HENNA AND DERMATOLOGY

THESIS
SUBMITTED FOR PARTIAL FULFILMENT
OF MASTER DEGREE OF DERMATOLOGY
AND VENEREOLOGY

BY
KHALID EFFAT MOHAMED Hasan.
M. B. B. Ch

SUPERVISED BY
PROF. MOHAMED HASSAN EL HEFNAWI
PROF OF DERMATOLOGY & VENEREOLOGY
AIN SHAMS UNIVERSITY

DR. MAY EL SAMAHY
LECTURER IN DERMATOLOGY & VENEREOLOGY
AIN SHAMS UNIVERSITY

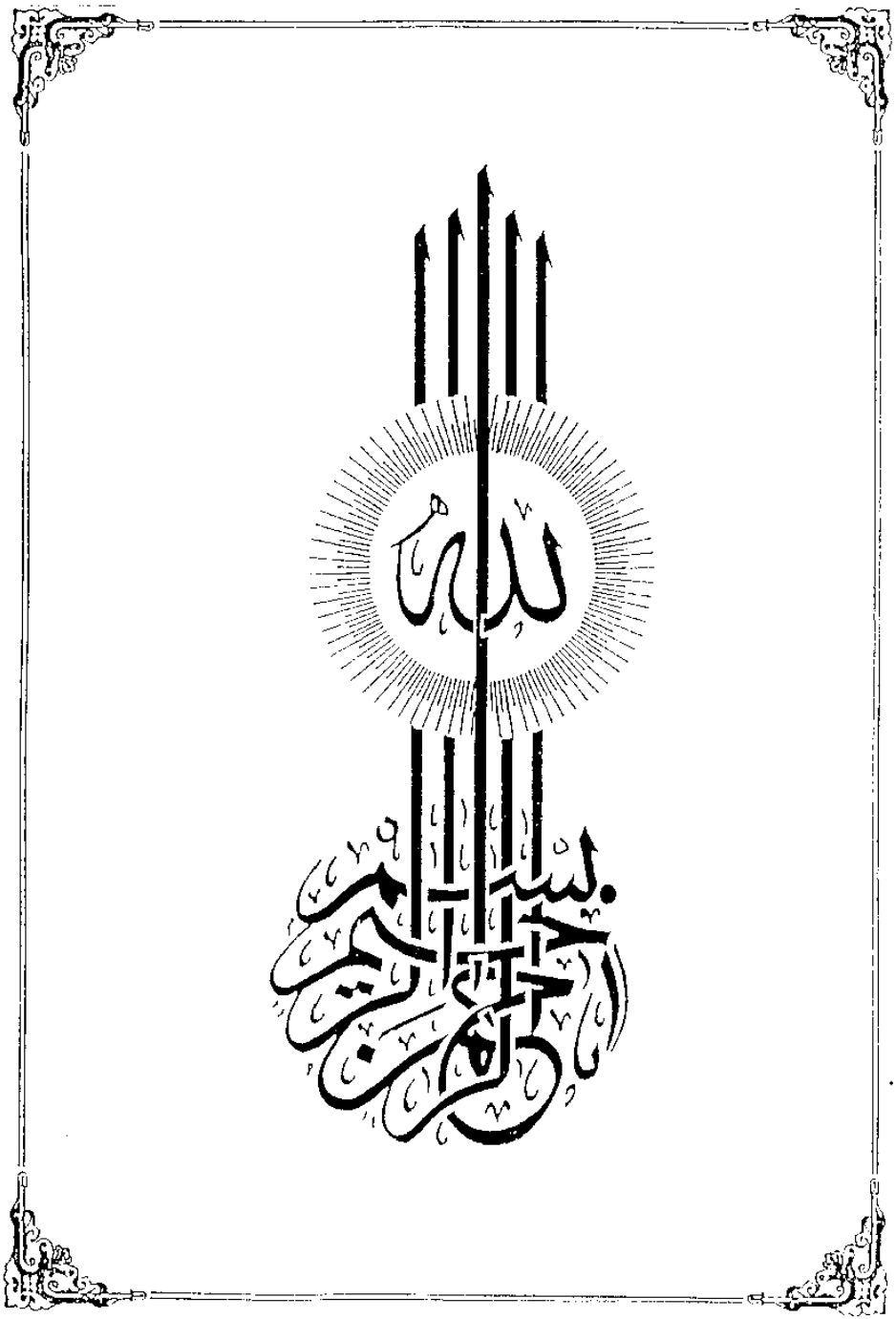
FACULTY OF MEDICINE
AIN SHAMS UNIVERSITY

1992

ACKNOWLEDGEMENT

I would like to express my sincere appreciations and gratitude to **Dr. Mohamed Hassan El Hefnawi** Professor of Dermatology and Venereology, Faculty of Medicine. Ain Shams University for his continuous guidance, encouragement, generous support, and valuable advice throughout the work.

I feel much grateful to **Dr. Mai El Samahy** Lecturer in Dermatology and Venereology, Faculty of Medicine. Ain Shams University for her inspiring supervision, valuable suggestions and continuous help.



ABSTRACT

Henna has many different uses in dermatology, it has an antimicrobial and antifungal activity, it can be used as a prophylactic measure against certain skin diseases.

On the contrary Henna has some hazards, some of them are dermatological if applied locally, as contact dermatitis and drug reaction if used systemically.

CONTENTS

INTRODUCTION

One of the most important plants that has been used among Egyptians as a dermatological therapy is Henna (Nazer, 1970)

Henna has many different uses in dermatology, it has an antimicrobial and antifungal activity, it can be used as a prophylactic measure against certain skin diseases. It can produce a cooling sensation by increasing sweat gland activity (Malekzadeh, 1968). Henna also has other medicinal uses as in removal of kidney stones, treatment of headache, Jaundice and some nervous symptoms, increasing O_2 affinity of sickle cell blood (Chang and Suzuka, 1982) .Henna has many cosmetic uses as perfume, hair dyeing, hair lotion, tonic and grower (Natow, 1986) . On the contrary Henna has some hazards, some of them are dermatological if applied locally, as contact dermatitis and drug reaction if used systemically. Other hazards which are non dermatological include pulse oximetery affection and asthma after occupational exposure (Nigam and Saxena, 1988) .

The aim of this thesis is to review literature of botany, therapeutic uses, cosmetic uses and hazards of Henna which is very commonly used among Egyptians and its relation to dermatology .

HISTORICAL REVIEW

* روى البخارى فى تاريخه وأبو داود فى السنن أن رسول الله صلى الله عليه وسلم : ما شكا إليه أحد وجعاً فى رأسه إلا قال : احتجم ولا شكا اليه وجعاً فى رجليه إلا قال : اختضب بالحناء .

* فى الترمذى عن سلمى أم رافع خادمة رسول الله صلى الله عليه وسلم قالت : لايصيب النبى صلى الله عليه وسلم قرحة ولا شوكة إلا وضع عليها الحناء .

* فى السنن الأربعة عن الرسول صلى الله عليه وسلم قال : إن أحسن ماغيرتم به الشيب الحنا والكتم .

Today's society gained awarence of the spectacular increase of the side effects of chemicals which have penetrated not only the air, water and soil but even our cells. (Hamadard Foundation, 1982) .

With formidable increase in the consumption of medicines, the society has been forced to react by developing safeguards and salvation in botanicals (John, 1979) .

One of the oldest activities of the healing art seems to have been the function of the herblists who collected medicinal plants. A wide variety of the herbs, cereals, fruits and spices, has been known since remote antiquity and this primitive knowledge has paved the way towards enriched pharmacological material and technique.

and led to the rise of the apothecary art with a separate professional entity distinct from that of medicine and surgery (Hamarneh, 1973) .

The arabs added more than 1400 different types of plants and introduced chemical pharmacy during the islamic period (Tantawy, 1976) .

During the early islamic period, apothecary shops were reported in Baghdad and Fustat, the first Islamic capital of Egypt.

Pharmacy during the Islamic period reached a high level, and the first pharmacopia was made by Sabir Ibn Soheil who was a famous pharmacist at the time of El Rashid (Hamarneh and Awad, 1976) .

The Islamic empire grew and blossomed into one of the greatest civilization in the history of humanity, since the Islamic tradition from the begining was in favor of medical practice.

A tradition of the prophet is "God never permitted a disease in a place without creating there cure of it" . Plenty of medical advices are found in the Glorious Qoraan and in the Hadith (Tradition of the prophet) . In the book of Sahih El Bukhari we find 2 parts dealing with medicine and the sick, while kitab El Marda and Kitab El Tibb contain about 80 chapters dealing with disease and treatment (Kassem, 1973) .

In the very early Islamic period of Egypt, many plants and herbs were used in dermatological therapy (Abdallah and Awad, 1975)

In many rural areas of Egypt e.g in Sinai, Upper Egypt. Western desert and Sharkia province, the people are seeking cure from botanics, a heritage from the ancients that survived despite the passage of time.e.g Castor oil for falling of hair, Ammi and Garlic for alopecia, Sesame oil for cracked skin and fissures of the nipples (Awad, 1989) .

Through the thousands of years that spanned the period between the Pharohos to the Islamic era, it is an undeniable fact that Egypt had donated a lot of the healing art in Dermatology. The spirit of innovation of the ancient Egyptians had persisted despite the passage of time with its periods of decline and degenerations (Ghalioungi and El Dawakhy, 1965)

One of the most important plant that has been used among Egyptians is Henna which was called "Bouker" in the Hierogliphic language, which was a name given to a tree giving shade to Osiris tomb (Nazer, 1970) .

Henna was known during the Graeco - Roman period and it was used in making coronas, using the flowering branches .

People in Egypt believed that this tree has its origin in Heaven (Hekal, 1988) .

Henna was known since the 11th Dynasty, during the pharonic period . It was used in emblaming, as many mummies were discovered with Henna staining their hairs, nails, feet and hands . In Dir El Bahry, a mummy was discovered with Henna stained hands and feet. A mummy of a female named HET-NOY from the 18th Dynasty was discovered with a red colored shiny hair which is supposed to be from Henna application . Mummies belonging to the 20th Dynasty were also found with Henna colored nails .

Ramses I, from the 19th Dynasty, ordered his people to get him samples of Henna tree from Asia, and one of these trees were cultivated in Karnak temple, in the way of god Amoun . The plant was also found during the discovery of Dahshour and Bani Hassan monuments (Awad, 1989) .

Henna was commonly grown in the ancient Egyption called "Afairs" which is known "San El Hagar" in Sharkia up to our time and the most important area cultivating Henna is the region called Bibies.

Henna is used up till now in a very well known custom during the night before wedding . During this night, Henna is made into dough to be used by the bride and the bride's visitors as paint for hands, feet, nails and hair. This custom is still prevalent in Egypt, Sudan, Libya, Tunis, Algeria and Morocco (Hekal, 1988) .

Hoffestein (1920) reported that the word Henna which means "to become queen" is indicative of something highly elegant .

Ligusturum Egypticum is a latinized English synonym for Henna, arising from the common name for the same plant in England, that of Egyption privet . In Perisa, it is known as "Henna", in India, it is called "Mendeed" and in the West Indies, where the plant has been naturalized, it is known as "Jamaica Mignonette" .

BOTANY

Henna is a perennial shrub, widely cultivated everywhere in tropics and belongs to the Family Lythraceae which comprises more than 20 genera and about 450 species . Amongest these is the genus Lawsonia which has only one species . This species is Lawsonia alba Lam or Lawsonia inermis Linn to which Henna belongs (Muschler, 1912 and Bedivian, 1936) .

The local name of Henna is "Tamr-el Henna" . It is commonly cultivated in public and private gardens in Egypt . It is frequently cultivated between May-September. months (George and Jole, 1982) .

The old trees have the branchlets hardened into spines, consequently the same species is also known as Lawsonia spinosa Linn (The Encyclopedia Britanica, 1898) .

Branches of Henna tree are cut when tree becomes 3 years old, twice per year (Albert, 1952) .

The plant is a native of Northern Africa and Southern West Asia extending to the Western coast of India, but is also cultivated in Persia and China .

Henna amounts to 1.02 % in leaves of the plant growing in Iran (Khorrami, 1979) .

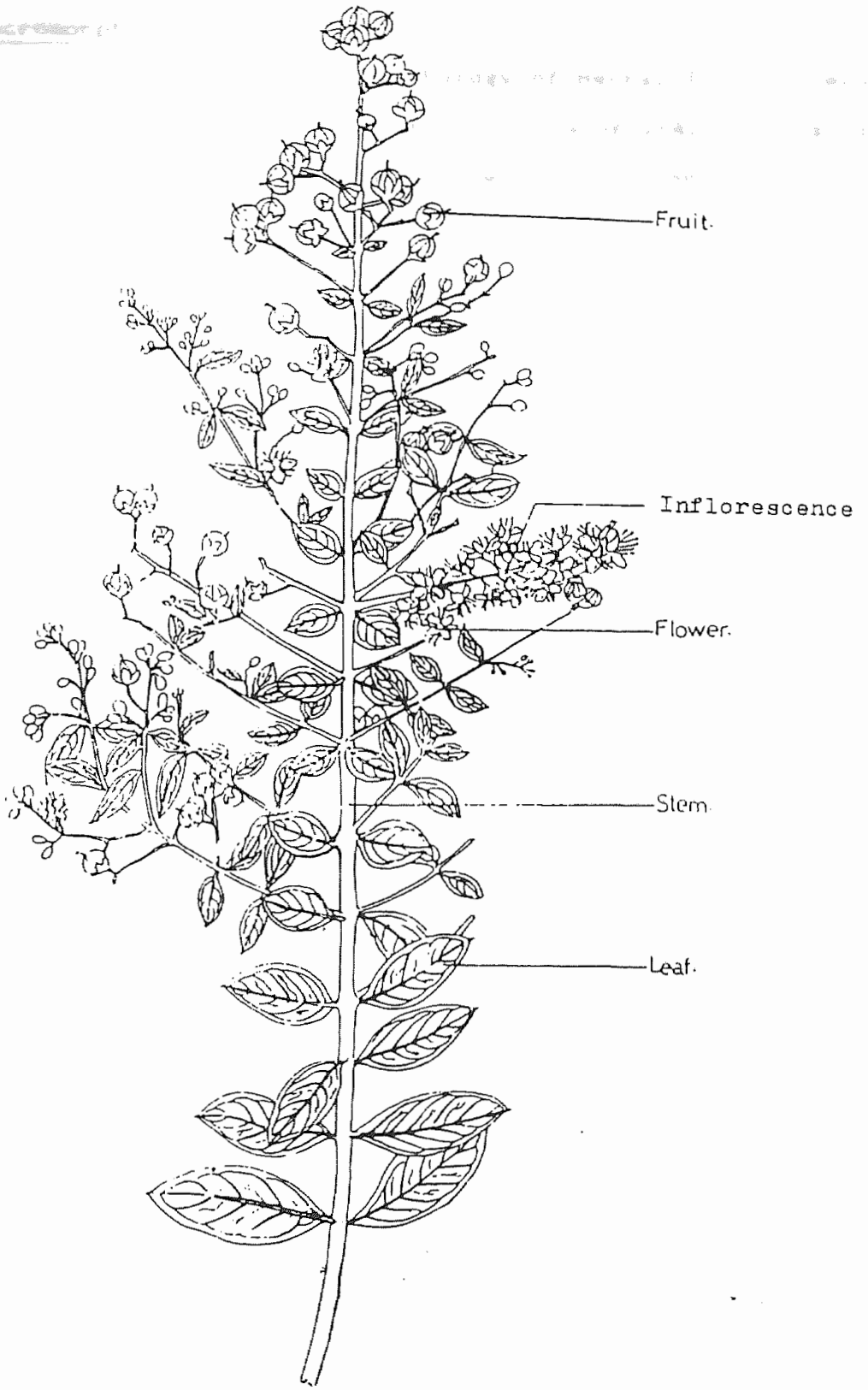


Fig (1) Fruiting Branch of HENNA

(After, Hanaa, 1985)

Macromorphology of Henna

As considered, macromorphology of Henna. It is an erect shrub or a small tree. The shrub (Fig 1) attains 1-4.5 meters in hight. Flowers appear from July to October (Hutchinson, 1973) .

The stem

The stem is branched at the ground and each branch is nearly erect, cylindrical, reaching about 1-4 meters in length and 7-8 cm. in diameter at the basal parts. The young parts are green in colour with monopodial branching .The branches are opposite decussate or alternate, sometimes being both opposite decussate and alternate on the same branch . They are rounded becoming quadrangular in the upper most very young branches. The older parts are light brown in colour and show slightly wavy longitudinal very small ridges or fine longitudinal buff striations . Old branches are hard to break while young branches are flexible, both breaking with a fibrous fracture . The stem has a faint odour and slight astringent taste (Benson, 1957)

The leaf

The leaves are opposite decussate, simple, shortly petiolate or nearly sessile, exstipulate, ovate in shape, ranging from 2-7.5 Cm. in length and 1.3-3 Cm. in breadth having a green colour and coriaceous texture . The lamina is simple with acute, occasionally blunt, rarely emarginate apex. The margin is entire, occasionally slightly revolute. The base is usually symmetric, occasionally

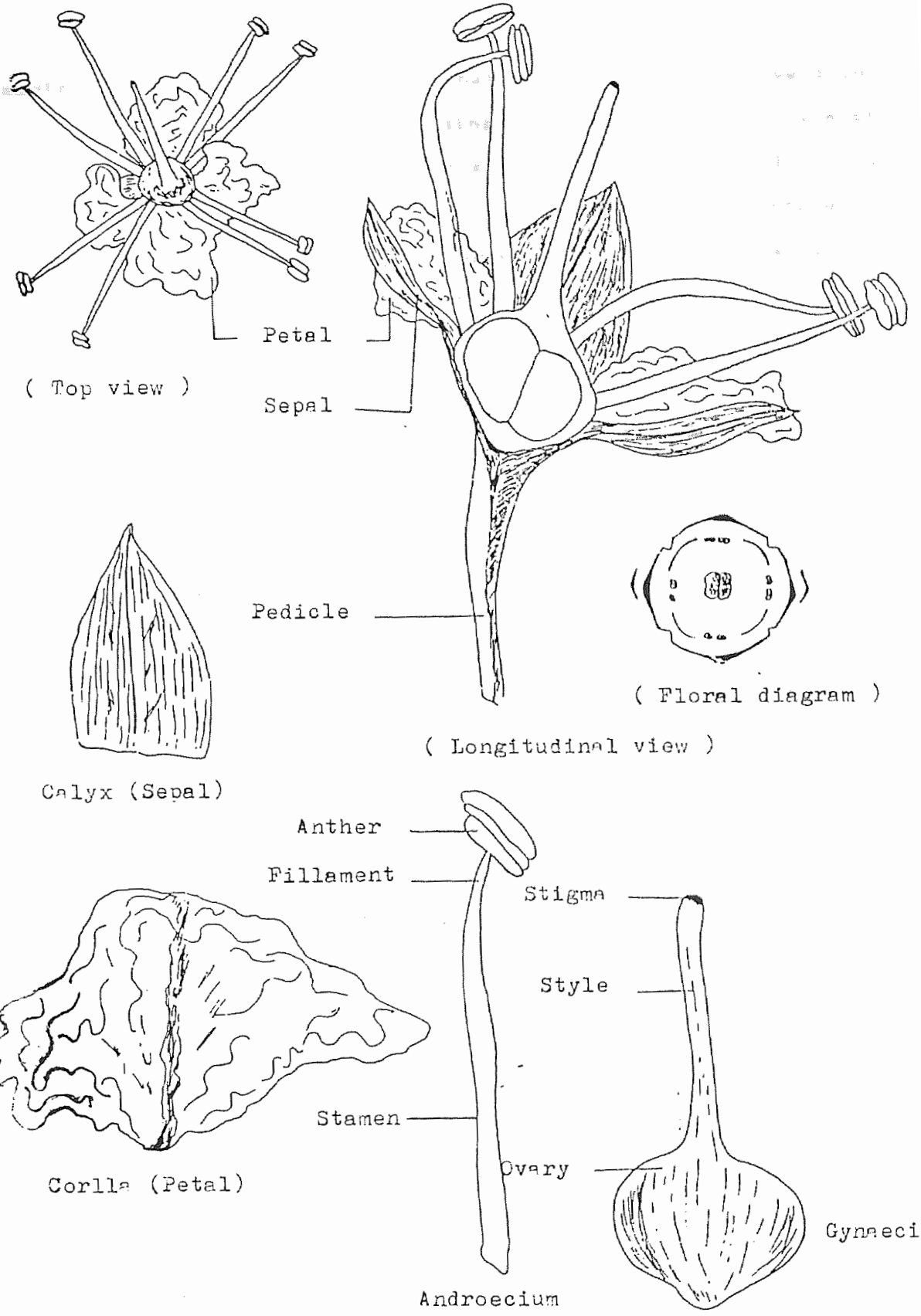

Petal
(Top view)
Sepal
Pedicle
(Longitudinal view)
(Floral diagram)
Calyx (Sepal)
Anther
Fillament
Stigma
Style
Stamen
Ovary
Corlla (Petal)
Androecium
Gynaecium

Fig (2)