



شبكة المعلومات الجامعية

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ





شبكة المعلومات الجامعية



شبكة المعلومات الجامعية

التوثيق الالكتروني والميكرو فيلم

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم



نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون أية تغيرات



يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %



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بعض الوثائق الأصلية تالفة



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بالرسالة صفحات

لم ترد بالأصل

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COMPARATIVE STUDIES ON SOME UMBELLIFERAE PLANTS DISTRIBUTED IN SINAI AND ISMAILIA REGIONS

BY

Waael Mohamed Hassan Mohamed
B.Sc., Fac. of Agriculture, Suez Canal University, 1994

Thesis

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APPROVAL SHEET

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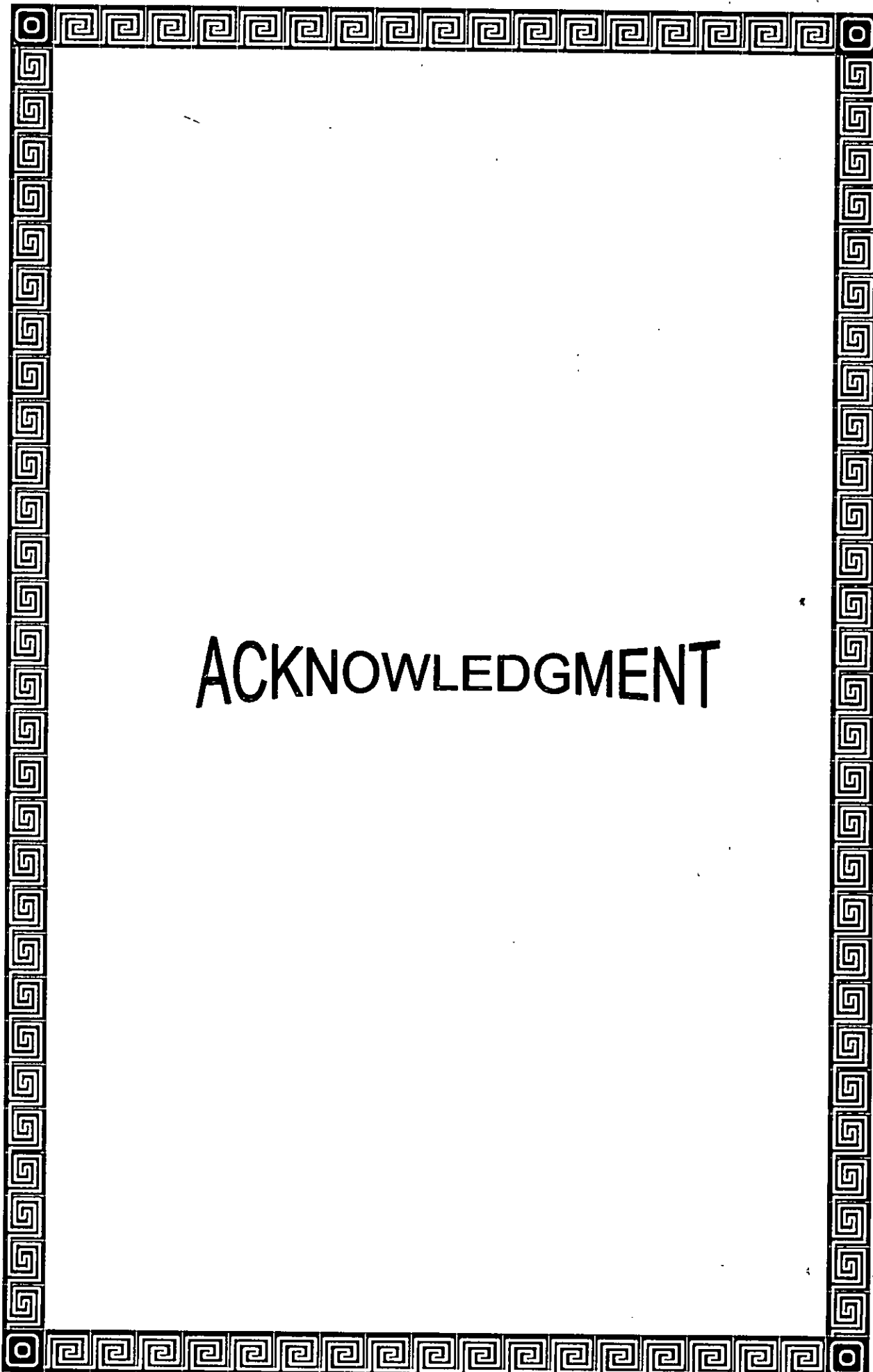
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2000

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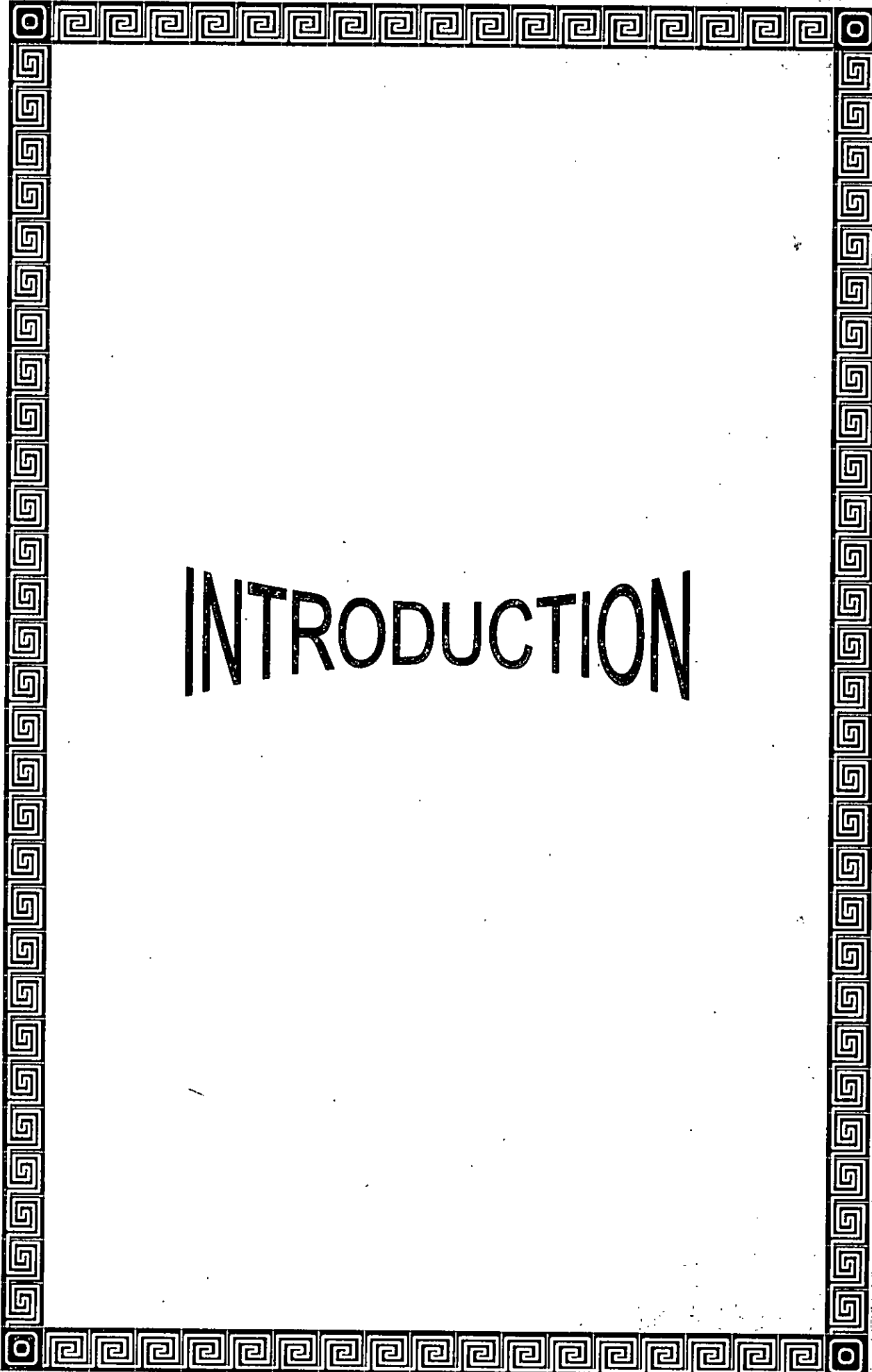
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INTRODUCTION

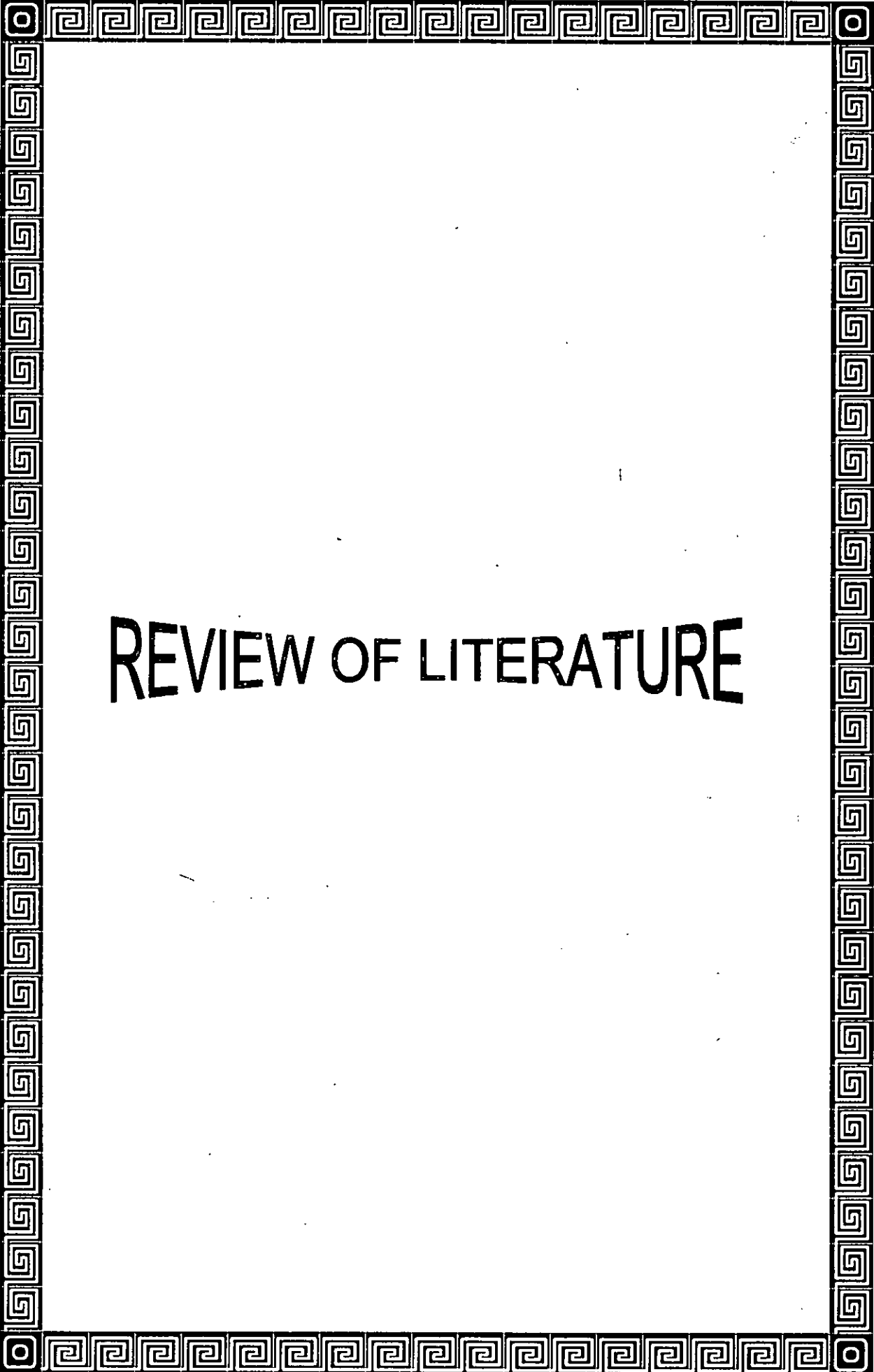
INTRODUCTION

Apiaceae Lindl. (= Umbelliferae Juss.) is one of the most natural families of the flowering plants which is easily recognized by its characteristic inflorescence and dissected leaves (Hosni, 1984 and Hickey and King 1988). Because of their distinctive chemistry, reflected in odour, flavour, esculence, or toxicity, its members were familiar prehistorically to many people. Theophrastus of Eresus, recognized Umbelliferae, under the name of Narthekodes, as one among the several natural plant families with which Aristotelian disciples were well acquainted and which he precisely defined (Greene, 1909). The Greek word Narthex became translated into the Latin *Ferula* for a dried stalk of *Ferula* or *Foeniculum*, and Narthekodes into Ferulaceae. He did characterize such familiar plants as dill, coriander, anise, cumin, and fennel by their naked seeds and herbaceous habit. Thus, although Umbelliferae was the first family of flowering plants to achieve general recognition, after nearly three and quarter centuries of successive and multi-national effort, considerable disagreement still exists as to the proper delimitation of the family and even more uncertainty prevails as to its natural subdivision and the criteria on which they should be erected. Clearly continued acquisition of new information and re-examination, refinement, and re-evaluation of accumulated evidence urgently to be welcomed (Constance, 1971). The Umbelliferae, with an estimated 418 genera and 3100 species, is one of the largest families of flowering plants in the world. The family has a cosmopolitan distribution, but most of its members are confined to north temperate regions and high altitude in the tropics (Watson 1999).

The Umbelliferae are characterized by a little-varying floral pattern comprising an inferior ovary, a much reduced calyx, five free petal and stamens and a stylopodium supporting two styles; by the basic uniformity

and infinite variation of the fruit with two one-seeded, five-ribbed mericarps; by trinucleate, tricolporate pollen grains; by inflorescences based on a simple or compound umbel or a capitulum; and by definite range of leaf form and division. Anatomically, they also present characteristic features like the development of collenchyma support, the presence of secretory ducts in spatial relation to the vascular bundles. Its systematic position is division Magnoliophyta, class Magnoliopsida, sub class Rosidae and order Apiales, according to Takhtajan (1997). The family is divided into three subfamilies, Hydrocotyloideae, Saniculoideae and Apioideae, well differentiated by the structure of the fruit (Rodriguez, 1971). Umbelliferae is one of the most significant families from an economic point of view because its vegetables yield drugs and flavoring materials (Benson and Lauder milk, 1970).

This study aims to accumulate comparative information on the morphology and anatomy of 19 umbelliferous taxa distributed in Sinai and Ismailia regions. This would contribute to a proper delimitation of these genera in the family; such knowledge would be useful to specialists in various aspects of the biology of such plants. Obviously, continued acquisition of new information about different botanical aspects of this family is required.



REVIEW OF LITERATURE

REVIEW OF LITERATURE

I-Geographical distribution of some umbelliferous plants in Egypt:

In respect of studied Umbelliferae taxa in Egypt, Täckholm (1974), Boulos and Hadidi (1967 and 1984), Danin *et al.* (1985), Hosni (1984 and 1989), Boulos and Gibali (1993) and Boulos (1995) found that *Ammi majus* L. plants grow in The Nile region, Oases of the Western desert, Mediterranean coastal strip from El-Sallum to Rafah, Isthmic desert, Red Sea coastal region and Sinai as a weed. Whereas, *Ammi visnaga* (L.) Lam. was collected from The Nile region and Mediterranean coastal strip from El- Sallum to Rafah also, as a weed. Moreover, *Anethum graveolens* L. plants which are cultivated and escaped from cultivation, which were collected from Mediterranean coastal strip from El- Sallum to Rafah, Isthmic desert, Western desert, The Nile Valley and Sinai. Furthermore, *Apium graveolens* L. plants are cultivated and escaped from cultivation in The Nile region, Oases of Western desert, Mediterranean coastal strip from El- Sallum to Rafah, Isthmic desert, Arabian desert East of The Nile and Sinai. In addition, *Apium leptophyllum* (Pers) F. Muell. ex Benth. plants were collected from The Nile Delta, The Nile Valley, Mediterranean coastal strip from El- Sallum to Rafah as a weed, especially common in lawns. Whereas, *Bupleurum semicompositum* L. plants are a common small herb, collected from The Nile region, Mediterranean coastal strip from El- Sallum to Rafah, Isthmic desert, Western deserts, Sinai, The Nile Valley and all the desert of Egypt. On the other hand, *Bupleurum falcatum* L. subsp *exaltatum* (M. Bieb) H. Wolff var. *linearifolium* (DC.) H. Wolff its plants were very rare, restricted in Egypt to the mountains (altitude 1200-2642 m) of South Sinai and endemic in these mountains. Also, *Carum carvi* L. plants are cultivated and escaped from cultivation, it collected from Mediterranean coastal strip from El- Sallum to Rafah and The Nile Valley. Furthermore,