Phytochemical Studies and Preliminary Biological Evaluation of Iris nigricans Grown in Jordan

By
Sajee' Abdel-Qader M. Huwaitat

Supervisor
Dr. Ekkal Al-Khateeb

Co-Supervisor
Dr. Samira Finjan

Abstract

*Iris nigricans* (Iridaceae) is considered as the national symbol of Jordan. It is presently distributed over the mountain areas. In Jordan it is grown in Al-Salt, Al-Karak and Al-Tafelah mountains. Some Iris plants have been used as emetics, laxatives, antidiodes, homestatic agents. They have also been used for treating bacterial infections and inflammation. Various parts of *I. nigricans* contain phenolic compounds and other active constituents. The goal of the study is to extract and identify some phenolic compounds in different parts of *I. nigricans* and examine their some biological activities.

Methodology

*I. nigricans* parts (rhizomes, leaves and flowers) were subjected for extraction by solvents of different polarity (chloroform and methanol). Furthermore, the plant extracts were subjected to preparative TLC for separation, followed by identification of compounds by various spectroscopic methods such as MS, 1H-NMR, 13C-NMR. The biological activities were carried out to estimate the antioxidant and antimicrobial activities. The evaluation of antioxidant activity of different parts of *I. nigricans* (rhizomes, leaves and flowers) was done by diphenyl picryl hydrazyl (DPPH) method. The antimicrobial activity of rhizomes, leaves and flowers extracts was determined by using disc diffusion method.

Results and conclusion

Some phenolic compounds were identified as (mangiferin, iristectorigenin and prosanthocyanidin). The total extracts of different parts of *I. nigricans* were found to have antioxidant and antimicrobial activities.

Recommendation

This study ensures the importance of this plant, so it is worth to concentrate on the isolation, purification and identification of other constituents which are not determined in some parts of *I. nigricans* that may have anticancer and antimicrobial activities.

---

**Title:** Phytochemical studies and preliminary biological evaluation of Iris nigricans Grown in Jordan

**Author:** Sajee' Abdel-Qader M., Al-Khateeb Ekkal, Finjan Samira

**Publishing info:** Amman: Al-Ahliyya Amman University, Deanship of Postgraduate and Scientific Research, Faculty of Pharmacy and medical Sciences 2013

**Descriptors:** PHARMACOGNOSY, JORDAN

**Classification:** ISBN 978-9953-89266-5

**Copies detail:**

<table>
<thead>
<tr>
<th>Barcode</th>
<th>Status</th>
<th>Due Date</th>
<th>Media Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>90761</td>
<td>AVAILABLE</td>
<td></td>
<td>PRINT</td>
</tr>
<tr>
<td>90762</td>
<td>AVAILABLE</td>
<td></td>
<td>PRINT</td>
</tr>
<tr>
<td>90763</td>
<td>AVAILABLE</td>
<td></td>
<td>PRINT</td>
</tr>
</tbody>
</table>

No. of Copies: 3

CD-ROM: 3