



2016 - Supplementary Issue - vol. 1



25° SILAE CONGRESS

“Paolo Ruffini”

11th - 15th September 2016
Modena, Italy

Abstract Book



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Pharmacologyonline is the journal of SILAE - Società Italo-LatinoAmericana di Etnomedicina

<http://www.silae.it>

<http://pharmacologyonline.silae.it>

version 1.3
13/01/2017 07:46:55

ISSN: 1827-8620

WELCOME TO SILAE 2016

As President of SILAE 2016 and Director of the Department of Life Science at the University of Modena and Reggio Emilia, I have the privilege to welcome all participants to the XXV Italo-Latinamerican Congress of Ethnomedicine, which will take place in Modena from September 11th to September 15th 2016.

The overall goal of the meeting is to shed light on the importance of medicinal plants, and to disclose, by innovative models and techniques, new potential applications for treatment or prevention of diseases. Special emphasis will be given to scientific breakthroughs in the area of traditional medicine unveiling new using perspectives of native plants that have been poorly studied so far.

Thanks to the contribution of worldwide recognized experts, a multidisciplinary approach will be the *file rouge* connecting sessions on anthropology, ethnobotany, phytochemistry, food chemistry and nutrition, green and analytical chemistry, pharmacognosy and medicinal chemistry, experimental and clinical studies on natural products within a unique and exciting congress.

As previous meetings of the Italo-Latinamerican Society of Ethnomedicine, this conference will represent an excellent opportunity to establish new scientific partnerships, to share results from the most recent studies in the field of traditional medicine and to update the current knowledge and applications of bioactive and/or natural compounds.

Furthermore, the meeting will also offer the chance to spend some spare time in a region universally known as the land where art, culture and tradition are fused with the passion for motors, music and cuisine.

Prof. Daniela Quaglino

The 25th SILAE Congress is dedicated to the memory of Paolo Ruffini, one of the scientific personalities that along the past centuries linked his life to the history of our University. He developed many interests and was capable of solving scientific problems with multidisciplinary approaches. His broad concept of science was sustained by the same *file rouge* which will connect, in the next few days, researches from different countries, different cultural backgrounds and different technical expertise and skills through the numerous scientific sessions of this 25th Ethnomedicine Congress. Starting from studies aiming to understand the present from the experience of the past, we will search for new compounds with high-throughput techniques disclosing innovative properties and characteristics to be used for clinical applications and sustainable food chains.

Paolo Ruffini (Valentano, 1765 - Modena 1822) is recognized as an eminent Italian mathematician and physician, who made numerous studies on equations anticipating the algebraic theory of groups. At the University of Modena he studied medicine, philosophy, literature, and mathematics, including geometry and infinitesimal calculus. Ruffini obtained his degree in philosophy and medicine in 1788 and, soon afterwards, in mathematics. He gained a permanent position at the University of Modena as a professor of mathematics, although, never forgetting his passion for health issues, he received in 1791 a license to practice medicine from the Collegiate Medical Court of Modena.



Paolo Ruffini

Following the conquest of Modena by Napoleon Bonaparte, Ruffini was barred from teaching and public office, but in 1814, after Napoleon's defeat, Francesco IV appointed Ruffini as Rector for life and, at the same time, professor of Practical Medicine and Applied Mathematics. During the typhus epidemic of 1817 he sacrificed himself for his citizens and, although he recovered, he never regained his strength.

As a mathematician, Ruffini's name is inseparably associated with the proof of the impossibility of solving algebraically the quintic equation, having written several treatises on this subject. He also published an important medical dissertation on typhus ("Memoria sul tifo contagioso"), dealing with symptoms and treatment of the disease on the basis of his own experience. His scientific and medical background lead him to apply a mathematical outlook to philosophical questions as in "Della immaterialità dell'anima", in which he enunciated the "theorem" stating that a being endowed with the faculty of knowledge is necessarily immaterial.

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Program

September 11, 2016

15.00 • Registration

17.00 • Opening Cerimony

Lectiones Magistrales

Chairs: Quaglini D. and Rastrelli L.

18.00 • **Chocarro ML. (Spain)**, Plants and people: a long history of human-environment interaction through archaeobotanical research

18.45 • **Duncan S. (United Kingdom)**, The impact of diet, pre- and probiotic strategies on gut microbiota composition and health

19.30 • Welcome reception

September 12, 2016

Session 1 • Archeobotany and Ethnobotany

Chairs: Vit P. and Mercuri AM.

9.00 • **Invited Lecture:**

Caneva G. (Italy), Plant patterns for ethnobotanical food and nutraceutical uses: the case study from traditional villages of Bali (Indonesia)

9.30 • **Re T. (Italy)**, Material and immaterial constitutive elements of healing sites - The Mayantuyacu case study in the Peruvian Amazon

9.45 • **Mariotti MG. (Italy)**, The role of familiar gardens in preserving the ethnobotanical knowledge of a Peruvian native community

10.00 • **Costa RC. (Brazil)**, Biodiversity Use: Productive Chain and Ethnoknowledge (Itacoatiara, Amazonas-Brasil)

10.15 • **Vit P. (Venezuela)**, Biodiversity of *Meliponini* bees in Ecuador: an intangible heritage to protect genuine honey

10.30 • **Mercuri AM. (Italy)**, Pollen as indicator of human behaviour

10.45 • **Crescenti C. (Italy)**, A preliminary study of methodologies for an Investigation about Ichthyology and gastronomy in classical sources

11.00 • Coffee and Poster Session 1

Chairs: Costa RC. and Castelletti L.

11.45 • **Castelletti L. (Italy)**, The paleonutrition from 500 BC to 500 AD: case studies between the Adda and Ticino river (Northern Italy)

12.00 • **Riso FM. (Italy)**, Not only for beauty: three ritual plants in classical times

12.15 • **Martinelli E. (Italy)**, *Persicaria lapathifolia* (*Polygonum lapathifolium*; pale smartweed) seeds as food during the Iron Age South of the Alps? New data from the site of Padova-S. Eufemia (NE-Italy)

12.30 • **Moreno MI. (Colombia)**, Wayuu traditional medicine and the use of medicinal plants in the control and

prevention of hyperglycemia

- 12.45 • **Levuok Mena KP. (Colombia)**, Ethnopharmacological study of some plants traditionally used as antidiabetic in the Colombian Pacific region.

13.00 • **Lunch**

Session 2 • Phytochemistry

Chairs: Haba H. and Benvenuti S.

14.30 • **Invited Lecture:**

Appendino G. (Italy), *Helichrysum italicum*: waking up the sleeping giant of mediterranean herbal medicine

15.00 • **Borges WS. (Brazil)**, Alkaloids from *Hippeastrum canastrense* J. Dutilh & R. S. Oliveira (Amaryllidaceae)

15.15 • **Costa R. (Italy)**, Phytochemical investigation of ethanolic extracts from *Kigelia africana* (LAM) Benth. Fruits

15.30 • **Malagon Aviles O. (Ecuador)**, Novel secondary metabolites extracted from the Ecuadorian plant *Macrocarpaea lenae* J.R. Grant

15.45 • **Coffee and Poster Session 1**

Chairs: Borges W. and Archbold R.

16.30 • **Haba H. (Algeria)**, Chemical composition and biological activities of *Helianthemum sessiliflorum*

16.45 • **Nunez CV. (Brazil)**, Proanthocyanidin A2 from *Diplotropis purpurea* leaves

17.00 • **Benkhalel M. (Algeria)**, Cycloartane glycosides from *Astragalus gombo*

17.30 • **Derita MG. (Argentina)**, Natural and semisynthetic compounds from Argentinian *Poligonum acuminatum* against human pathogenic yeasts

17.45 • **Castilho CVV. (Brazil)**, Comparative phytochemical profiles of *Lippia origanoides* grown wild and in vitro

18.00 • **Akkal S. (Algeria)**, Identification of phenolic compounds from *Carduncellus helenioides* by HPLC-ESI-MS (TOF)

18.15 • **Goleniowski ME (Argentina)**, Profile characterization of volatile compounds on wild and “in vitro” plants of *Clinopodium odorum* (Lamiaceae) using HS-SPME/GC-MS analysis

20.00 • **A glass of wine in the shadow of the "Ghirlandina"**

September 13, 2016

Session 3 • Food Chemistry and Nutrition

Chairs: Melo Ruiz V. and Plessi M.

9.00 • **Invited Lecture:**

Dugo G. (Italy), The role of the food chemist in the enhancement of the food farming chain

9.30 • **Colín Cruz MA. (Mexico)**, *Capsicum annum* seed as source of food: physicochemical and microbiological characterization

9.45 • **Amaretti A. (Italy)**, The peptide profile of Parmigiano Reggiano cheese: evolution through the gastrointestinal transit and utilization by bifidobacteria and lactobacilli

10.00 • **Ramírez Aristizabal LS. (Colombia)**, Evaluation of the antioxidant capacity and content of polyphenols obtained from tea (*Camellia Sinensis*) of four brands sold in Colombia by extraction at room

temperature

10.15 • **Gonçalves Rodrigues R. (Brazil)**, Chemical characterization of Jatobá: oil, fruit and flour

10.30 • **Coffee and Poster Session 1**

Chairs: Nunez Selles AJ. and Pulvirenti A.

12.00 • **Rossi M. (Italy)**, Polyphenols, microbiota and bifidobacteria: recent insights

12.15 • **Corradini C. (Italy)**, Characterization of fos and inulins by HPAEC-PED analyses

12.30 • **Melo-Ruiz V. (Mexico)**, Macronutrient composition of giant water bug (*Lethoserus Sp*) edible insect

12.45 • **Albergamo A. (Italy)**, Profiling of major and trace elements of the Mediterranean sepia ink inductively coupled-mass spectrometry

13.00 • **Lunch**

Session 4 • Green Chemistry and Sustainable Food Chain

Chairs: Franco L. and Rossi M.

14.30 • **Invited Lecture:**

Riva S. (Italy), Biocatalysis: the green side of chemistry

15.00 • **Silva NCB. (Brazil)**, Effects of jasmonic acid and indole-3-acetic acid in the volatile profile of *Anemia Tomentosa* in vitro plants, and aromatic fern

15.15 • **Tropea A. (Italy)**, Transformation of food agriculture waste into value added products: bioethanol and SCP

15.30 • **Gil JH. (Colombia)**, Bioconversion of alkaline hydrolysates obtained from agroindustrial waste to produce flavoring agents

15.45 • **Garcia Martinez MR. (Mexico)**, To the rescue of coffee fruit (*Coffea Arabica*) as a functional food

16.00 • **Coffee and Poster Session 2**

17.00 • A tour through the flavours of Modena

September 14, 2016

Session 5 • Analytical and Medicinal Chemistry

Chairs: Gonzales-Lavaut JA. and Quagliano D.

9.00 • **Invited Lecture:**

Wolfender JL. (Switzerland), Efficient analytical strategies for an early identification of bioactive natural products at the herbarium sample scale

9.30 • **Pellati F. (Italy)**, Metabolite fingerprinting of *Punica granatum L.* (pomegranate) polyphenols by means of HPLC-UV/DAD, ESI-MS and MS²

9.45 • **Robayo MAT. (Colombia)**, Typification of avocado fruit (*Persea americana Mill.*) cultivated in Colombia by Multivariate statistical analysis with a view towards industrialization

10.00 • **Fonseca-Bazzo YM. (Brazil)**, Validation of analytical method by HPLC-DAD for identification and quantification of caffeoylquinic acid derivatives in *Cynara scolymus L.* tablets and capsules

10.15 • **Tardugno R. (Italy)**, Essential oils: phytochemical composition, cytotoxicity and antimicrobial activity

10.45 • Coffee and Poster Session 2

Chairs: Zepeda R. and Corradini C.

- 11.45 • Osorio C. (Colombia)**, Chemical studies on *Psidium friedrichsthalianum* Nied. Fruit and their precursors
- 12.00 • Cicero N. (Italy)**, Determination of squalene in e.v.o.o by different analytical techniques
- 12.15 • Linciano P. (Italy)**, Flavonoids as a scaffold for the development of antitrypanosomatidic agents
- 12.30 • Escobar G. (Colombia)**, Synthesis and evaluation Leishmanicidal of analogues ent-Beyer-15-en-18-ol and isoesteviol
- 12.45 • Gonzalez Lavaut JA. (Cuba)**, Gangliosides N-Acetyl and N-Glicolyl GM3. Strategy to support the platform VSSP in vaccines against cancer.

13.00 • Lunch

14.30 • SILAE Assembly

16.00 • At the discovery of Modena's treasures

20.00 • Social Dinner at Palazzo dei Musei

September 15, 2016

Session 6 • Pharmacognosy

8.30 • Coffee and Poster Session 2

Chairs: Sepulveda Arias JC. and Pellati F.

- 9.30 • Invited Lecture:**
Cech N. (United States), Untargeted metabolomics to identify bioactive compounds and synergists from botanical medicines
- 10.00 • Espinoza JS. (Chile)**, Effect of secondary metabolites of Canelo bark fractions (*Drimys winteri* Forst) on the viability of *Helicobacter pylori*
- 10.15 • Machado AC. (Brazil)**, Aroeira's (*Myracrodruon urundeuva*) extract bactericidal activity and FNC1, FNC2, FNE1, FNE2 nanoparticules in *Streptococcus aureus* and *Esterichia coli* strains.
- 10.30 • Quartieri A. (Italy)**, Esters of fatty acids as alternatives or adjuvants of antibiotics in animal feed
- 10.45 • Hernández Ortega M. (Mexico)**, Effect of a mixture of allergens as oral immunotherapy on a murine model of allergen induced asthma
- 11.00 • Capataz-Tafur J. (Mexico)**, Hypoglycemic activity in vitro plants of *Azadirachta indica*
- 11.15 • Lopez O. (Spain)**, Biological assessment of *Pistacia lentiscus* extract: phytopharmacological properties
- 11.30 • Echeverri F. (Colombia)**, Do you really think antioxidants are effective and safe?

11.45 • Short Break

Chairs: Echeverry F. and Vita Finzi P.

- 12.00 • Munoz DR. (Colombia)**, Cytotoxic alkenylphenols from *Piper eriopodon* (Piperaceae)
- 12.15 • Scher R. (Brazil)**, Chemical characterization and cytotoxic effect of leaf essential oil of *Lippia gracilis* and *Lippia sidoides*
- 12.30 • Frion-Herrera Y. (Cuba)**, Comparative assessment of the apoptotic potential of Cuban and Brazilian

propolis in human laryngeal epidermoid carcinoma cells.

- 12.45 • **Martinez-Vazquez M. (Mexico)**, Masticadienonic and 3 α -hydroxy masticadiedonic acids inhibit proliferation prostate cancer in vivo and in vitro by inducing apoptosis.
- 13.00 • **Pezzani R. (Italy)**, The usefulness of oregano's phytocomplex crude extract: novel anti-proliferative effects in adrenocortical tumor cells
- 13.15 • **Montejano-Rodriguez JR. (Mexico)**, Antitumor effect of aqueous extract of *Jatropha dioica* Sessé ex Cerv lymphoma L5178Y in CD1/C mice

13.30 • **Lunch**

Session 7 • Natural Products: from basic research to clinical applications

Chairs: Quesada S. and Pellegrini M.

- 14.45 • **Invited Lecture:**
Santos-Buelga C. (Spain), Evaluation of the biological activity of phytochemicals using in vivo model organisms
- 15.15 • **Jha V. (India)**, Herbal drug Interactions and remedies: a challenging problem in therapy
- 15.30 • **Milella L. (Italy)**, *Echinacea angustifolia* DC. extract quali-quantitative analysis and fibroblast cell growth evaluation
- 15.45 • **Casamayor Laime Z. (Cuba)**, Effect of *Spirulina platensis* in patients with metabolic syndrome
- 16.00 • **Waksman N. (Mexico)**, *Turnera diffusa* (Damiana) as source of hepatoprotective and hypoglycemic compounds
- 16.15 • **Russo R. (Italy)**, ROSSOPURO™: a red yeast rice extract for the management of hypercholesterolemia
- 16.15 • **Rosado JR. (Colombia)**, Effects of Paralejo (*Curatella americana* L.) in the expulsion of kidney stones, using traditional methods
- 16.45 • **Short Break**

Chairs: Malagon Aviles OG. and Romussi G.

- 17.00 • **Round Table:**
Nunez Selles AJ. (Rep. Dominicana), Antioxidant therapies through signaltransduction and gene regulatory pathways
- 17.20 • **Sepulveda-Arias JC. (Colombia)**, Nrf2-mediated antioxidant activity of *T. rosea* (Bertol) DC and *T. chrysanth* (Jacq) G. Nicholson extracts
- 17.30 • **Quesada S. (Costa Rica)**, Antioxidant activity and apoptosis induction assessed by flow cytometry of a *Bactris guineensis* polyphenol extract
- 17.40 • **Plazas EA. (Colombia)**, In Vitro antioxidant and anticholinesterase activities of Colombian plants as potential neuroprotective agents
- 17.50 • **Bello-Martinez J. (Mexico)**, Antioxidant and antiproliferative activity of *Haematoxylom brasiletto* Karst
- 18.00 • **Kadri F. (Algeria)**, Antioxidant, hypoglycemic and antimicrobial activity of two Algerian tannin sorghums crud extracts correlated with polyphenols and tannin contents
- 18.15 • **Closure of the Meeting**
- 18.30 • **Farewell party looking forward to the next meeting**

POSTER SESSION 1

September 12th – 13th

(Posters should be mounted in the afternoon of September 11 and removed in the afternoon of September 13)

1. **NUTRACEUTIC EFFECT OF CUETLAS ARSENURA ARMIDA C EDIBLE INSECT LOCAL FOOD AT IXCAQUIXTLA, MEXICO.** Melo-Ruiz V, Quirino-Barreda T, Macin-Cabrera S, Sánchez-Herrera K, Díaz-García R. (Mexico)
2. **ARGENTINIAN MEDICINAL PLANTS AGAINST POSTHARVEST PHYTOPATHOGENICS FUNGI ISOLATED FROM ORANGES, STRAWBERRIES AND PEACHES.** Di Liberto MG, Svetaz LA, Derita MG. (Argentina)
3. **CACAO CO-PRODUCTS: AN ALTERNATIVE TO OBESITY CONTROL.** Hidalgo-Pérez Tejada El, Aguirre-López AE, Mena-López JA, Plazola-Jacinto CP, Valadez- Carmona L, Ortiz-Moreno A, Hernández- Navarro MD, Ceballos-Reyes GM, Hernández-Ortega M. (Mexico)
4. **BOTRICIDE ACTIVITY OF DRIMENOL AND DERIVATIVES.** Carrasco H, Olea A, Silva E, Robles-Kelly C, Martínez R, Sedan A, Thomas M. (Chile)
5. **A NEW IRIDOID AND OTHER CONSTITUENTS FROM PTEROCEPHALUS NESTORIANUS NAB.** Abdullah FO, Hussain FHS, Vita Finzi P, Vidari G. (Iraq, Italy)
6. **BOTRICIDE ACTIVITY OF EUGENOL AND DERIVATIVES.** Carrasco H, Olea A, Silva E, Barraza D, Robles-Kelly C, Martínez R, Sedan A, Thomas M. (Chile)
7. **THE LONG HISTORY OF PASTORALISM IN SOUTHERN ITALY AS SHOWN BY ARCHAEOPALYNOLOGY.** Florenzano, A. (Italy)
8. **MULTIDISCIPLINARY INVESTIGATION ON EARLY-MID HOLOCENE WILD CEREALS FOUND AT TAKARKORI (CENTRAL SAHARA).** Fornaciari R, Arru L, Mercuri AM, di Lernia S. (Italy)
9. **BIOACCESSIBILITY AND BIOACTIVITY OF POLYPHENOLS EXTRACTED FROM SIX CHERRY CULTIVARS.** Martini S, Tagliazucchi D, Conte A. (Italy)
10. **INFLUENCE OF THE GELATO BASE FORMULATION ON THE SURVIVAL OF LACTOBACILLUS CASEI STRAINS DURING GELATO PRODUCTION AND STUDY OF THEIR IMPACT ON THE RHEOLOGICAL PROFILE.** Chiari P, Belmonte AM, Pulvirenti A, Giudici P. (Italy)
11. **HERBAL REMEDIES IN THE NORTH OF ALGERIA: POTENTIAL ADVERSE INTERACTIONS WITH ANTICANCER AGENTS.** Zitouni H, Benguedda FZB, Benhamida W, Benalla L, Baira M, Toumi H. (Algeria)
12. **PORTULACA OLERACEA L. IN THE ERA OF GLOBALISATION: A SPECIES OF GREAT NUTRACEUTICAL VALUE.** Mantovani V, Buldrini F, Bosi G, Volpi N. (Italy)
13. **ANTIOXIDANT ACTIVITY AND APOPTOSIS INDUCTION ASSESSED BY FLOW CYTOMETRY OF A BACTRIS GUINEENSIS POLYPHENOL EXTRACT.** Quesada S, Quesada MS, Azofeifa G, Pérez AM. (Costa Rica)

14. **ASSESSMENT OF THE HEAVY METAL CONTENT IN AROMATIC SPICES BY INDUCTIVELY COUPLED PLASMA-MASS SPECTROMETRY.** Bua DG, Annuario G, Albergamo A, Bartolomeo G, Cicero N, Dugo G.mo (Italy)
15. **ANTI-INFLAMMATORY EFFECT AND PHYTOCHEMICAL SCREENING OF *FICUS PERTUSA*.** Fabian Medina D, Orejon Gomez, Herrera Hernández N. (Perù)
16. **VISCERAL ADIPOSE TISSUE REDUCTION THROUGH CACAO CO-PRODUCTS CONSUMPTION.** Hidalgo-Pérez Tejada EI, Valadez-Carmona L, Plazola-Jacinto CP, Hernández-Ortega M, Ceballos-Reyes GM, Ortiz-Moreno A. (Mexico)
17. **ANTIMALARIAL ACTIVITY OF XANTHONES ISOLATED FROM *GARCINIA MANGOSTANA*.** Quiñones W, Echeverri LF, Robledo SM, Torres LF, Gil JF, Escobar GA, Archbold R. (Colombia)
18. **UNCOVERING ARTIFICIAL HONEYS FROM ECUADORIAN MARKETS.** Vit P, González I, Maza F. (Venezuela, Ecuador)
19. **ANTI-INFLAMMATORY SCREENING OF PLANT EXTRACTS USED IN FOLK MEDICINE OF COLOMBIAN CARIBBEAN COAST.** Castro JP, Ocampo YC, Mejia NM, Bolívar S, Díaz F, Franco LA. (Colombia)
20. **BIOGUIDED FRACTIONATION OF *TRICHILIA HIRTA* SEEDS EXTRACT WITH CYTOTOXIC ACTIVITY AGAINST A BREAST CANCER CELL LINE.** Caro D, Ocampo Y, Bolivar S, Diaz F, Aristizábal FA, Franco LA. (Colombia)
21. **CAPTURING THE DIVERSITY OF FUNGAL POPULATION IN HUMAN COLONIC MICROBIOTA THROUGH CULTURE-DEPENDENT AND INDEPENDENT APPROACHES.** Gozzoli C, Raimondi S, Somone M, Orsi CF, Peppoloni S, Blasi E, Cavalieri D, Rossi M. (Italy)
22. **SUBDOMINANT BUT CONSTANT *LACTOBACILLUS* POPULATION IN THE HUMAN GUT MICROBIOTA AS REVEALED BY WHOLE GENOME SEQUENCING.** Rossi M, Martinez-Martinez D, Amaretti A, Ulrici A, Raimondi S, Moya A. (Italy, Spain)
23. **PRELIMINARY STUDY OF PESTICIDE RESIDUES IN PETITGRAIN DISTILLATED FRACTIONS.** Bartolomeo G, Rando R, Tropea A, Cicero N, Recupero S, Dugo G.mo (Italy)
24. **PRODUCTION OF SINGLE CELL PROTEIN BY *SACCHAROMYCES CEREVISIAE* FROM FOOD WASTE.** Gervasi T, Cicero N, Russo E, Naccari C, Dugo G.mo (Italy)
25. **DEVELOPMENT OF A NEW MULTIRESIDE METHOD TO ANALYZE 67 CONTAMINANTS IN FOOD WASTE BY GC-MS/MS.** Fede MR, Di Bella G, Potortì AG, Lo Turco V, Mottese A, Dugo G. (Italy)
26. **MOLECULAR CHARACTERIZATION OF HYBRID STRAINS OF *PLEUROTUS* BY ISSR.** Aguilar DL, Valencia TG, Zarate SPB, Villanueva AR, Guadarrama MPC, Sánchez HA, Garín AME. (Mexico)
27. **SERJANIC ACID OBTAINED FROM *CECROPIA TELENITIDA* REGULATES BLOOD LIPID LEVELS AND REDUCES THE EXPRESSION OF PRO-INFLAMMATORY CYTOKINES.** Balcazar N, Guillen A, Muñoz DL, Ramirez-Pineda JR, Montoya G, Acín S. (Colombia)

28. **PRELIMINARY STUDY ON THE PHENOLYC PROFILE OF BOLETUS AEREUS.** Pellizzeri V, Lo Turco,V, Di Bella G, Saitta M, Gervasi T, Dugo G.mo (Italy)
29. **ETHNOBOTANICAL INVESTIGATION IN THE ITALIAN CENTRAL ALPS: HEALTH BENEFITS FROM EDIBLE PLANT SPECIES.** Vitalini S, Puricelli C, Iriti M. (Italy)
30. **EFFECT OF COMBINED ADMINISTRATION OF ARTHROSPIRA (SPIRULINA) MAXIMA AND WASTE OF COCOS NUCIFERA L. ON LIPID PROFILE IN MALE MICE FED WITH HYPERCHOLESTEROLEMIC DIET.** García GE, Martínez E, Chamorro G, Ortíz A, Garduño L. (Mexico)
31. **BIOLOGICAL ACTIVITIES OF LAVANDULA ANTINEAE MAIRE. ENDEMIC SPECIES IN ALGERIA.** Krinat S, Dob T, Lamari L, Ksouri A, Metidji H, Nouasri A. (Algeria)
32. **PRIMARY SCREENING OF BIOLOGICAL ACTIVITIES IN EXTRACTS OBTAINED FROM AROMATIC AND MEDICINAL PLANTS GROWN IN COLOMBIA.** Flechas MC, Barrios SX, Cuadros AJ, Stashenko EE, Fuentes JL, Ocazone RE (Colombia)
33. **ETHNOBOTANICAL SURVEY ON THE USE OF TRADITIONAL MEDICINE FOR THE TREATMENT OF OSTEOARTHRITIS IN ORAN, ALGERIA.** Lardjam A, Mazid R, Sadaoui A, Bensahaila S, Khalfa, Khitri W, Azaiz A, Djebli N, Toumi H. (Algeria)
34. **GREEN SYNTHESIS OF NEW LIGANDS STARTING FROM CHIRAL p-HALOGENATED AMINES.** Hernández Téllez MG, Moreno Morales GE, Gutiérrez Argüelles D, Portillo Moreno Ó, Gutiérrez Pérez R. (Mexico)
35. **GREEN SYNTHESIS OF A NEW CHIRAL LIGAND HALOGENATED AND ITS Pd(II) COMPLEX.** Hernández Téllez MG, Moreno Morales GE, Gutiérrez Argüelles D, Portillo Moreno Ó, Gutiérrez Pérez R. (Mexico)
36. **EFFECTIVENESS AND SAFETY OF NUTRISOL AS NUTRITIONAL SUPPLEMENT IN THE TREATMENT OF ADOLESCENTS WITH NUTRITIONAL DEFICIENCY.** González S, Domínguez MI, Casamayor Z, Hernández B, Conde E, Leal A, Filgueira I, Agramonte G, Casas MJ, Povea E, Hevia D, Díaz M, Álvarez B, Pérez IM, Esplugan A, Bejerano CJ, Albertine M. (Cuba)
37. **ANTI-STAPHYLOCOCCAL ACTIVITY IN VITRO AND IN VIVO OF ZINNIA PERUVIANA. HISTOLOGICAL STUDY.** Echenique DR, Mattana CM, Laciari, AL, Aguilera Merlo C, Cruceño AM, Satorres SE. (Argentina)
38. **AZORELLA TRIFURCATA AND ZINNIA PERUVIANA EXTRACTS: ACTIVITY AGAINST CLINICAL ISOLATES STAPHYLOCOCCUS AUREUS.** Echenique DR, Mattana CM, Laciari AL, Alcaráz LE, Satorres SE. (Argentina)
39. **ANTIPROLIFERATIVE ACTIVITY ON HUMAN PROSTATE CELLS OF ESSENTIAL OILS OF THREE LEBANESE SALVIA SPECIES.** Russo A, Cardile V, Graziano ACE, Formisano C, Avola R, Arnold NA, Senatore F, Rigano D. (Italy, Lebanon)
40. **ANTIMICROBIAL PROPERTIES OF GARLIC (ALLIUM SATIVUM L.) AND ONION (ALLIUM CEPA L.) EXTRACT ON COMMON CARP (CYPRINUS CARPIO) RESTRUCTURED MEAT DURING STORAGE IN 4 °C.** Dublán-García O, Rodríguez-Quiroz ML, Gómez-Oliván LM, López-Martínez LX, Díaz-Bandera D, Cira-Chávez LA, Hernández-Navarro MD, Jáuregui-Rodríguez B. (Mexico)
41. **EFFECT OF CHEMICAL COMPOUNDS AGAINST BACTERIAL BIOFILMS UNDER MONOSPECIES AND DUAL-SPECIES CONDITIONS.** Mohamed AM, Satorres SE, Novoa RE, Cifuentes DA, Mattana CM. (Argentina)

42. **EVALUATION OF GENOTOXIC ACTIVITY OF THREE AQUEOUS EXTRACTS OF NATIVE PLANTS FROM ARGENTINA.** Mohamed AM, Cangiano MA, Alcaráz LE, Satorres SE, Laciari AL, Mattana CM. (Argentina)
43. **MEDICINAL PLANTS OF COLOMBIA WITH POTENTIAL FOR TREATMENT INFECTIOUS DISEASES.** Hernández-Rodríguez P, Pabón LC, Rodríguez MF. (Colombia)
44. **INHIBITORY CAPACITY OF AQUEOUS OREGANO EXTRACT (*ORIGANUM VULGARE* L.) ON MICROORGANISMS (*S. AUREUS*, *E. COLI* AND *SALMONELLA TYPHIMURIUM*) AND IT'S EFFECT ON THE SHELF LIFE OF A GEL-TYPE MADE OF PROTEIN FROM GIANT SQUID (*DOSIDICUS GIGAS*).** Dublán-García O, López-Medina FA, Gómez-Oliván LM, López-Martínez LX, Díaz-Bandera D, Cira-Chávez LA, Hernández-Navarro MD, Jáuregui-Rodríguez B. (Mexico)
45. ***ERYSIMUM CRASSIPES* AS NEGLECTED MEDICINAL PLANT: STORAGE AT EARLY BRONZE AGE KÜLLÜOBA/TURKEY.** Çizer O, Guse J. (Germany)
46. **LEVELS OF HEAVY METALS IN OCTOPUS (*OCTOPUS VULGARIS*) FROM SOUTH TYRRHENIAN: PRELIMINARY RESULTS.** Ariano A, D'Ambola M, Vassallo, A, Smaldone G, Velotto S, Severino L. (Italy)
47. **PHYSICOCHEMICAL EVALUATION OF THE OLEORESIN FROM *COPAIFERA PAUPERA* COLLECTED SEASONALLY IN ACRE, BRAZIL.** Nakamura MJ, Vaucher AS, A.S. Siani AC, Mazzei JL, Guarino ESG, Freitas O, Ramos MFS. (Brazil)
48. **ACETIC ACID BACTERIA AND CELLULOSE PRODUCTION: STRAIN SELECTION AND POLYMER CHARACTERIZATION.** Gullo M, Zanichelli G, Sola A, Montorsi M, Messori M. Giudici P. (Italy)
49. **AMARANTH GRAIN (*AMARANTHUS HYPOCHONDRIACUS*) AS SUSTAINABLE ALTERNATIVE PROTEIN SOURCES TO MEAT.** Vilchis-Perez A, Melo-Ruiz V, García-Serralde L, Gazga-Urioste C, Diaz-García R. (Mexico)
50. **AGRONOMIC AND PHYTOCHEMICAL STUDY OF *SALVIA SCLAREA* L. SICILIAN.** Tuttolomondo T, Napoli E, Ruberto G, Leto C, Virga G, Gennaro MC, Licata M, La Bella S. (Italy)
51. **EVALUATION OF THE HYPOLIPEMIANT AND HYPOGLUCEMIANT EFFECT OF A BASE POWDER TO ELABORATE FUNCTIONAL FOOD OBTAINED FROM TOMATO PEEL (*PHYSALIS IXOCARPA*) IN MICE.** Zambrano E, Pérez G, Pérez Pastén R. (Mexico)
52. **BIOACTIVE COMPOUNDS AND ANTIOXIDANT ACTIVITY OF *ARTOCARPUS HETEROPHYLLUS* LAM.** Figueroa-Ibarra LM, Hernández-Navarro MD, Chamorro-Cevallos GA, Hernández-Ortega MM, Gil-Escamilla JO, Jáuregui-Rodríguez B, Gómez-Oliván LM, Dublán-García O, Islas-Flores H. (Mexico)
53. **ANTIOXIDANT ACTIVITY OF PORIFERANS FROM THE COLOMBIAN CARIBBEAN ROCKY COAST BY DPPH AND ABTS METHOD.** Tovar BGP, Ramírez ALS, Valle-Molinares RH, Valencia JA, Arboleda VJW. (Colombia)
54. **SESQUITERPENES AND MONOTERPENES FROM *AMMOIDES ATLANTICA* (COSS. ET DUR.) WOLF.** D'Ambola M, Boudermine S, Vassallo A, Benayache S, Severino L, De Tommasi N, Malafronte N. (Italy, Algeria)

55. **PLANT CELL CULTURE AS EXPERIMENTAL MODEL APPLIED TO THE BIOSYNTHESIS PATHWAY STUDY OF COUMARIN AND CHLOROGENIC ACID IN MIKANIA GLOMERATA (ASTERACEAE).** Aranha Netto L, Andreazza NL, Sawaya ACHF, Salvador MJ. (Brazil)
56. **BIOACTIVITY AND CHEMICAL COMPOSITION OF THE ESSENTIAL OIL FROM THE LEAVES OF ANNONA PARVIFLORA (A. ST. -HIL.) H. RAINER (ANNONACEAE).** Siqueira CAT, Aranha Netto LA, Lourenço CC, Serain AF, Mesquita JT, Tempone AG, Salvador MJ. (Brazil)
57. **ANTIMICROBIAL AND ANTIOXIDANT ACTIVITY OF SEVERAL AGRO-INDUSTRIAL WASTES FROM COFFEE AND COCOA PRODUCTION.** Ortiz AJF, Betancur P, Valle-Molinares RH, Valencia AJ, Arboleda VJW.(Colombia)
58. **EVALUATION OF ANTIOXIDANT PROPERTIES AND ACUTE TOXICITY OF CYANOBACTERIA PIGMENTS AND METHANOLIC EXTRACTS.** Galetović A, Neira I, Vega M, Ochoa P, Gallardo V, Núñez J, Seura F, Tapia C, Valdivia C, Gómez-Silva B. (Chile)
59. **ADVANCES IN KNOWLEDGE OF CHILIOTRICHUM DIFFUSUM (ASTERACEAE), A NATIVE SPECIES FROM PATAGONIA USED IN TRADITIONAL MEDICINE OF THE ONAS.** Alcalde Bahamonde SM, Weisntein--Oppenheimer C, Flores ML, Córdoba OL. (Argentina, Chile)
60. **ESI-MS AND UHPLC-MS ANALYSIS OF RESIDUES OF GREEN PROPOLIS AND EVALUATION OF THEIR ANTIOXIDANT AND ANTIMICROBIAL ACTIVITIES.** Corrêa WR, Rueda RYR, Polanco IM, Hernandez-Tasco AJ, Marinho JVN, López BGC, Prado SC, Cunha IBS, Sawaya ACHF, Salvador MJ. (Brazil)
61. **DEVELOPMENT AND CHARACTERIZATION OF ACTIVE ALGINATE-BASED EDIBLE FILMS FOR FOOD PACKAGING APPLICATIONS.** Bignardi C, Carà D, Cavazza A, Corradini C, Grimaldi M, Salvadeo P (Italy)
62. **ANTIMICROBIAL ACTIVITY OF TWO NEW TETRAHYDROQUINOLINES.** Valle-Molinares RH, Marsiglia-Lans MA, Arboleda VJW, Del Olmo-Fernandez E, Melendez-Gómez CM. (Colombia, Spain)
63. **PHENOLIC PRODUCTION AND ANTIRADICALAR ACTIVITIES OF IN VIVO PLANTS AND IN VITRO CULTURES OF SEVERAL HYPTIS SPECIES COLLECTED IN CERRADO AREA (GOIÁS, BRAZIL).** Rios RM, Silva FG, Pereira, PS, Dias AP. (Portugal, Brazil)
64. **APOPTOTIC EFFECT OF CARDENOLIDE GLYCOSIDES FROM ASCLEPIAS SUBULATA.** Robles-Zepeda RE, Velázquez C, Garibay-Escobar A, Vilegas W, Medina-Juárez LA, Gámez-Meza N, Rascón-Valenzuela LA. (Mexico, Brazil)
65. **ANTIPSORIATIC ACTIVITY OF LATIN AMERICAN NATIVE PLANTS.** Pinto NCC, Mendes RF, Silva JB, Duque APN, Castañon MCMN, Scio E. (Brazil)
66. **STUDY OF HEAVY METALS, TAA, POLYPHENOLS IN TRITICUM DURUM WHEAT SAMPLES GROUND WITH ANCIENT MILLSTONE.** Oliveri F, Brancato P, Gottuso V, Cosenza M, Pitti R, Bua DG, Annuario G, Reale S, Cicero N, Dugo G.mo (Italy)
67. **ETNOPHARMACOLOGICAL INVESTIGATION OF PLANTS USED BY THE RIVERINE POPULATION ON THE MICROREGION OF NORTH ARAGUAIA, MATO GROSSO, BRAZIL.** Ribeiro RV, Martins DTO. (Brazil)

68. **SCREENING OF ANTIBIOTIC PRODUCING ACTINOMYCETES FROM THE SEDIMENTS OF UNDISTURBED FOREST AREAS OF ASELLA, ETHIOPIA AND ITS HYPER ACTIVITY AFTER MUTATION.** Ashok Kumar P, Karpagam P. (Nigeria)
69. **CHARACTERIZATION AND EVALUATION OF SAPONINS FROM YUCCA BACCATA AGAINST GIARDIA INTESTINALIS IN VITRO.** León-Trujillo RC, Astiazarán-García H, Robles-Zepeda R, Hernández-Martínez J, Quihui-Cota L. (Mexico)
70. **CHARACTERIZATION OF ANTHOCYANINS IN BILBERRY (VACCINIUM MYRTILLUS L.) FOOD DERIVATIVES.** Benvenuti S, Brighenti V, Ranieri C, Pellati F, Bonacini C. (Italy)
71. **POLIACETILENS EXTRACTION IN DAUCUS CAROTA.** Spera DM, Napolitano TR, Venettacci N, Di Giammatteo V. (Italy)
72. **NUTRACEUTICAL PROPERTIES OF PRUNUS DULCIS EXTRACTS OBTAINED BY SUPERCRITICAL FLUID EXTRACTION.** Carlucci G, Spera DM, Anselmi A, Carlucci M, Ferrone, V. (Italy)
73. **IN VITRO POTENTIAL OF TWO LICHENS FROM DEPARTMENT TOLIMA-COLOMBIA AS ANTIOXIDANTS AND INHIBITORS OF DIGESTIVE ENZYMES.** Ortiz LT, Prieto JA. (Colombia)
74. **HEAVY-METAL BIOACCUMULATION CAPACITY OF WILD HERBACEOUS PLANTS IN THE PALERMO URBAN AREA.** Tuttolomondo T, Leto C, Virga G, Gennaro MC, Licata M, La Bella S, Gentile F, Dugo G. (Italy)
75. **CAROTENOIDS EXTRACTED FROM LYCIUM SPP PROMOTED THE ACTIVATION OF ARYL HYDROCARBON RECEPTOR.** Montesano D, Cossignani L, Scalisi G, Turco A, Simonetti MS, Blasi F. (Italy)
76. **ANTIOXIDANT CAPACITY AND PHENOL PROFILES OF SOME BEEHIVE PRODUCTS FROM UMBRIA (ITALY).** Blasi F, Cossignani L, Simonetti MS, Montesano D. (Italy)
77. **SECONDARY METABOLITES FROM CHILEAN PLANTS AND THEIR BIOLOGICAL ACTIVITY.** Alarcón JE, Cespedes CL, Muñoz E, Quiroz S. (Chile)
78. **DETECTION OF PANCREATIC LIPASE AND ACETYLCHOLINESTERASE INHIBITORS IN EXTRACTS FROM Piper cf. asperiusculum AND Piper pertomentellum BY TLC-AUTOGRAPHY METHODS.** Patiño OJ, Prieto JA, Patiño WR. (Colombia)
79. **CHEMICAL-FUNCTIONAL CHARACTERIZATION OF COUROUPITA GUIANENSIS BARK.** Rizzo D, Re T, Ventura C, Fanizzi FP, Miceli A. (Italy)
80. **COMPARISON OF TWO EXTRACTION TECHNIQUES FOR THE COMPREHENSIVE CHARACTERIZATION OF BIOACTIVE PHENOLIC COMPOUNDS IN ONION WATREUSING BY UHPLC-DAD-ESI-HRMS.** Campone L, Celano R, Piccinelli AL, Ibañez E, Carabetta S, di Sanzo R, Rastrelli L, Russo M. (Italy, Spain)
81. **A FULLY AUTOMATED METHOD FOR DETERMINATION OF OCHRATOXIN A IN WINE AND BEER BY ULTRA HIGH LIQUID CHROMATOGRAPHY TANDEM MASS SPECTROMETRY.** Campone L, Celano R, Rastrelli L, Russo M, Piccinelli AL. (Italy)

82. **IN VITRO EFFECT OF BRAZILIAN PROPOLIS ON THE EXPRESSION LEVELS OF MIR-27A-3P AND MIR-19A-3.** Daglia M, Curti V, Zaccaria V, Di Lorenzo A, Meneghini S, Fachini A. (Italy)
83. **AUTHENTICATION OF HONEYS BOTANICAL ORIGIN BY UHPLC-MS/MS AMINO ACIDS DETERMINATION. A PRELIMINARY STUDY.** Carabetta S, Campone L, Di Sanzo R, Cefaly V, Rastrelli L, Russo M. (Italy)
84. **CUCHAMÁ LARVAE (*PARADIRPHIA FUMOSA*) EDIBLE INSECT RICH IN NUTRIENTS.** Vilchis-Perez A, Melo-Ruiz V, Marquez-Cruz B, Gazga-Urioste C, Diaz-García R. (Mexico)

POSTER SESSION 2

September 14th – 15th

(Posters should be mounted in the late afternoon of September 13 and removed in the afternoon of September 15)

1. **SECHIUUM EDULE ALKALOID EXTRACT APOPTOSIS INDUCE ON HELA CELLS CERVICAL CANCER.** Rivera PIA, Figueroa AP, Luna TAL, Silva TR. (Mexico)
2. **ANTITUMOR EFFECT AND TOXICITY ACUTE ETHANOL EXTRACT OF GANODERMA CURTISII (BERK.) MURRILL LYMPHOMA L5178Y IN BALB / C MICE.** Montejano-Rodríguez JR, Ríos-Ramírez MI, Romero-Bautista L, Islas-Santillán MA, Bautista-Avila M, Almaguer-Vargas G. (Mexico)
3. **SYNTHESIS AND EVALUATION OF THE ANTI-INFLAMMATORY ACTIVITY OF OPTICALLY ACTIVE TRIAZINES.** Arteaga DV, Abonía R, Sepúlveda-Arias JC, Veloza LA. (Colombia)
4. **SYNTHESIS AND STUDY OF PHYSICO-CHEMICAL PROPERTY OF DITHIOL-ONE'S DERIVATIVES FROM DITHIOL-THIONE.** Laifa El-Adoui (Algeria)
5. **COLON-AVAILABLE DIETARY MELANOIDINS EXHIBIT CYTOTOXIC ACTIVITY ON HUMAN COLON ADENOCARCINOMA CELL LINES.** Tagliazucchi D, Martini S, Conte A. (Italy)
6. **A FACILE SYNTHESIS OF 6-AZASTEROIDS.** Martínez Pascual R, Montiel Smith S, Vega Baez JL. (Mexico)
7. **REACTIVITY OF CEMBRENES AND VERTICILLENES FROM BURSERACEAE UNDER ACID TREATMENTS.** Hernández-Hernández JD, del Río-Chávez AA, Escobar Flores KD, Román-Marín LU, García-Gutiérrez HA, Cerda-García-Rojas CM, Joseph-Nathan P. (Mexico)
8. **ANTI-INFLAMMATORY AND ANALGESIC EVALUATION OF FLOWERS SEDUM PRAEALTUM DC.** Márquez-Flores YK, Ortega FLF, Silva-Torres TR, Meléndez-Camargo ME. (Mexico)
9. **MORUS NIGRA L. LEAVES EXTRACTS STANDARDIZED IN CHLOROGENIC ACID, RUTIN AND ISOQUERCITRIN: TYROSINASE INHIBITION.** Freitas MM, Fontes P, Homem-de-Mello M, Souza PM, Silveira D, Fonseca-Bazzo Y, Simeoni LA, Magalhães PO. (Brazil)
10. **ANGIOTENSIN CONVERTING ENZYME (ACE) INHIBITORY ACTIVITY OF SALVIA LERIIIFOLIA BENTH: EXTRACTS.** Loizzo MR, Rastrelli L, Falco T, Tundis R. (Italy)
11. **CHEMICAL COMPOSITION AND ENHANCEMENT OF TECHNOLOGICAL PROPERTIES OF HALIMIUM HALIMIFOLIUM EXTRACT WITH ANTIOXIDANT ACTIVITY.** Kerbab K, Mekhalfi T, Zaiter L, Benayache S, Benayache F, Picerno P, Mencherini T, Sansone F, Aquino RP, Rastrelli L, Smith AB, Brown ABC, Taylor A, Evans AB. (Algeria, Italy)
12. **SYNTHESIS OF (E)-1-(FURAN-2-YLMETHYLENE)-2-PHENYLHYDRAZINE.** Cabrera-Vivas BM, Ramírez-García JC, Aguirre-Cabrera C, Flores-Castillo ZA, Toledano-Magaña Y, García-Ramos JC. (Mexico)
13. **SYNTHESIS OF (E)-1,1-DIPHENYL-2-(THIOPHEN-2-YLMETHYLENE)HYDRAZINE AND CELL EVALUATION AGAINST AMIBIASIS.** Meléndez-Balbuena L, Cabrera-Vivas BM, Aguirre Cabrera C, Ramírez Juan C, García-Ramos JC, Juárez-Posadas JR. (Mexico)

14. **SYNTHESIS OF (E)-2-((5-(2-NITROPHENYL)FURAN-2-YL)METHYLENE)-1,1-DIPHENYLHYDRAZINE AND ANTICANCER CELL EVALUATION.** Cabrera-Vivas BM, Aguirre Cabrera C, García-Díaz IM, Ariza-Ramírez J, Ramírez-García JC, Orea-Flores ML. (Mexico)
15. **INFLUENCE OF THE GRANULAR PREPARATION METHOD AND THE TABLET HARDNESS IN THE DISSOLUTION OF A PHYTOPHARMACEUTICAL PRODUCT.** Archbold R, Quiñones W, Echeverri LF, Concesa Caballero, Torres LF, Escobar GA. (Colombia)
16. **IN VITRO VALIDATION OF ANTI-INFLAMMATORY, HEALING AND ANTI-LEISHMANIAL ACTIVITY OF *TABEBUIA CHRYSANTHA*, *TABEBUIA ROSEA CALENDULA OFICINALIS* *MATRICARIA CHAMOMILLA*, *THYMUS VULGARIS* AND *OREGANUM VULGARE*.** Robledo SM, Rios YK, Jurado DS, Echeverri F. (Colombia)
17. **ANTI-INFLAMMATORY ACTIVITY OF A *PHYSALIS ANGULATA* L. DICHLOROMETHANE FRACTION IN DSS-INDUCED COLITIS.** Rivera DE, Ocampo YC, Franco LA. (Colombia)
18. **CYTOTOXIC EFFECT OF ETHANOLIC EXTRACT AND FRACTIONS FROM *CROTON MALAMBO* BARK AGAINST MDA-MB-231 CELL LINE.** Caro D, Ocampo Y, Bolivar S, Diaz F, Salas RD, Aristizábal FA, Franco LA. (Colombia)
19. **ANTICONVULSANT EFFECT OF *TANACETUM PARTHENIUM* (L.) *SCHULTZ-BIP* ON PENTYLENETETRAZOLE-INDUCED SEIZURES IN MICE.** Reyes-Pérez VI, Hernández-Navarro MD. (Mexico)
20. **LC/MS ANALYSIS AND HPLC QUANTIFICATION OF MAIN COMPOUNDS OF FIVE *HYPERICUM* SPECIES INDIGENOUS IN THE PELOPONNESE.** Zeliou K, Koulakiotis NS, Vogiatzoglou A, Iatrou G, Tsarbopoulos A, Lamari FN. (Greece)
21. **OPTIMIZATION AND VALIDATION OF TWO METHODS OF ENZYME INHIBITION RELATED TO ANTI-HYPERGLYCEMIC ACTIVITY.** Granados-Guzmán G, Castro-Ríos R, Waksman de Torres N, Salazar-Aranda R. (Mexico)
22. **THEORETICAL STUDY OF THE CONVERSION (E)- α,β -UNSATURATED OXAZOLIDINONES.** Ramírez - García JC, Cabrera – Vivas BM, Aguirre C, Pineda FP, Márquez CG. (Mexico)
23. **COMPUTATIONAL ANALYSIS ON VITAMIN D RECEPTOR.** Ramírez - García JC, Cabrera – Vivas, BM, Aguirre C, Pineda FP, Márquez CG. (Mexico)
24. **MEDICAL APPLICATIONS OF OZONIZED OIL. AN UP-DATE.** Martínez-Sánchez G, Magistrelli D. (Italy)
25. **BIOSAFETY ASPECTS IN THE REGULATION OF MODERN BIOTECHNOLOGY IN PLANTS.** Borges BJP, Abreu PMV, Carminati LS, Arantes OMN, Fernandes AAR, Fernandes PMB. (Brazil)
26. **ANTIOXIDANT AND ANTIMICROBIAL ACTIVITIES OF *LEPIDIUM SATIVUM* EXTRACTS.** Bouamra D, Baki CA, Touabet L, Meliani S, Bouchebour A, Dahamna S, Harzallah D. (Algeria)
27. **ANTIMICROBIAL ACTIVITY OF ESSENTIAL OILS AGAINST *SALMONELLA* AND *STAPHYLOCOCCUS AUREUS*.** Serracca L, Rossini I, Battistini R, Imberciadori M, Corsi M, Terarolli A, Tomei L, De Montis G, Ercolini C. (Italy)

28. **TRITERPENES-ENRICHED FRACTIONS OF EUCALYPTUS TERETICORNIS MODULATE GENE EXPRESSION ON HUMAN ADIPOSE TISSUE CELL LINES MODELS.** Balcazar N, Guillen A, Castaño A, Fernando Echeverri LF, Acín S. (Colombia)
29. **ACTIVITY AGAINST THE FUNGUS COLLETOTRICHUM LINDEMUTHIANUM OF PHASEOLLIN ALONE OR IN COMBINATION WITH STRUCTURALLY RELATED COMPOUNDS, PHENYLPROPANOIDS AND AROMATIC MONOTERPENES.** Durango D, Quiñones W, Escobar G. (Colombia)
30. **CORDIA CURASSAVICA: PRIMARY SOURCE FOR DISCOVERING A NATURAL MEDICINE FOR DENGUE TREATMENT.** Velandia SA, Lopera IA, Sepúlveda-Arias JC, Veloza LA, Stashenko EE, Ocazonez RE. (Colombia)
31. **ESSENTIAL OILS AND THEIR COMMON METABOLITE B-CARYOPHYLLENE AS PRIMARY SOURCE FOR DISCOVERING AN ANTIVIRAL AGENT AGAINST DENGUE VIRUSES.** Velandia SA, Flechas MC, Stashenko EE, Ocazonez RE. (Colombia)
32. **PHARMACOLOGICAL INVESTIGATIONS ON KIGELIA AFRICANA (LAM) BENTH., FRUITS EXTRACT.** Micheli V, Sanogo R, D'Angelo V, Occhiuto F. (Italy, Mali)
33. **ANTILEISHMANIAL ACTIVITY AND IN VIVO TOXICITY OF FOUR CHEMOTYPES OF LIPPIA (FAM. VERBENACEAE) ESSENTIAL OILS.** Neira LF, Hernandez JC, Escobar P, Stashenko EE. (Colombia)
34. **OXIDATIVE STRESS IN DIFFERENT CLINICAL CONDITIONS, USING REDOX INDEXES OF DIAGNOSTIC VALUE.** Gil del Valle L, Guevara M. (Cuba)
35. **ANTIOXIDANT AND ANTIMICROBIAL ACTIVITIES OF LEPIDIUM SATIVUM EXTRACTS.** Bouamra D, Baki CA, Touabet L, Meliani S, Bouchebour A, Dahamna S, Harzallah D. (Algeria)
36. **QUANTITATIVE HPLC- UV/DAD ANALYZES OF THE MAIN C-GLYCOSIDE FLAVONOIDS IN THREE DIFFERENT METHANOLIC EXTRACTS OF ALTERNANTHERA TENELLA COLLA AERIAL PARTS.** Marinho JVN, Soma R, Hernández-Tasco AJ, Salvador MJ. (Brazil)
37. **SPECTROSCOPY CHARACTERIZATION OF (E)-2-(2,6-DICHLOROBENZYLIDENE)-1,1-DIPHENYLHYDRAZINE.** Cabrera-Vivas BM, Ariza-Ramírez J, Aguirre Cabrera C, Ramírez JC, García-Ramos JC, Toledano-Magaña Y. (Mexico)
38. **ANTIBACTERIAL ACTIVITY OF THE ESSENTIAL OIL OF ORIGANUM GLANDULOSUM ON BACTERIAL STRAINS OF HOSPITAL ORIGIN MOST IMPLICATED IN NOSOCOMIAL INFECTIONS.** Mazid R, Lardjam H, Khitri W, Boudghene SY, Izarouken A, Djebli N, Toumi H. (Algeria)
39. **PHYTOTHERAPY IN DIABETIC PATIENTS: ETHNOBOTANICAL SURVEY, PHYTOCHEMICAL ANALYSIS AND EVALUATION OF THE ANTIOXIDANT ACTIVITY OF FIVE MEDICINAL PLANTS.** Lardjam H, Mazid R, Boudghene SY, Izarouken A, Moussaoui N. (Algeria)
40. **IN VITRO AND IN VIVO ANTILEISHMANIAL ACTIVITY OF ARTEMISIA ANNUA LEAVES POWDER AND POTENTIAL UTILITY IN THE TREATMENT OF UNCOMPLICATED CUTANEOUS LEISHMANIASIS.** Mesa LA, Vásquez DA, Lutgen P, Vélez ID, Restrepo AM, Ortiz IC, Robledo SM. (Colombia)

41. **ANTILEPTOSPIRAL POTENTIAL OF MEDICINAL PLANTS COMMONLY USED FOR THE TREATMENT OF INFECTIOUS DISEASES.** Hernández-Rodríguez P, Pabón LC, Rodríguez MF, Gómez A. (Colombia)
42. **HYPOGLYCEMIC EFFECT OF ETHANOLIC EXTRACT OF *PARMENTIERA ACULEATA* (KUNTH) SEED FRUIT AND BARK IN MALE WISTAR RATS.** Muñoz-Muñiz OD, Alcántara-López MG, Vázquez-Hernández M, Domínguez-Ortiz MA. (Mexico)
43. **DEVELOPMENT OF REPELLENT WITH ESSENTIAL OILS FROM MEDICINAL PLANTS.** Vázquez-Hernández M, Muñoz-Muñiz OD, Alcántara-López MG, Pérez-Gutiérrez RA. (Mexico)
44. **EFFECT OF COMBINATION OF CHIA (*SALVIA HISPANICA*) AND SPIRULINA (*ARTHROSPIRA MAXIMA*) ON DIABETES.** Vargas-Chávez S, Martínez-Galero E, Chamorro-Cevallos GA, Quevedo-Corona L, Ortega-Nava ME, García-Gutiérrez GE, Garduño-Siciliano L. (Mexico)
45. **ORAL ANTI-INFLAMMATORY ACTIVITY OF DICHLOROMETHANE FRACTION OF *LACISTEMA PUBESCENS* MART. LEAVES.** Conegundes LMC, Silva JM, Pinto NCC, Fernandes MF, Scio E. (Brazil)
46. **WOUND HEALING ACTIVITY OF GELS CONTAINING AN EXTRACT OF *CECROPIA PACHYSTACHYA* LEAVES.** Duque APN, Pinto NCC, Mendes RF, Aragão DMO, Castañon MCMN, Scio E. (Brazil)
47. **ANTIOXIDANT ACTIVITY OF *CECROPIA PACHYSTACHYA TRÉCUL* (URTICACEAE) IN NORMAL AND DIABETIC RATS.** Fernandes MF, Aragão DMde O, Assis CM, Pires PP, Scio, E. (Brazil)
48. **PREPARATION OF PARVIFOLINE DERIVATIVES AS TUBULIN INHIBITORS.** Silva-García EM, Cerda-García-Rojas CM, del Río Torres RE, Joseph-Nathan P. (Mexico)
49. **GC/MS ANALYSIS AND BIOLOGICAL ACTIVITIES OF THE ESSENTIAL OIL FROM THE DRIED AND FLESH LEAVES OF *ANNONA CACANS* (ANNONACEAE).** Lourenço CC, Marinho JVN, Aranha-Netto L, Siqueira CAT, Serain AF, Mesquita JT, Tempone AG, Salvador MJ. (Brazil)
50. **CHEMICAL COMPOSITION AND ANTIOXIDANT AND ANTIMICROBIAL ACTIVITIES FROM *PLATYMISCIUM GRACILE BENTH.* SAWDUST.** Cuéllar JE, Martínez J, Gil JH, García CM, Rojano BA, Durango DL. (Colombia)
51. **EVALUATION OF TOTAL BETALAINS OF *STENOCEREUS SPP* AND CHARACTERIZATION OF PHENOLIC COMPOUNDS AND ANTIOXIDANT CAPACITY.** Gil Escamilla JO, Hernández-Navarro MD, Hernández López AV, Figueroa-Ibarra LM, Gómez-Oliván LM, Dublán-García O, Islas-Flores H, Hernández-Ortega MM. (Mexico)
52. **ANTIOXIDANT EFFECT OF BETALAINS FROM *STENOCEREUS SPP* AGAINST N-NITROSODIETHYLAMINE IN MICE.** Hernández-López AV, Figueroa-Ibarra LM, Hernández-Navarro MD, Juaregui-Rodríguez B, Gil-Escamilla JO, Gallegos-Ortiz MR, Osorio-Esquivel O, Gómez-Oliván LM, Dublán-García O, Islas-Flores H. (Mexico)
53. **CANNABIS SATIVA L.: DEVELOPMENT AND VALIDATION OF A NEW HPLC METHOD WITH UV/DAD AND ESI-MSⁿ DETECTION FOR THE ANALYSIS OF NON-PSYCHOACTIVE CANNABINOIDS.** Brighenti V, Maran D, Pellati F, Tardugno R, Benvenuti S. (Italy)
54. **BRONCHODILATOR AND ANTITUSIVE EFFECTS OF *BLEPHAROCALIX SALICIFOLIUS* ("ANACAHUITA").** Jimenez-Hernandez J, Consolini AE. (Argentina)

55. **PHENOLIC PROFILE AND CYTOTOXIC PROPERTIES OF POLAR EXTRACTS FROM BASAL LEAVES AND FLOWERS OF *ISATIS TINCTORIA* L.** Taviano MF, Filocamo A, Ragusa S, Dugo P, Cacciola F, Guzman ML, Hsu H-T, Galletti G, Miceli N. (Italy, USA)
56. **ANTI-GLYCANT AND ANTI-DIABETIC ACTIVITIES OF AROMATIC GUANYLHYDRAZONE DERIVATIVES.** Sarmento PA, Silva-Júnior EF, França PHB, Ribeiro EAN, Bastos MLA, Aragão DMO, Fontes ES, Araújo-Júnior JX. (Brazil)
57. **A STUDY OF GUANYLHYDRAZONE DERIVATIVES WITH VASORELAXANT ACTIVITY USING DYNAMIC SIMULATIONS, MOLECULAR DOCKING AND 2D-QUANTITATIVE STRUCTURE-ACTIVITY RELATIONSHIP ANALYSIS.** Silva-Júnior EF, Herculano EA, França PHB, Costa CDE, Ribeiro EAN, Aquino TM, Araújo-Júnior JX. (Brazil)
58. ***BACCHARIS TRIMERA* (LESS.) DC (ASTERACEAE) EXTRACTS ARE PROMISING ANTIBACTERIAL AND ANTIOXIDANT AGENTS.** Feres-Netto C, Pedrosa DM, Fernandes LS, Costa YFG, Pinto NCC, Scio E, Del-Vechio-Vieira G, Sousa OV, Alves MS. (Brazil)
59. **MOLECULAR DESCRIPTORS AS PREDICTING CRITERIA IN THE SEARCH OF ACETYLCHOLINESTERASE (AChE) ISOFLAVONE-LIKE INHIBITORS.** Orduz-Diaz LL, Coy-Barrera ED. (Colombia)
60. **IN-SILICO STUDIES ON PTEROCARPANS AS AN ALTERNATIVE IN TREATMENT OF ALZHEIMER'S DISEASE.** Orduz-Diaz LL, Coy-Barrera ED. (Colombia)
61. **NEW MULTITARGET DRUGS DERIVED FROM NATURAL POLYPHENOLS.** Begines P, Roldán J, Oliete A, Plata GB, Padrón JM, López O, Maya I, Fernández-Bolaños JG. (Spain)
62. **EVALUATION OF GEL PRODUCTION AND ANTIRADICALAR ACTIVITY IN SEVERAL ALOE SPECIES.** Grčić N, Capela P, Dias ACP. (Portugal)
63. **ANTILEISHMANIAL ACTIVITY OF *GUAREA GUIDONIA* (MELIACEAE).** Torres Suarez, E, Coy-Barrera CA, Delgado-Murcia LG, Coy-Barrera ED. (Colombia)
64. **UFLC-ESI-MS-BASED PROFILING, CYTOTOXICITY AND ANTILEISHMANIAL ACTIVITY OF EXTRACTS OF *AZADIRACTHA INDICA* SEEDS.** Monroy-Velandia D, Torres Suarez E, Coy-Barrera CA, Delgado-Murcia LG, Coy-Barrera ED. (Colombia)
65. **ANTI-INFLAMMATORY ACTIVITY OF EXTRACTS FROM AN IN VITRO CULTURE OF *SAMBUCUS NIGRA* L.** Cruz-Cruz DG, Méndez-Sánchez LI, Herrera- Ruiz ML, Capataz Tafur J, Sánchez-Ocampo PM. (Mexico)
66. **ANTI-INFLAMMATORY ACTIVITY OF *SAMBUCUS NIGRA* EXTRACTS FROM CALLUS IN VITRO CULTURE.** Cruz-Cruz DG, Méndez-Sánchez, LI, Herrera- Ruiz ML, Capataz, Tafur J, Sánchez-Ocampo PM. (Mexico)
67. **ACUTE TOXICITY "IN VIVO" OF METHANOLIC EXTRACT OF *RHIPSALIS BACCIFERA*.** Echeverría-Pérez GM, Castro-Torres IG, Castro-Torres VA, Martínez-Vázquez M, Naranjo-Rodríguez EB. (Mexico)
68. **HYDROALCOHOLIC EXTRACT OF *ERYNGIUM CARLINA* FOR THE TREATMENT OF HYPERCHOLESTEROLEMIA IN MICE.** Castro-Torres IG, De la O-Arciniega M, Naranjo-Rodríguez EB, Martínez-Vázquez M. (Mexico)

69. **SYNTHESIS AND BIOLOGICAL ACTIVITY OF ALKOXYLATED CHALCONE DP7 ON IMPORTANT PLANT PATHOGENS.** Remškar A, Betancur PJF, Trilleras VJE, Valencia JA, Arboleda VJW. (Slovenia, Colombia)
70. **KALANCHOE BRASILIENSIS CAMB. (CRASSULACEAE): AN INTERESTING SOURCE OF BIOACTIVE SUBSTANCES TO TREAT INFECTIOUS DISEASES CAUSED BY SALMONELLA STRAINS.** Mayorga OAS, Florencio JR, Feres-Netto C, Pedrosa DM, Costa YFG, Pinto NCC, Scio E, Sousa OV, Alves MS. (Brazil)
71. **IN VITRO ANTIBACTERIAL ACTIVITY OF HYPOESTES FORSSKAOLII VAHL. ROEM & SCHULT. (ACANTHACEAE) AGAINST METHICILLIN-RESISTANT STAPHYLOCOCCUS AUREUS: PRELIMINARY RESULTS.** D'Ambola M, Nocera FP, Vassallo A, Florio S, Severino L, De Martino L. (Italy)
72. **SEASONAL VARIATION AND CHEMOTYPE IDENTIFICATION IN VOLATILE AND NON-VOLATILE FRACTIONS FROM SCHINUS MOLLE LEAVES BY CHROMATOGRAPHIC PROFILING COUPLED WITH CHEMOMETRICS.** Macias YP, Bernal FA, Coy-Barrera E. (Colombia)
73. **PHOTODYNAMIC ANTIMICROBIAL ACTIVITY OF SYZYGium CUMINI EXTRACTS ON KLEBSIELLA PNEUMONIAE.** Quigua ORM, Valle-Molinares RH, Vallejo LWA, Diaz UCE, Arboleda VJW. (Colombia)
74. **IDENTIFICATION OF PHENYLPROPANOID GLYCOSIDES FROM ALOYSIA POLYSTACHYA (GRISEB. ET MOLDENKE) BY HPLC-MS ANALYSIS.** Bertelli D, Graziosi R, Plessi M. (Italy)
75. **ESSENTIAL OILS AS POTENTIAL FUMIGANT AGENTS FOR THE CONTROL OF SITOPHILUS ZEAMAI.** Patiño WR, Patiño OJ, Cuca, LE, Delgado WA, Prieto JA. (Colombia)
76. **SYNTHESIS OF BIOACTIVE CHROMENES INSPIRED ON THOSE ISOLATED FROM PIPER CF. CUMANENSE KUNTH (PIPERACEAE).** Parra AJE, Patiño OJ, Avila MMC, Cuca SLE, Gamba-Sánchez D. (Colombia)
77. **CYTOTOXICITY OF DQ-35 IS MEDIATED BY G2-ARREST AND MICRONUCLEI FORMATION WITHOUT NUCLEAR DAMAGE.** Ocampo, Y, Rivera D, Acuña J, Caro D, Castro J, Olivero J, Motilva V, Müller K, Franco L. (Colombia, Spain, Germany)
78. **SUSCEPTIBILITY OF TWO STAPHYLOCOCCUS AUREUS STRAINS FROM THE CLINICAL ENVIRONMENT TO ANNONA PURPUREA FRACTIONS.** Márquez VRL, Jiménez CAP, Tamara RY, Parejo AMS, Muñoz NAS, De La Rosa TCR. (Colombia)
79. **HISTOCHEMISTRY AND GAS CHROMATOGRAPHIC PROFILE OF THE ETHYL ETHER FRACTION EXTRACTED FROM FRESH SHEETS OF CNIDOSCOLUS ACONTIFOLIUS (EUPHORBACEAE).** Márquez VRL, Martínez PMA, Jiménez CAP, Tamara RY, Parejo AMS, Estrada RDJ, Carpio ZCM, Castillo COJ, De La Rosa TCR. (Colombia)
80. **ESSENTIAL OILS FROM CITRUS SINENSIS, CYMBOPOGON CITRATUS, PINUS SYLVESTRIS AND LIPPIA ORIGANOIDES EXHIBIT LARVICIDE ACTIVITY AGAINST RHIPICEPHALUS SANGUINEUS..** Bravo M, Uzcátegui J, Sanabria M, García L, Rojas L, Gualtieri M. (Venezuela)
81. **SECONDARY METABOLITES FROM CHILEAN PLANTS AND THEIR BIOLOGICAL ACTIVITY.** Alarcón JE, Cespedes CL, Muñoz E, Quiroz S. (Chile)
82. **ETHANOL CRUDE EXTRACT FROM LEAVES OF SINNINGIA SCHIFFNERI (GESNERIACEAE) AND THEIR**

FRACTIONS AS NATURAL PHOTOSENSITIZER IN PHOTODYNAMIC CHEMOTHERAPY. Serain AF, Andreazza NL, Stefanello MEA, Salvador MJ. (Brazil)

83. **THE SYNERGISTIC EFFECTS OF ANTIOXIDANTS IN THE CONTROL OF REDOX BALANCE IN CULTURED FIBROBLASTS AND POSSIBLE INFLUENCE ON PATHOLOGIC CALCIFICATION.** Boraldi F, Costa S, Annovi G. (Italy)
84. **FLASH CHROMATOGRAPHY MS-TARGETED ISOLATION OF NATURAL PRODUCTS UNDER NORMAL PHASE CONDITIONS.** Righi D, Azzollini A, Queiroz EF, Wolfender JL. (Switzerland)

PP1_12

PORTULACA OLERACEA L. IN THE ERA OF GLOBALISATION: A SPECIES OF GREAT NUTRACEUTICAL VALUE

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Portulaca oleracea L. is a common ruderal, synanthropic, cosmopolitan taxon, highly polymorphic, typical of warm sites (Danin and Raus, 2012; Danin et al., 2014; Danin et al., submitted). In Italy its status as a native species is doubtful (Pignatti, 1982). It is well known since the antiquity for its medicinal and nutrient qualities (Bosi et al., 2009): all parts of the plant have therapeutic properties (Gastaldo, 1987). It has been used for a long time as an analgesic, anti-inflammatory, antipyretic, diuretic, emollient, lenitive and anaphrodisiac. Many of such properties have been recently confirmed; furthermore, *P. oleracea* is very rich in omega-3 polyunsaturated fatty acids (Ezekwe et al., 1999), so that its use is recommended to contrast the excess of fatty acids assumed by fast foods (Picchi and Pieroni, 2005) and its seeds are good to counteract diabetes mellitus (El-Sayed, 2011).

In this work we tested the content of fatty acids in seeds from Roman period to present, as a comparison to the content of fatty acids of the aerial parts of the plant: 12 fresh plant and seeds samples, collected in Summer 2015, 19 seeds samples coming from Italian herbaria, dating from 1920 to 2011, and 20 seeds samples coming from archaeological excavations, dated from 1st to 15th cent. AD. Total lipids were extracted according to a modified method of Folch (1957) and methyl esters were analyzed by gas chromatography (GC)-FID.

We found a high content of polyunsaturated fatty acids in fresh plants and seeds. Moreover, a quite similar profile with comparable saturated, monounsaturated and polyunsaturated fatty acids was observed in both seeds and aerial parts of the plant, even if significant differences were measured in singular fatty acid percentages. Furthermore, comparing seeds samples from different historical periods, we determined an evident decrease in polyunsaturated fatty acids depending on increasing time, from ~69% of fresh seeds up to ~11% in archaeological samples with the consequent increase in saturated fatty acids. This is probably due to a degradation process, caused by atmospheric oxygen exposition and unsaturated fatty acids oxidation during time. The applied reported methodology would be useful for the determination of fatty acids content and profile also in ancient samples of seeds and parts of plants.

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