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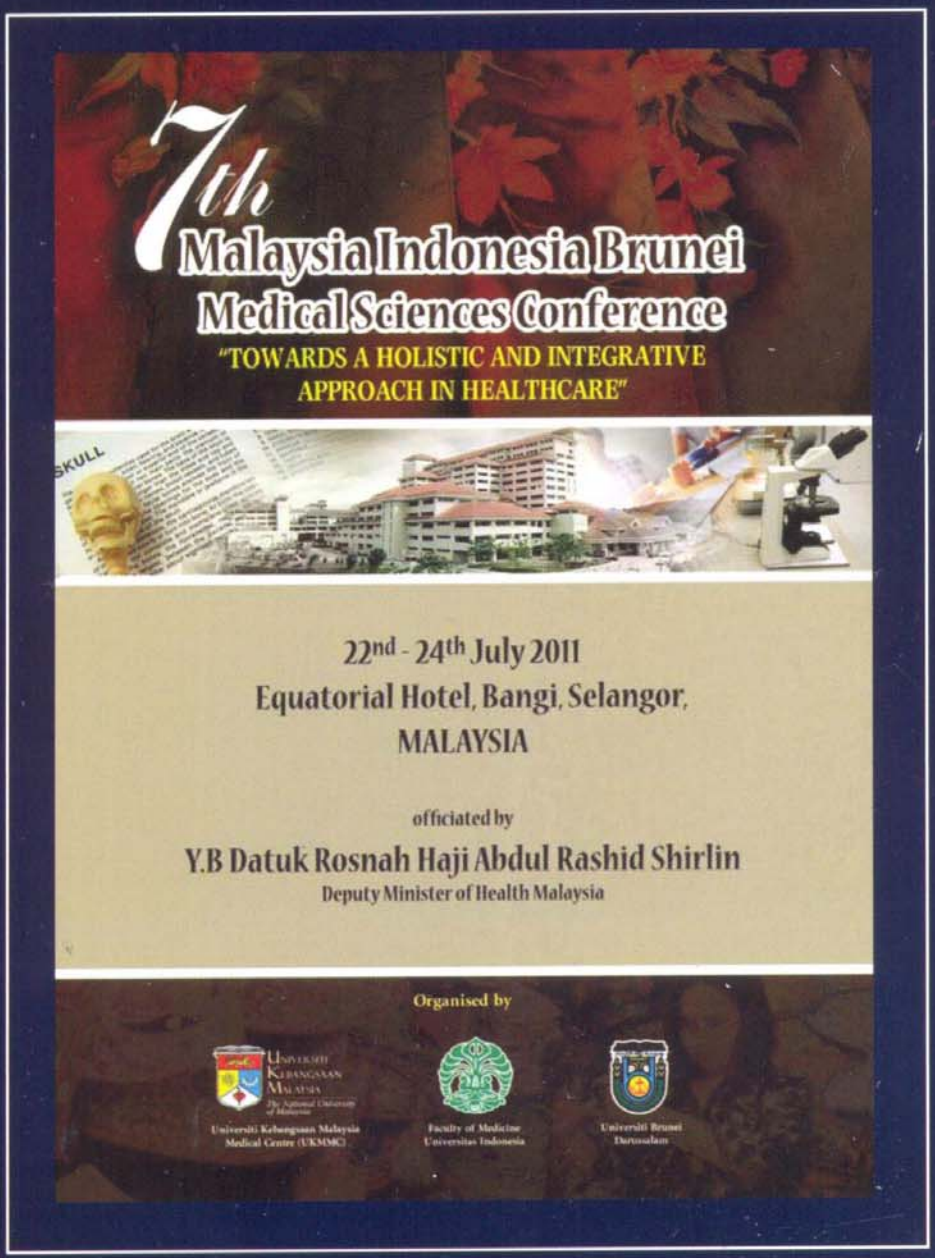

PROFILE OF POLLEN GRAIN AMONG ALLERGIC PATIENTS IN INDONESIA

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Allergy is a human immediate hypersensitive reaction to allergens. It occurs when the body produces an excess of IgE antibody as response to allergen. Pollens are important environmental allergens in subtropical countries which contribute to significant morbidity especially during the pollenation period. Despite the all year long of plants flowering in Indonesia, pollen allergy has not been well studied. The objectives of this study were to identify pollen from plants in a given area in Indonesia which may cause allergy in human. A Burkard spore trap was set for seven days sampling in Lebak Bulus, district in South Jakarta, while passive collectors with adhesive object glass were placed in Darmaga Bogor, Pasar Minggu and Jagakarsa in South Jakarta. Using light and scanning electron microscopes (SEM), pollens that were trapped and identified were acacia (*Acacia auriculiformis*), cogon grass (*Imperata cylindrica*), coconut (*Cocos nucifera*), palm trees (*Elaeis guineensis*), maize (*Zea mays*), rice (*Oryza sativa*), and pine (*Pinus merkusii*). Molecular weight of protein profiles from those pollen extract using sodium dodecyl sulfate-polyacrylamide gel electrophoresis analysis (SDS-PAGE) were dominated by 10-70 kD bands. Allergenicity in human to those pollen commercial Grasses mix extract was also included in the test to people with and without history of allergy, 69 people each, using the skin prick test method. The seven pollen of plants trapped in Indonesia are allergenic. Human sensitivity to Cogon grass and acacia pollen are more severe than to the rest of other pollen; however, the sensitivity was found most to commercial allergens of Grasses mix. People with respiratory allergy was more sensitive than people without history of allergy. Meanwhile, human sensitivity to acacia was the same in those two groups of people. Pollen of Cogon grass and acacia are potential allergens to be used for skin prick test in Indonesia. Acacia trees are not recommended to be utilized as a shading tree since their pollen showed sensitivity reaction in human.

Keywords: pollen, allergen, sensitivity, skin prick test.