



BIO NEWS

Quarterly e-newsletter of the Institute of Biology, Sri Lanka

Volume 1 | Issue 2 | April 2021

IOB COUNCIL

2020/2021

President

Prof. L.D. Amarasinghe

Vice-Presidents

Dr. G. Galhena

Dr. O.V.D.S.J. Weerasena

Dr. S.A.C.N. Perera

Dr. P.B. Ratnaweera

Joint Secretaries

Dr. K.G.S.U. Ariyawansa

Dr. W.K.S.M. Abeysekera

Treasurer

Dr. H. Harischandra

Assistant Treasurer

Dr. H.A.C.C. Perera

Editor

Dr. I.A.J.K. Dissanayake

Assistant Editor

Dr. K.W. Samarakoon

Secretary for International Relations

Prof. H.S. Amarasekera

Members

Dr. H.I.U. Caldera

Prof. D.C. Peiris

Prof. C.K. Beneragama

Dr. R. Wimalasekera

Dr. H.D.D. Bandupriya

Dr. D. Halwatura

CURRENT ISSUE

Sri Lankan Journal of Biology
March 2021

Inter-University Biology Quiz Competition 2021
organized by
Institute of Biology Sri Lanka (IOBSL)

Competition is conducted in two stages
Stage I - Virtual MCQ paper on 2nd May 2021
Stage II - Live quiz competition in June 2021

Winners will be awarded with certificates and cash prizes

1	2	3
Champion Rs. 20,000/-	1 st Runner-up Rs. 10,000/-	2 nd Runner-up Rs. 5,000/-

Registration fee Rs.300/-
For registration <https://www.iobsl.org/Registration>
Registration deadline 31st March 12 midnight 2021

For more information visit:
<http://www.iobsl.org/>

INSTITUTE OF BIOLOGY SRI LANKA

Biology Webinar Series 2021

Contribution of Phytochemicals in Combatting Disease Indigenious Medicines for COVID-19 Pandemic

Dr. Sirimal Premakumara
Senior Lecturer / Head
Department of Basic Science and Social Science
Faculty of Nursing, University of Colombo

Date: 24th March 2021 (Wednesday)
Time: 4:00 pm via Zoom
<https://www.iobsl.org/>

INSTITUTE OF BIOLOGY SRI LANKA

Biology Webinar Series 2021

Nature based solutions for conservation and protection of livelihoods in marine ecosystems

Dr. (Mrs.) Sevvandi Jayasinghe
Senior Lecturer, Department of Aquaculture & Fisheries, Faculty of Fisheries, University of Sri Lanka, Galle

Date: 19th February 2021 (Friday)
Time: 4:00 pm via Zoom
<https://www.iobsl.org/>

INSTITUTE OF BIOLOGY SRI LANKA

Biology Webinar Series 2021

Sharks and Rays in Sri Lanka: Trends and Looking into the Future

Mr. Daniel Fernando
Chief Scientist, Research and Development

Date: 11th February 2021 (Thursday)
Time: 4:00 pm via Zoom
<https://www.iobsl.org/>

CONTENT...

1. A greeting from the Editorial Team
2. Membership details
3. News and Events
 - Sri Lankan Journal of Biology
 - Highlights of the Webinars
 - Highlights of the GCE A/L Biology Workshop for Teachers
 - International Biology Olympiad (IBO) Challenge 2021
4. Getting the ethical clearance for your Biology-related projects
5. Announcements
 - Inter-University Biology Quiz Competition 2021
 - 3-day workshop on “Arthropod-borne diseases/ infestations & identification”
6. Research highlights from our eminent members
 - *Moringa oleifera* (Murunga): A Miracle Food Crop on the Earth
 - *Cinnamomum zeylanicum* Blume (Ceylon cinnamon): A Multifaceted Medicinal Spice



A greeting from the Editorial Team

Dear Members,

Welcome to the 2nd issue of BIONEWS, the official e-newsletter of Institute of Biology, Sri Lanka (IOBSL). BIONEWS will reach you as a quarterly newsletter bringing biology articles, IOB news and events.

We are pleased to invite our members to contribute to BIONEWS with relevant articles, innovations, discoveries you wish to share with the fellow members.

Please send articles by e-mail to the Editor via iobsnewsletter@gmail.com

The IOBSL is encouraging its members to apply for Chartered Biologist (C.Biol.), the IOBSL Chartered status that could be applied for fellows and members who have been with the IOBSL for more than five (5) years.



IOB Membership

Upto date, IOBSL is enriched with 600 members in its seven (07) categories of memberships: Fellows, Members, Corporate members, Associate Members, Licentiates, Affiliates & Student Members. Eligibility depends on a combination of professional experience and academic qualifications.

Members who have been with the Institute for more than five (05) years are eligible to apply to the Council for permission to use the designation C.Biol, a distinction immediately comparable with the corresponding designations of other respected professionals.

Accordingly, members who have received Chartered Biologist (C.Biol.) and Fellowships since last AGM of IOBSL are:

1. Chartered Biologists

Dr. G.H. Galhena - University of Colombo

2. Fellowships

Dr K.H. Jayawardana - The Open University of Sri Lanka

Prof. Dammini Premachandra - University of Ruhuna

Dr. P.P.S.L. Pathirana - University of Colombo

Please visit IOBSL website (<http://www.iobsl.org/membership/how-to-join-the-institute>) for further information on joining the IOBSL or becoming a Chartered Biologist.



Sri Lankan Journal of Biology (SLJB)

Sri Lankan Journal of Biology (SLJB) published by the Institute of Biology, Sri Lanka, is a biannual journal with January and June issues. The volume 6 issue 1 of SLJB was published in January 2021. The issue consists of an editorial, invited review, and 03 research articles. You can download the articles and visit the journal webpage through the following link.

[Sri Lankan Journal of Biology](#)

Articles can be submitted for the SLJB throughout the year.





Highlights of the webinars held in 2021

Sharks and Rays in Sri Lanka: Trends and Looking into the Future

Dr. Daniel Fernando

Marine Biologist and Co-Founder of Blue Resources Trust

Sharks and rays are cartilaginous fish with global distributions. There are over 1,250 species globally and in Sri Lanka through our research we have documented 99 species, while other checklists suggest the presence of at least 150 species. These include the charismatic rays of the Mobulidae family, where of the 2 manta rays and 9 mobula rays found globally, in Sri Lanka we encounter 1 of the manta rays and 5 mobula rays (taxonomically they all belong to the genus *Mobula*). However, sharks and ray populations are declining drastically across the world, including in Sri Lanka. This is due to their high susceptibility to overexploitation because of their K-selected life cycles including low fecundity, slow growth, late maturity, and longevity. Most sharks and rays in Sri Lanka are landed as bycatch in tuna fisheries operating in coastland offshore (including the high seas) waters using single day and multi-day vessels. However, there are also some targeted shark fisheries, particularly for deep-sea sharks. They are all retained due to their highly valued fins for international trade and the domestic utilization of meat: for consumption in fresh and dried forms, or for animal fodder. In Sri Lanka it is prohibited to catch all three thresher sharks, the oceanic whitetip shark, and the whale shark. However, with the exception of a finning ban (cutting off the fins and discarding the carcass at sea), there are no further regulations in place despite many species categorized as highly threatened by the global IUCN Red List, and several species listed on Appendix II of CITES (regulating their international trade) and some (e.g. the manta and mobula rays) listed on Appendix 1 of CMS (full protection including prohibition of catch). A global issue remains the lack of data for both groups, and particularly species-specific information. This leads to many challenges for fisheries management. Therefore, it is essential that research programs, such as the Sri Lanka Elasmobranch Project undertaken by Blue Resources Trust, continue their long-term monitoring and expand to ensure systematic and rigorous scientific data collection. This will inform management, help curb declines, enable species recovery, and protect fisher livelihoods.



Listen to the talk



Highlights of the webinars held in 2021

Contribution of Phytochemistry in Combatting Diseases: Should Indigenous Medicines be Tested for COVID-19 Pandemic?

Dr. Sirimal Premakumara

Senior Lecturer/ Head

Department of Basic Science and Social Science

Faculty of Nursing

University of Colombo

The plant kingdom with estimated 500000 to 750000 species is a remarkable natural resource for biomedically important metabolites. It is estimated to harbour about 200000 different phytochemicals in a single given plant. Due to the very low exploitation rates and the presence of bioactive molecules in these plants, the plant kingdom is known as a “Sleeping Giant” and as well as “Natures Pharmacy”. It is reported that 28187 medicinal plant species are used in indigenous medicines worldwide. The pharmacological validations of health claims of medicinal herbs using modern scientific tools remarkably justify its uses in the indigenous medicines. It is now known that various different phytochemicals belonging to a range of different phytochemical classes are responsible for preventive and curative properties of medicinal formulations used in both communicable and non-communicable diseases. Of the drugs approved in the last 4 decades for instance, 75.4% of the drugs (which includes vaccines) are of natural products origin. Therefore, it is so obvious that it is the phytochemicals that plays the pivotal nutritive, preventive and curative role in any system of medicine in the world. In the case of polyherbal formulations, it has demonstrated that the effects exert have synergistic, additive, suppressive, anti-toxic and ameliorative effects over a symptomatic monotherapy approach and the phytochemicals therein are able to regulate the dysregulated gene expression during the curative process. Therefore, there is a demand now for multi targeted approach in curative processes including approaches in managing current COVID-19 global pandemic. Under this context Phytochemical and Pharmacological aspect of indigenous medicine is discussed in this talk.



Listen to the talk



Highlights of the webinars held in 2021

Nature Based Solutions for Conservation and Protection of Livelihoods in Mangroves

Prof. Sevvandi Jayakody

Senior Lecturer

Department of Aquaculture & Fisheries

Faculty of Livestock, Fisheries & Nutrition

Wayamba University of Sri Lanka

They are muddy, smelly and boggy vegetations now confined to between 12,000-19,000 hectares of the island's land area which are distributed as small pockets of forest patches, popularly known as mangroves. Mangroves are confined to tropical and subtropical areas while the highest number of species could be found around the Indian Ocean. Of that one-third of the global mangrove diversity is found in Sri Lanka. Unlike other flora, sometimes they create mono stands of one species, in addition to true mangroves mixing with associates to form complex vegetation structures. True mangroves need special adaptations to survive such as salt extrusion and anatomical adaptations such in roots that enable erect standing in mud and absorption of air. Mangroves have an ability to overcome natural limiting factors and successfully colonized the sea-land interface, offering a great service to people. They act as natural barriers against natural calamities such as tsunamis, and absorb carbon much more efficiently than other terrestrial ecosystems, to name a few services. Mangrove ecosystems have faced various threats in the form of land conversions and filling of mangrove areas. Since the 1980s, Sri Lanka has been systematically removing mangrove ecosystems especially in the North western and Eastern parts of the the country, to make way for aquaculture projects. Pollution, river diversions and construction of barrages are affecting the vibrancy of all life forms in mangrove ecosystems including the migratory birds. In recent years, the algal blooms recorded in key estuaries are noteworthy as they produce toxins harmful to aquatic organisms and all other users of water. At present, attempts to restore mangroves, specially in abandoned shrimp farms and salterns, will enable us to expand the mangrove cover. This is essential as coastal fisheries, aesthetics and coastal security are all interwoven with healthy mangrove stands. As citizens of Sri Lanka, we now need to be empowered both with knowledge and right attitudes to protect these boggy, smelly vegetation that is so important for our survival as islanders.



Listen to the talk



Highlights of the GCE A/L Biology Workshop for Teachers

The Institute of Biology Sri Lanka had conducted a two-day online workshop for GCE Advanced Level Biology Teachers on the 4th and 5th March 2021. The workshop was a real success with 113 participants from all over the country. Newly added areas to the Advanced Level biology syllabus were discussed by the renowned academics from National Universities.

- Immunology - Snr. Prof. Preethi Udagama
- Various techniques used in DNA analysis - Prof. Jagathpriya Weerasena
- Epigenetics, Animal and Plant breeding - Dr. Gayani Galhena
- Microbiology - Dr. Vayanga Rathnayake
- DNA recombination - Prof. Sanath Hettiarachchi and Dr. Hiruni Haraischandra



International Biology Olympiad (IBO) Challenge 2021

Four students selected to participate IBO Challenge 2021

Selection examination to select four students to participate International Biology Olympiad (IBO) Challenge 2021 was held as an online examination on 29th April, 2021 and following four candidates who scored highest marks were selected.

1. Sumadu Senadeera, St Joseph's Balika, Keglle
2. Methma Wijesinghe, Sangamittha Balika, Galle
3. Pamoda Perera, Ananda College, Colombo
4. Ruchini Niwarthana, Pushpadana Girls' College, Kandy

Twelve Gold and Silver medalists of Sri Lankan Biology Olympiad participated this competition, after first round of training sessions. These four students will be trained by the help of IOBSL resource persons from University of Colombo, Sri Jayewardnepura and Kelaniya, and they will participate IBO Challenge 2021, which is to be held in Portugal from 19th to 22nd July, as an online competition.



Getting the ethical clearance for your biology-related projects

The Institute of Biology has established an Ethics Review Committee (ERC IOBSL) for granting ethical clearance to Biology-related projects. The ERC IOBSL will grant ethical clearance for biology-related research projects involving animals both in the laboratory and in the field. Where research involves human subjects, No ethical clearance will be granted for clinical research. 'Clinical research' here is defined (but is not limited to) as research involving the taking of live samples by the researcher, directly from a human subject, and using an invasive procedure.

Guidelines and the application form are available at

<https://www.iobsl.org/ehitcal-review/ethical-review-committee>



Announcements

Inter-University Biology Quiz Competition 2021

With the aim of extending the scope of promoting and popularizing education in biology, IOBSL conducts annually a national level Biology Quiz Competition, for undergraduates of the State Universities.

IOBSL is organizing its 4th consecutive Biology Quiz Competition in year 2021. Stage I of the competition will be conducted as an online examination (MCQ paper) on 2nd May 2021. Participants will be chosen for Stage II of the competition based on marks obtained for the Stage I examination. Stage II will be held as a live quiz competition in June, 2021.

Winners will be awarded with certificates and cash prizes.

Champion	Rs 20,000/=
1 st Runner-up	Rs 10,000/=
2 nd Runner-up	Rs 5,000/=

For further details visit IOBSL website <http://www.iobsl.org/>



Announcements

Inter-University Biology Quiz Competition 2021

With the aim of extending the scope of promoting and popularizing education in biology, IOBSL conducts annually a national level Biology Quiz Competition, for undergraduates of the State Universities.

IOBSL is organizing its 4th consecutive Biology Quiz Competition in year 2021. Stage I of the competition will be conducted as an online examination (MCQ paper) on 2nd May 2021. Participants will be chosen for Stage II of the competition based on marks obtained for the Stage I examination. Stage II will be held as a live quiz competition in June, 2021.

Winners will be awarded with certificates and cash prizes.

Champion Rs 20,000/=

1st Runner-up Rs 10,000/=

2nd Runner-up Rs 5,000/=

For further details visit IOBSL website <http://www.iobsl.org/>



Inter-University Biology Quiz Competition 2021

organized by

Institute of Biology Sri Lanka (IOBSL)

Competition is conducted in two stages

Stage I - Virtual MCQ paper on 2nd May 2021
Stage II - Live quiz competition in June 2021

Winners will be awarded with certificates and cash prizes

		
Champion Rs 20,000/=	1st Runner-up Rs. 10,000=	2nd Runner-up Rs. 5,000/=

Registration fee Rs.300/=

For registration [CLICK HERE](https://forms.gle/gcmx6snS1LqcfKwC6)  <https://forms.gle/gcmx6snS1LqcfKwC6>

Registration deadline 31st March 12 midnight 2021



For more information visit:
<http://www.iobsl.org/>



Upcoming Workshop

A three-day workshop on “Arthropod-borne diseases/ infestations & identification” will be organized by the IOBSL from 21st to 23rd June, 2021, to disseminate knowledge on epidemiology, disease prevalence, clinical presentations.



ARTHROPOD-BORNE DISEASES/ INFESTATIONS & IDENTIFICATION OF THEIR VECTORS & PARASITES

3 DAY WORKSHOP

Introduction:

This is a 3 day workshop that covers epidemiology, disease prevalence, clinical presentations, identification of disease vectors and parasites of arthropod-borne diseases (non-mosquito).

Target audience:

Academia, Entomologists, Medical/ Research Scientists, Vector and disease control managers, Postgraduate/undergraduate students studying Medical Parasitology and Entomology, School leavers targeting higher education in Medicine/Science.

Dates - 21-23 June 2021

Course Fee - Rs. 15,000.00

Course content-

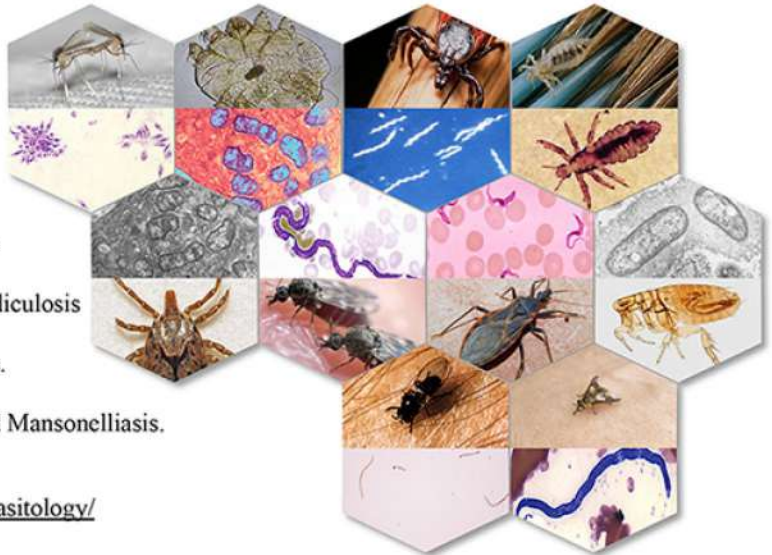
Day 1: Scrub typhus, Flea-borne diseases and Lyme disease.

Day 2: Leishmaniasis, scabies, pediculosis trypanosomiasis, diseases transmitted by lice.

Day 3: Onchocerciasis, Loiasis and Mansonelliasis.

Application form available at -
<https://medicine.kln.ac.lk/depts/parasitology/>

Venue - Department of Parasitology,
Faculty of Medicine, University of Kelaniya.



Organized by:

 **Department of Parasitology**
Faculty of Medicine, University of Kelaniya
P.O Box 6, Thalagolla Road,
Ragama, Sri Lanka

 **Institute of Biology**
Sri Lanka

Payment mode:

Payment should be credited to **People's bank account No. 316100194564819 at the Ragama branch** in favour of **Bursar, Faculty of Medicine, University of Kelaniya.**

Scanned copy of bank slip or online deposit and the duly filled application form should be sent to n.gunathilaka@kln.ac.lk on or before 17th of June 2021.

For the further information please contact,

Prof. Nayana Gunathilaka
Workshop Coordinator
Department of Parasitology, Faculty of Medicine, University of Kelaniya,
Tel : +94 713906822, Fax : +94 11 295833, E.mail : n.gunathilaka@kln.ac.lk



Research highlights from our eminent scientists

***Moringa oleifera* (Murunga): A Miracle Food Crop on the Earth**

Dr. Kaushalya Abeysekera,

Department of Biosystems Technology, Faculty of Technology, University of Sri Jayewardenepura.

kaushalyaabey@sjp.ac.lk

Dr. Kanchana Abeysekera,

Department of Agricultural Technology, Faculty of Technology, University of Colombo.

kanchana@at.cmb.ac.lk

Moringa oleifera belongs to the family Moringaceae is one of the most useful tropical trees world over. It is native to the sub-Himalayan region of the Northwest India and widely cultivated in India, Africa, Thailand, Burma, Singapore, West Indies, Sri Lanka and Mexico. Almost every part of the plant especially leaves, pods and seeds are of value in food and medicine and therefore this plant is known as the "Miracle Tree", "Super Food" and "Mother's Best Friend" on the earth.

Moringa is one of the richest sources of dietary essential nutrients and is said to provide 25 times more iron than spinach, 17 times more calcium than milk, 15 times more potassium than bananas, 10 times more vitamin A than carrots, 9 times more protein than yoghurt and 7 times more vitamin C than oranges. Thus, increase consumption of Moringa especially Moringa leaves among different communities worldwide is currently identified as an effective remedy to combat malnutrition.

Apart from the nutrients it contains, this plant has long been recognized in the Ayurvedic and Unani systems of medicine for treating anemia, diarrhea, swelling, headaches, joint pains, cough, sore throat, fever, pimples, skin infections, blackheads, psoriasis, bronchitis, respiratory disorders, asthma, tuberculosis, intestinal worms, chest congestion, conjunctivitis, eye infections, ear infections, blood pressure, hysteria, anxiety, scurvy, semen deficiency, lactation and diabetes. Scientifically Moringa is reported for diverse pharmacological activities namely antioxidant, anti-diabetic, anti-tumor, anti-cancer, anti-inflammatory, antimicrobial, antihypertensive, antispasmodic, antiulcer, antifertility, radioprotective, analgesic, diuretic, cholesterol lowering, hepatoprotective and cardioprotective activities. These health benefits are owing to the presence of a variety of phytochemicals namely rhamnase, glucosinolates, isothiocyanates, carotenoids, sterols, glycosides, alkaloids, flavonoids, phenolics and etc. in various parts of the Moringa plant.

Industrial Technology Institute (ITI) is a pioneer multidisciplinary Research Institute in Sri Lanka and I was able to initiate research on Moringa at the Herbal Technology Section when I was at the ITI in early 2011. Diverse nutritional and medicinal properties of Moringa leaves collected from different locations in the country were studied. Findings of these research studies clearly showed that Moringa leaves possessed diverse nutritional and health benefits. Further, value added Moringa leaf-based products namely a Moringa tea, leaf powder and skin whitening and anti-aging Moringa cream were developed and interestingly technology of Moringa leaf powder was transferred. The research activities were led by myself and the team included Dr. G.A.S. Premakumara, Dr. W.K.S.M. Abeysekera and Dr. P. Ranasinghe and was funded by the Treasury, Sri Lanka.

Considering all, *Moringa oleifera* has enormous nutritional and medicinal properties and therefore, it is necessary to promote enhance consumption, future rigorous studies directing towards the isolation and characterization of bioactive compounds and commercialization of value-added products that can be used in treating various nutritional and medical ailments.



Research highlights from our eminent scientists

***Cinnamomum zeylanicum* Blume (Ceylon cinnamon): A Multifaceted Medicinal Spice**

Dr. Kaushalya Abeysekera,

Department of Biosystems Technology, Faculty of Technology, University of Sri Jayewardenepura.

kaushalyaabey@sjp.ac.lk

Dr. Sirimal Premakumara,

Department of Basic Science and Social Science, Faculty of Nursing, University of Colombo.

sirimal@dss.cmb.ac.lk

Cinnamon is one of the first traded, most popular, expensive and useful spices world over. Among the four most economical *Cinnamomum* species [*C. zeylanicum* Blume (*C. verum* Presl), *C. aromaticum* Presl, *C. burmannii*, *C. loureiroi*], Ceylon cinnamon (*C. zeylanicum* Blume) is called as the 'true cinnamon' in the world. The cinnamon of commerce in Sri Lanka entirely depends on the true cinnamon. It has unique characteristics in terms of taste, aroma and phytochemical composition and contains least amount of coumarin, a known carcinogenic compound found in cinnamon. Sri Lanka holds the monopoly for true cinnamon with 90% market share in the international trade and the second highest export earnings among most economical *Cinnamomum* species worldwide.

Besides being a spice in nature, Ceylon cinnamon has a long history of being used in the traditional medical system of Sri Lanka and in Ayurveda. Some of these traditional medicinal claims have been scientifically validated and Ceylon cinnamon is now reported to have various biological activities namely antioxidant, anti-diabetic, anti-lipidemic, anti-inflammatory, anti-cancer, anti-microbial, anti-parasitic, anti-nociceptive, immunomodulatory, hepato-protective, wound healing, anti-secretagogue, anti-gastric ulcer, enhance memory performances and inhibitory effects on osteoclastogenesis. Those reported health benefits are mostly for bark extracts of Ceylon cinnamon and few reports are still available for bark and leaf essential oils. These health benefits are owing to the presence of a variety of phytochemicals namely cinnamaldehyde, cinnamic acid, cinnamyl alcohol, 1:8-Cineole, eugenol, caryophyllene, linalool, terpenoids, and polyphenolics particularly flavonoids, proanthocyanidins and etc.

Industrial Technology Institute (ITI) as a pioneer multidisciplinary Research Institute in Sri Lanka initiated a comprehensive research study on the health benefits of Ceylon cinnamon in early 2011. Findings of this study clearly showed that both alba grade bark and leaf of Ceylon cinnamon possess a wide range of medically important bioactive properties namely antioxidant (DPPH, ABTS, ORAC radical scavenging, FRAP), anti-diabetic (anti-amylase, anti-glucosidase, anti-acetyl and anti-butyryl cholinesterase, anti-glycation and glycation reversing), antilipidemic (anti-HMG CoA reductase, anti-lipase, anti-cholesterol esterase, cholesterol micellization inhibitory activity and bile acids binding activity), anti-cancer (growth inhibition and cytotoxicity against human cancer cell lines namely MCF7, HePG2, AN3CA and glutathione-S-transferase inhibitory activity), anti-inflammatory (effect on prostaglandin and cytokine production, red blood cell membrane stabilization, COX1 and COX2 inhibition) anti-aging (anti-elastase, anti-collagenase, anti-hyaluronidase and anti-tyrosinase) and anti-microbial activities via multiple mechanisms. Further, this study was able to identify range of phytochemicals in bark and leaf of Ceylon cinnamon. The research activities were conducted by myself when I was at the ITI and research team included Dr. G.A.S. Premakumara and Emeritus Professor W.D. Ratnasooriya.

Considering above facts, it can be concluded that true cinnamon possesses numerous health benefits and can be effectively used in formulating value added health products such as functional foods and nutraceuticals in treating various medical ailments.

BIO NEWS is sponsored by Analytical Instruments (AI), a supplier of the latest technologies and products for the Medical, Analytical and Agriculture sectors in Sri Lanka.



Published by Institute of Biology, Sri Lanka

BIO NEWS Editorial Committee:

Dr. I.A.J.K. Dissanayake (Editor-in-Chief)

Prof. H.S. Amarasekera

Dr. K.W. Samarakoon

Dr. H.D.D. Bandupriya

Contact us: jobsnewsletter@gmail.com

Sponsored by

Analytical Instruments (PVT) LTD

100, Elvitigala Mawatha, Colombo 08

Sri Lanka

Hot Line : + 94 11 2639000

Fax : + 94 11 2699282