بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية 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 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

MORPHOLOGICAL AND ANATOMICAL STUDIES ON SOME DESERT PLANTS IN BELBAIS REGION, EGYPT.

BY

SAYED ABD EL-MONIM SAYED HUSSIN
B.Sc. in Agricultural Science (Horticulture), Ain Shams Univ., 1994

A thesis submitted in partial fulfillment of requirements for the degree

of

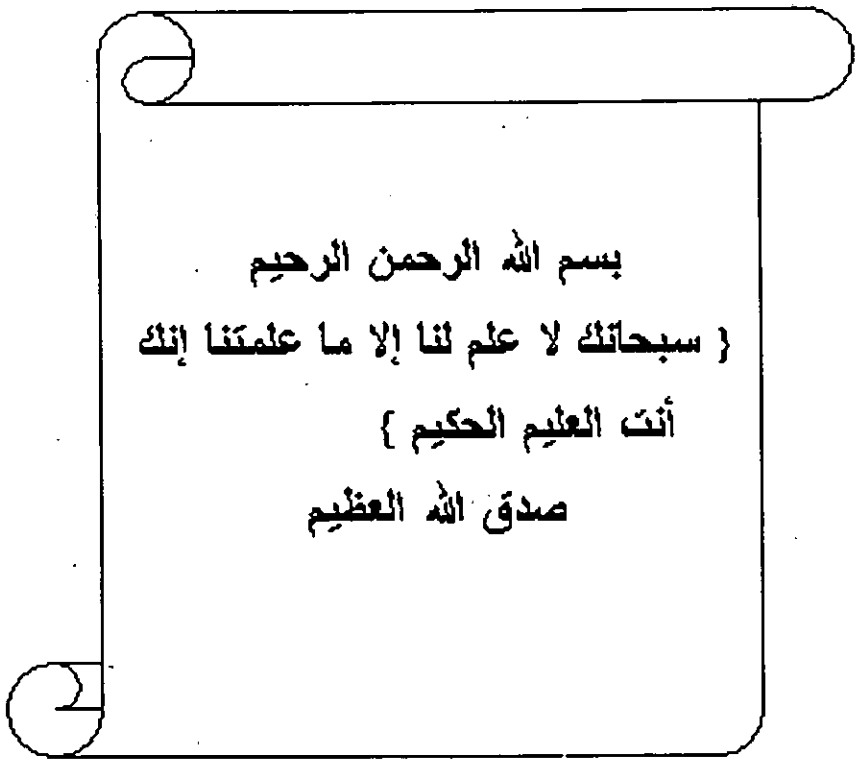
MASTER OF SCIENCE

in

AGIRCULTURAL SCIENCE
(Agric. Botany)

Department of Agricultural Botany
Faculty of Agriculture
Ain Shams University

2000


بسم الله الرحمن الرحيم
{ سبحانك لا علم لنا إلا ما علمتنا إنك
أنت العليم الحكيم }
صدق الله العظيم

Approval Sheet

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ABSTRACT

Sayed Abd El-Monim Sayed Hussin, Morphological and Anatomical Studies on Some Desert Plants in Belbais region, Egypt, Unpublished M. Sc. Thesis, Dept. of Agricultural Botany, Fac. of Agric., Ain Shams Univ., 2000.

This work was achieved to study the morphological and anatomical structure of two medicinal and widely distributed desert plants growing in Belbais region, *Haloxylon salicornicum* (Chenopodiaceae) and *Pituranthos tortuosus* (Umbelliferae). The study included all the plant organs (root, stem, leaf, flower) at various growth stages. It was found that the root of *H. salicornicum* is tetrarch and has a usual secondary thickening in addition to an anomalous one. In the root, the type of anomalous secondary thickening is concentric. The stem has four, six or eight vascular bundles with different arrangement according to the level at which the transection in the internode was taken. The stem has an ordinary secondary thickening in addition to the abnormal one. The abnormal thickening of the stem is classified as a foraminate type. The leaf of *H. salicornicum* has a single trace. The bud has two branch traces. Then, the stem has a unilacunar opposite node. Each bract, bracteole, tepal, and stamen has a single leaf trace. Also, the vascular supply of the ovary and ovules was studied.

Pituranthos tortuosus root is diarch and has a usual secondary thickening. In the primary stage, there are two groups of glandular canals observed between the pericyclic cells opposite each protoxylem pole. Secondary canals were observed in the secondary phloem as well as in the pericyclic derivatives. The stem has an ordinary secondary growth originates from a normal vascular cambium. Glandular canals were observed facing the vascular

bundles of the stem. Since each leaf has numerous traces, the node of *P. tortuosus* stem is multilacunar type. The lateral bud has many traces. Each floral leaf, i. e., the petal or the stamen has a single leaf trace. The vascular supply of the ovary and ovules was studied.

Key words: Anatomy; morphology; desert plants; Xerophytes; *Haloxylon salicornicum*; *Pituranthos tortuosus*; Chenopodiaceae; Umbelliferae; vascularization; root; stem; leaf; flower; anoamlous secondary thickening; nodal anatomy;

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