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Pollen and fern spore seasons in Southeast Asia

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The spatiotemporal distribution of airborne pollen grains and fungal spores in Southeast Asia remains poorly understood. This study aims to address this gap by investigating potentially allergenic plants in the region, characterizing their pollen seasons, and assessing their clinical relevance. Through an extensive systematic literature review—conducted by screening the Scopus and PubMed databases—73 studies related to pollen allergies in Southeast Asia were identified and analyzed.

As a result, a list of ten potentially allergenic plants posing the highest risk in Southeast Asia, along with sensitization rates to their pollen allergens (based on 36 studies comprising over 150 extracted records), was compiled and summarized. Analysis of aerobiological monitoring practices in the region revealed that such studies have primarily been conducted in five countries: Thailand, the Philippines, Singapore, Indonesia, and Malaysia. Both gravimetric and volumetric methods have been used. The earliest documented pollen monitoring, carried out in the Philippines, began in the 1960s, while the longest pollen time series, conducted in Thailand, spans 15 years.

Prepared pollen calendars for six taxa across four countries revealed distinct spatiotemporal variability, closely associated with local bioclimatic characteristics. Based on the gathered data, several recommendations have been proposed to enhance understanding of the aerobiological and allergological context in Southeast Asia. These include establishing local and regional aerobiological monitoring networks, creating pollen calendars for major tropical allergenic species, and developing clinical panel tests tailored to the region.

Please, submit you abstract

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