



كلية العلوم



جامعة الفيوم

**Karam M.A., Amin S.A, and Abd El-Gawad M.E.** 2011. Expression profiling of *Zygophyllum coccineum* and *Peganum harmala* under salt strss. *The Egyptian Journal of Experimental Biology (Botany)* 7 No. 2: 261-267.

### Abstract

For their sustainable utilization, seeds of three populations of each of *Zygophyllum coccineum* L. and *Peganum harmala* were collected and their response to salinity was evaluated through soil analysis, two days interval monitoring of seed germination, quantitative estimation of proteins and protein electrophoresis after treatment with 0, 50, 100, 150, 200, and 250 mM NaCl. Salinity reduced the percentage of germination, delayed the time required for germination, increased the amount of proteins. The germination percentage indicated that *Z. coccineum* collected from Wadi Hagool tolerates up to 150 mM, while *P. harmala* tolerated salinity up to 150 mM in Burg El-Arab and Siwa. As the severity of salinity increased, the amount of protein was reduced. The SDS-PAGE revealed specific bands in response to salinity. Populations collected from more saline soils were more tolerant to severe salinity treatment and were considered as valuable resources. Newly synthesized protein bands were observed under different concentration of NaCl at different time intervals. The time required for the synthesis of stress-related proteins has been estimated, offering a starting point for further analysis of the newly synthesized proteins e.g. their amino acid sequence, their corresponding mRNA and even their coding sequence.