

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

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Taxonomy of Flowering Plants

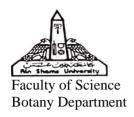
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Presented to
Botany Department
Faculty of Science
Ain Shams University
(2009)



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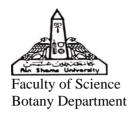
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Declaration

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

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Abstract

Name : Sameh Reda Awaad Hussein 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.

Acknowledgment

First, foremost, and all thanks to Allah by whose grace this work had been completed and by his grace all my life is arranged in the best, Nobody can imagine this way that had been drawn by the merciful of the God.

After thanking Allah, I would like to express my sincere gratitude and respect to **Prof. Dr. Mohamed El-Sayed Tantawy Khalifa** and **Dr. Usama Ismail Ali EL-Magly,** Taxonomy of Flowering Plants, Botany Department, Faculty of Science, Ain Shams University, for their supervision, suggesting the research point, identifying the plant material, revising the manuscript, their constant encouragement and constructive guidance were of paramount importance for the initiation and progress of this work.

I am greatly indebted to **Prof. Dr. Nabiel Abdel Megeid Saleh** Phytochemistry and Plant Systematics Department, NRC, for sharing in suggestion of the research point, his masterly teaching, help, criticism, enlightening suggestion and faithful attitude throughout the whole work. I also express my deep gratitude to **Prof. Dr. Salwa Kawashty**, Phytochemistry and Plant Systematic Department, NRC, for the great help and facilities she offered me which were the milestone for this work and also for her continuous cooperation and valuable encouragement, through out this thesis.

Thanks to **Prof. Dr. Amira Hassanien**, the Head of Botany Department, Faculty of Science, Ain Shams University, and all staff members at Botany Department, Faculty of Science, Ain Shams University.

I am truly thankful to the team of the Phytochemistry and Plant Systematic Department, NRC, for their teamwork spirit and for their cooperation during this work especially to **Prof. Dr. Sabry Ibrahem El-Negoumy** and **Dr. Mona Mohamed Marzouk** Phytochemistry and Plant Systematics Department, NRC.



Dedication

To my dear parents To my dear wife To my sons



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

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