A.V.V.M. Sri Pushpam College (Autonomous)
Poondi– 613 503, Thanjavur-Dt, Tamilnadu
(Affiliated to Bharathidasan University, Tiruchirappalli – 620 024)

3.7.1 Number of Collaborative activities per year for research/ faculty exchange/ student exchange/ internship/ on –the-job training/ project work

Collaborating Agency:

Dr. N. Jeyathilakan Associate Professor, Dept. of Veterinary Parasitology, Veterinary College and Research Institute, Orathanadu.

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Associate Professor
Department of Veterinary Parasitology,
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TamilNadu, India.

Date: 08.08.2015.

LINKAGE

For the year 2015-2016

Between

1. Dr. S. Vasantha,
Associate Professor
PG & Research Department of Botany and Microbiology
A.V.V.M Sri Pushpam College
(Autonomous), Poondi – 613 503.

&

2. Dr. N. Jeyathilakan
Associate Professor
Department of Veterinary Parasitology,
Veterinary College and Research Institute,
Orathanadu – 614 625,
TamilNadu, India

Considering the significance of the noble cause for the student community, we have come forward to collaborate with each other to exchange research knowledge, expertise, laboratory and library facilities to the process of scientific research and education in the field of Biological science. The parties (mentioned above as 1. & 2.) have had preliminary discussion in this matter and have ascertained areas of broad consensus. The parties now therefore agreed to enter in writing these avenues of consensus, under a flexible linkage, and this project aims to fill the gap between knowledge demand and subject expertise related to the mentioned field.

Joint Responsibilities

- Sharing of laboratory facilities, library resources, database etc.,
- Joint Publication of research articles, books, magazines, bulletins etc.,
- Jointly organizing conferences, seminars, symposia and workshops.
- Submitting joint proposals for research funding from agencies like UGC, CSIR, DST and TNSCST.
- Patenting Microbes, Plants patents Procedure, Product development and Novel equipments in Biological sciences (Indian and Foreign Patenting).

Dr. S. Vasantha

Dr. N. Jeyathilakan

Journal of Advanced Applied Scientific Research - ISSN: 2454-3225
R.Kalpana Devi et.al JOAASR-RTB-2016- February-2016: 84-89

PUBELES PUBLISHER

JOAASR
Journal of Advanced Applied Scientific Research

RTB-2016

GC-MS ANALYSIS OF SECONDARY METABOLITES FROM THE WHOLE PLANT METHANOLIC EXTRACT OF *DRYNARIA QUERCIFOLIA* (L) J. SMITH (POLYPODIACEAE)

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Abstract

To investigate the secondary metabolites present in methanolic extract of *Drynaria quercifolia* (L.) J. Smith (Polypodiaceae). GC-MS analysis of whole fern extract were performed using a Trace GC Ultra and DSQII model MS from Thermo Fisher Scientific Limited. The instrument was set as follows, Injector port temperature set to 250°C, Interface temperature set as 250°C, and source kept at 200°C. The oven temperature programmed as a variable, 70°C for 2 mins, 150°C @ 8°C/min, up to 260°C @ 10°C/min. Split ratio set as 1:50 and the injector used was splitless mode. The DB-35 MS Nonpolar column was used whose dimensions were 0.25 mm OD x 0.25 µm ID x 30 metres length procured from Agilent Co., USA. Helium was used as the carrier gas at 1 ml/min. The MS was set to scan from 50 to 650 Da. The results of the GC-MS analysis confirmed the presence of 9 compounds. The most prevailing compounds in this study are Tetrahydroisovelleral, 7, 10, pentadeadiynoic acid (CAS), Phosphoric Acid, octyl diphenyl ester (CAS), Octicizer, Phosphoric acid, 2-ethylhexyl diphenyl ester (CAS), QUERCETIN 7, 3′, 4′ TRIMETHOXY, 1, 30-Triacotanediol, Ergost-5-en-3-ol, (3a′-(CAS), and Lucenin 2 found to have significant medicinal property. It can be concluded that the plant extract show the presence of 9 phytocompounds. The presence of various bioactive compounds justifies the use of the whole fern for various ailments by traditional practitioners.

Keywords: *Drynaria quercifolia* (L.) J. Smith, Secondary metabolites; GC-MS analysis; Whole fern

Note: All the figures and tables are listed in supplementary article