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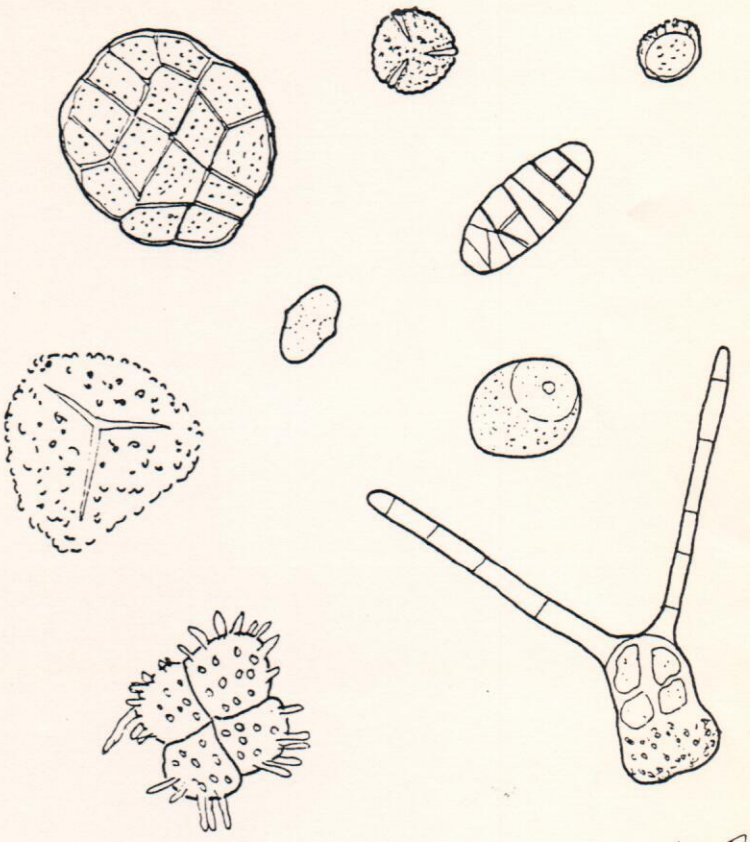

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RESEARCH REPORTS

AERO-ALLERGOLOGICAL RESEARCH IN THREE CITIES OF SAUDI ARABIA

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An aero-allergological research project sponsored by King Abdulaziz City for Science and Technology is being conducted in collaboration with King Faisal Specialist Hospital and Research Center and King Khalid University Hospital of King Saud University, Riyadh. Studies employing four Burkard volumetric spore traps, and gravity settling plates are being conducted in three different cities viz Riyadh, Jeddah and Dammam. Two traps are operating in the Riyadh region where humidity is very low - rarely exceeding 45%. However, thousands of gallons of water are being irrigated each day at various locations in the city. This situation has created an artificial environment with sufficient humidity for growth and sporulation of many fungal species. Jeddah and Dammam, unlike Riyadh, are port cities and likely to exhibit a somewhat different air spora, since, for example, humidity in Jeddah remains above 80%.

Allergic diseases especially bronchial asthma are common in the Kingdom. However, no estimate of the actual percent of the population suffering from bronchial asthma or allergic rhinitis is available. Therefore, a "prevalence study" is also being conducted amongst school children and adults. The primary thrust of the project, based on the aerobiological findings, is to prepare an "allergy diagnostic profile" to include various allergens present in the Kingdom.

Until recently, fungi were not considered worthy of skin testing. The investigations conducted during the past six months (from 1 Nov 1986 to 30 April 1987) have revealed a variety of fungal spores from different species including recognized aeroallergens. Spores identified

on trap slides include spores of the following genera of imperfect fungi: *Cladosporium, Alternaria, Ulocladium, Dreschlera, Aspergillus/Penicillium type, Arthrinium, Asperisporium, Torula, Helminthosporium, Phoma,* and *Pithomyces chartarum.* Ascospores identified included those from *Chaetomium, Pleospora, Leptosphaerulina, Sporomiella, Venturia,* and *Xylaria-Hypoxylon* type. Unidentified ascospores and conidia of powdery mildews were present also. Basidiomycete spores included *Ustilago* (Smuts), *Calvatia*, and colored basidiospores.

A number of house dust samples were also collected from the patients' homes and cultured for the presence of fungal allergens. *Rhizopus, Penicillium, Cladosporium, Aspergillus, Alternaria* and unidentified colonies and yeasts were identified from these samples.

A large number of plants have been introduced to the Kingdom in the recent years. Once the nature of soil and climate of Arabia was considered unfavorable for plant growth. Today, it is astonishing to see a variety of plant species flourishing. (There is a report that "roses" are being exported to Holland). Airborne pollen grains trapped on Burkard trap slide were contributed by grasses, weeds and trees. Identification of these pollen grains is underway.

Increased agricultural activities in the Kingdom are likely to add new types to the airspora, raising the possibilities of increased numbers of airborne allergens. Further aerobiological and immunological investigations are in progress.

RESEARCH REPORTS - Members are urged to submit brief research reports or summaries to the International Aerobiology Newsletter to inform the IAA membership of new or ongoing projects. The Newsletter cannot, however, print manuscripts which include actual data and/or the results of original research. Members are strongly encouraged to submit manuscripts resulting from their aerobiology research to GRANA.