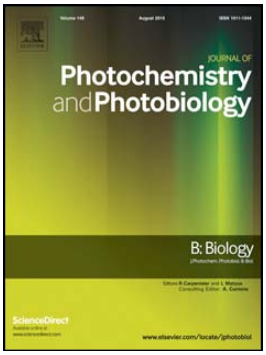

Photoreceptors mapping from past history till date

Parul Parihar, Rachana Singh, Samiksha Singh, Durgesh Kumar Tripathi, Devendra Kumar Chauhan, Vijay Pratap Singh, Sheo Mohan Prasad

PII: S1011-1344(16)30309-8
DOI: doi: 10.1016/j.jphotobiol.2016.06.020
Reference: JPB 10426

To appear in:

Received date: 25 April 2016
Accepted date: 13 June 2016

Please cite this article as: Parul Parihar, Rachana Singh, Samiksha Singh, Durgesh Kumar Tripathi, Devendra Kumar Chauhan, Vijay Pratap Singh, Sheo Mohan Prasad, Photoreceptors mapping from past history till date, (2016), doi: 10.1016/j.jphotobiol.2016.06.020

Title: Photoreceptors mapping from past history till date

Authors: Parul Parihar[a], Rachana Singh[a], Samiksha Singh[a], Durgesh Kumar Tripathi[b], Devendra Kumar Chauhan[b], Vijay Pratap Singh[c*], Sheo Mohan Prasad[a]*

Affiliations:
[a]Ranjan Plant Physiology and Biochemistry Laboratory, Department of Botany, University of Allahabad, Allahabad, India, 211002

[b]DD Pant Interdisciplinary Research Laboratory, Department of Botany, University of Allahabad, Allahabad-211002, India

[c]Govt. Ramanuj Pratap Singhdev Post Graduate College, Baikunthpur, Koriya-497335, Chhattisgarh, India
***Corresponding author's emails:** vijaypratap.au@gmail.com; profsmprasad@gmail.com

Mob. No.: +919451373143; +919450609911
Fax: +91-532 -2461009
Tel: +91-532 -246204

ABSTRACT

The critical source of information in plants is light, which is perceived by receptors present in plants and animals. Receptors present in plant and animal system regulate important processes, and knowing the chromophores and signalling domains for each receptor could pave a way to trace out links between these receptors. The signalling mechanism for each receptor will give insight knowledge. This review has focussed on the photoreceptors from past till date, that have evolved in the plant as well as in the animal system (to lesser extent). We have also focussed our attention on finding the links between the receptors by showing the commonalities as well as the differences between them, and also tried to tracing the links with the help of chromophores and signalling domain. Several photoreceptors have been traced out, which share similarity in the chromophore as well as in the signalling domain, which indicates towards the evolution of photoreceptors from one another. For instance, cryptochrome has been found to evolve three times from CPD photolyase as well as evolution of different types of phytochrome is a result of duplication and divergence. In addition, similarity between the photoreceptors suggested towards evolution from one another. This