparian forest, the quality of water and nutrient sediment, soil quality of riparian forest and response of benthic insect aquatic community in Sampolawa headwaters.

Sampling were collected using stratified random sampling methods with Surber Sampler 30 x 30 cm with 5 segmented stream along 200 m with 4 replicated. Data riparian forest were collected using quadrate methods, 20mx20m, with 4 replicates placed at each river side

The result show 19 genus consisted of 5 community of feeding group *collector filters, collector gathers, predators, scrapers* and *shredders*.however, the *shredders* community very less about 2 - 4 % . The benthic insect aquatic dominance by collector filter 29%, reflected that input from terrestrial vegetation is fpom, this means that sampolawa headwaters does not fit with the prediction of the "river continuum concept' for a typical headwater, since the allochthonous energy supply entering from riparian vegetation is in the form of fine detritus. Results reveal that the forest compossed of 7 growth-forms, trees, saplings, seedlings, palm, herbs, liana, and spike moss. The tree species richness of tree and sapling was 33 and 37 species in consecutively. The tree species of *sphatolobus* sp., *aglaia silvestris*, and *Canarium asperum* dominated this riparian forest. Similarly the sapling dominance were *Sphatolobus* sp., *Aglaia* sp., and *chrysophyllum lanceolatum*, as well as the seedlings of *Sphatolobus* sp., *Palaquium obovatum* and *Chrysophyllum lanceolatum*. Thus, the *Sphatolobus* sp. Will be the future tree. However, *Anthocephalus macrophyllus* saplings were not found, thus this tree was endangered. Soil nutrients of NO_3, NH_4, PO_4, and c organic were high, which indicated that the litterfall decomposition occurred at the forest riparian floor. The riparian forest was a primary forest and very diversed in species richnes but had low densities. All the tree, sapling, and seedling species characterized the riparian forest of karst ecosystem at the headwaters of sampolawa river in the karst ecosystem setting.

***Keywords*:** benthic, headwaters, Collector filters, riparian-karst forest

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