

Studi keanekaragaman hayati di Situs Song Keplek Punung Pegunungan Sewu, Kabupaten Pacitan, Jawa Timur

Sri Astuti, author

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Abstrak

Studi Keanekaragaman Hayati Di Situs Song Keplek Punung Pegunungan Sewu, Kabupaten Pacitan, Jawa Timur

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Penelitian fosil polen dan spora di Danau Wuyang Warak dan Kerta Gebang Kawasan karst Pegunungan Sewu, Jawa Timur, dilakukan pada 3 periode, yaitu : 20 - 23 Desember 1997, 26 28 April 1998, dan tanggal 7 - 8 Maret 1999. Pengambilan contoh tanah dilakukan dengan teknik pengeboran sampai kedalaman \pm 6 m. Di setiap lokasi diambil masing-masing dua contoh tanah. Pengamatan polen dan spora menggunakan mikroskop binokuler transmisi merek Leits dengan perbesaran 1.250 kali. Determinasi dilakukan pada foto polen menggunakan buku- buku acuan ; Erdtman (1943 & 1986), Hyde & Adams (1958), Kapp (1969), Huang (1972), Moore & Webb (1978), Morley (1977), Murillo & Bless (1978) dan foto-foto koleksi laboratorium eksploitasi LEMIGAS, Jakarta serta preparat dan slide yang telah teridentifikasi.

Hasil identifikasi fosil polen dan spora mengindikasikan bahwa di daerah penelitian pernah menjadi habitat bagi tumbuhan mangrove, back mangrove, hutan rawa air tawar, hutan hujan pegunungan bawah, hutan hujan pegunungan atas dan bawah, serta riparian.

Masyarakat di kawasan karst Kecamatan Punung Pegunungan Sewu mengupas lapisan kapur pada lahan yang datar dan setengah miring untuk dijadikan sawah dan kebun serta menanam jenis tanaman yang dianggap mempunyai nilai ekonomi tinggi tanpa mernperdulikan kemampuan medium tumbuh. Pola eksploitasi pertanian tradisional yang ada yaitu pola pertanian di Pulau Jawa yang intensif dan pola di luar Pulau Jawa dengan cara tebas bakar dan masa kosong.

Pola pertanian di kawasan karst Pegunungan Sewu berkembang akibat adanya penambahan penduduk, pemekaran pemukiman dan daerah pertanian yang menggunakan pola bertani intensif dengan memanfaatkan daerah-daerah marginal atau hutan lindung.

<hr><i>Situs Song Keplek is one of the pre-historic sites which is located at Kecamatan Punung apart the Sewu mountain limestone formation right in the border of Central and East Java provinces.

The limestone formation of the Sewu mountain had undergone several physiographic transformations since the Pleistocene time or from two million years ago up to the present.

This study is intended to describe past ecosystem Situs Song Keplek based on fossilized pollens and spores escavated from the sites and present floral composition of the situs.

The research was carried (conducted) out in three different visits on December 20 - 23, 1997; April 26 - 28 1998, and March 7 - 8 1999.

The fossil samples were taken from the bottom or the sediment of Wuyang Warak lake which is still watered up until today and Kerta Gebang lake which is only seasonally watered. The study identified 53 species of 29 families of plants. In Wuyang Warak lake, it was found 29 species of angiosperms and 9 species of pteridophytes with high frequency of *Monoprites annulatus* (83 pollens), followed by *Cyatides* sp. (50 spores), *Blechnum fraxineum* (46 spores), *Lycopodium elavatum* (28 spores), *Podocarpus amaurus* (28 pollens), and *Lycopodium microphyllum* (27 spores). In Kerta Gebang lake, there were 17 species of angiosperms and 18 species of pteridophytes with high frequency of *Monoprites annulatus* (210 pollens), followed by *Podocarpus amaurus* (163 pollens), *Pteris ensiformis* (17 spores), *Selaginella* sp. (11 spores), and *Mimosa* sp. (10 pollens).

Sorensen similarity indeks reveals an index of 24% similarity of pollens and spores between two lakes. This figure indicates that the two locations were different in term of their floral compositions which were probably due to their different physiographic environment altitude during the past.

Approximately about 10000 years ago, the sites probably composed of the mangrove back mangrove fresh water tropical rain forest and riparian ecosystems.

The incontinuity of the vegetation pattern in the area could be related to the change of the climate as well as by the presence of human being in the environment since long time.

The findings of Wuyang Warak and Kerta Gebang lakes show a similarity with those of Julianto (1994) who conducted a research in Nampol formation, Jaten formation, and Andjarwati (2000) who conducted a research in Situs Kali Banjar and Situs Gua Tabuhan. The pollen and spore fossils found in Jaten formation consisted of 53 species and 5 families of plants, while in Jaten formation consisted of 32 species and 5 families of plants, in Situs Kali Banjar, the pollen and spore fossils were from 21 families of plants and in Situs Gua Tabuhan were from 16 families of plants.

Karst vegetation of the Sewu mountain is not various and mostly composed of wild bushes grows covering the slope of the hill. This is because the people replace the formely existing forest with vegetation of economic value.

Our record on the Baduy practice of agriculture, indicates that traditional wisdom contribute to the conservation of the environment as well as the variety of the local plants and forest. The slash and burn practice of agriculture does not disturb the soil surface, hence proverigation of the soil is prevented.