Faculty of Science
Botany Department

Chemotaxonomic Studies on Some Selected Taxa of *Persicaria* and *Polygonum* (Family Polygonaceae) in Egypt

A Thesis Submitted for the Degree of Doctor of Philosophy of Science in Botany

By

Sameh Reda Awaad Hussein

B.Sc. (Botany - Chemistry 1997)
M.Sc. (Botany 2006)

Supervisors

Prof. Dr.: Mohamed El-Sayed Tantawy Khalifa

Taxonomy of Flowering Plants

Botany Department-Faculty of Science-Ain Shams University

Dr.: Usama Ismail Ali El-Magly

Taxonomy of Flowering Plants

Botany Department-Faculty of Science-Ain Shams University

Prof. Dr.: Nabiel Abd-El Megied Saleh

Chemistry of Natural Products

Phytochemistry and Plant Systematic Department-National Research Center

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Supervision Committee

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Approval Sheet

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Name **:** Sameh Reda Awaad Hussein

This Thesis has been approved by:

Prof. Dr.: Fatma Ali Ahmeh

Phytochemistry

Unit of Phytochemistry -Desert Research Center

Prof. Dr.: Mohamed Amin El-ansari

Chemistry of Natural Products

Department of Phytochemistry and Plant Systematic-National Research Center

Prof. Dr.: Mohamed El-Sayed Tantawy Khalifa

Taxonomy of Flowering Plants

Botany Department-Faculty of Science-Ain Shams University

Prof. Dr.: Nabiel Abd-El Megied Saleh

Chemistry of Natural Products

Department of Phytochemistry and Plant Systematic-National Research Center

Declaration

This Thesis has not been submitted for a degree of this or any other University

Sameh Reda Awaad

Abstract

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Degree : Ph. D. of Science (Botany)
Title of Thesis: Chemotaxonomic Studies on Some Selected Taxa of *Persicaria* and *Polygonum* (Family Polygonaceae) in Egypt

Four selected plant species of family Polygonaceae were collected from different localities *viz.* ***Persicaria salicifolia*** (Brouss. ex Willd.) Assenov, ***Per. senegalensis*** (Meisn.) Soják, ***Polygonum bellardii*** All. and ***P. equisetiforme*** Sm. native to Egypt. These taxa were subjected to botanical, chemical and numerical studies. The botanical part deals with the study of morphological and anatomical characters of whole plant (stem, petiole, leaves and flower). The chemical part included the study of the presence of phenolic and flavonoid compounds. 19 compounds were isolated and identified (compound 7 and 15 are the same). These compounds were found to belong to flavones, flavonols, flavone C-glycosides and phenolic acids. The results were tabulated to facilitate comparison between the studied taxa based on the criteria extracted from the morphological, anatomical as well as chemical investigations by using the numerical analysis.

Keywords: Polygonaceae**,** *Persicaria***,** *Polygonum*, Morphology, Anatomy, Chemosystematic, Flavonoid, Methylated flavonoids.

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Dedication

To my dear parents
To my dear wife
To my sons

For their… full support… sincere love …and …continuous encouragement.

Contents

List of Plates

List of Tables