PROPAGATION OF THE RARE ORNAMENTAL CLIMBER *Porana panculata* BY TISSUE CULTURE

By

KAWTHAR MARAIE ABDEL KAREEM

B.Sc. agric. Sci. (Ornamental Horticulture), Fac. Agric., Cairo Univ., 2009

THESIS

Submitted in Partial Fulfillment of the Requirements for the Degree of

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APPROVAL SHEET

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Approval Committee

Dr. SOAD ABDALLA MOHAMED KHENIZY…….....……
Head Researcher of Ornamental Plants, Hort. Res. Inst., ARC. Giza

Dr. AFAF MAHMOUD HABIB……..
Professor of Ornamental Horticulture, Fac. Agric., Cairo University

Dr. ATEF MOHAMED ZAKARIA SARHAN……
Professor of Ornamental Horticulture, Fac. Agric., Cairo University

Date: 28/10/2018

SUPERVISION SHEET

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SUPERVISION COMMITTEE

Dr. ATEF MOHAMED ZAKARIA SARHAN
Professor of Ornamental Horticulture, Fac. Agric., Cairo University

Dr. AMAAL ABD ELKHALEK MOHAMED HEIKAL
Lecturer of Ornamental Horticulture, Fac. Agric., Cairo University

Dr. FAISAL MOHAMED ABD EL-ALEAM SAADAWY
Head Researcher of Ornamental Plants, Hort. Res. Inst., ARC., Giza

Name of Candidate: Kawthar Maraie Abdel Kareem **Degree: M.Sc.**
Title of Thesis: Propagation of The Rare Ornamental Climber *Porana panculata* by Tissue Culture.
Supervisors: Dr. Atef Mohamed Zakaria Sarhan
Dr. Amaal Abd ElKhalek Mohamed Heikal
Dr. Faisal Mohamed Abd El-Aleam Saadawy
Department: Ornamental Horticulture
Approval: 28/10/2018

ABSTRACT

This work was carried out at Ornamental Horticulture Department, Fac. of Agriculture, Cairo University and the experimental work was carried out at the Tissue Culture Laboratory, Horticulture Research Institute, Agricultural Research Center, Giza, Egypt during the period from 2015 to 2017, to investigate some factors affecting the propagation of the rare ornamental climber *Porana paniculata* by tissue culture. Results could be briefed in the following:

During the establishment stage, explants exposed to Clorox at 20% for 15 min obtained the highest position in survival %. Using 2,4-D at 1.0 ppm + BAP at 2.5 ppm occupied the 1st position in callusing %, callus fresh weight and callus diameter. Applying 2-iP at 3 ppm + 1/2 MS medium produced the highest values of callus survival %, morphogenic callus %, culture efficiency, shoot number, shoot length and leaf number.

In the multiplication stage, using BAP at 0.60 ppm + 1/2 MS medium resulted in the highest records of lateral buds survival %, regeneration capacity, culture efficiency, shoot number, shoot length and leaf number. BAP at 1 ppm + NAA at 0.1 ppm recorded the 1st position concerning shoot survival %, shoot number, shoot length and leaf number.

Concerning the rooting stage, the 1st position for survival %, root number and shoot number was obtained when combinations of BAP plus IBA at either 1 or 3 ppm were used.

Key words: *Porana paniculata, in vitro,* sterilization, multiplication, rooting, plant growth regulators.

DEDICATION

I dedicate this work to whom my heartfelt thanks, my father, mother, grandmother, sister and my husband Mr. Assem Hashem for his patience and help, as well as to all my friends for the support they lovely offered along the period of my post graduation.

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