



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

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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

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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.

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