

Born: 31 October 1983, Prague, Czech Republic
Laboratory of Ethnobotany and Ethnopharmacology
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EDUCATION

2011 – 2014 Ph.D. in Agriculture in Tropics and Subtropics, Dissertation thesis: Evaluation of plant quinones for *in vitro* antimicrobial synergistic effect, Faculty of Tropical AgriSciences, Czech University of Life Sciences Prague (FTA, CZU, Prague).

2009 – 2011 Ing. (MSc.) in Tropical Crop Management and Ecology, Diploma thesis: Optimization of broth microdilution method for testing of volatile compounds of *Nigella sativa*, FTA, CZU, Prague.

2006 – 2009 Bc. (BSc.) in Agriculture in Tropics and Subtropics, Bachelor thesis: South American indigenous and introduced cereals - nutrition value comparison, FTA, CZU, Prague.

WORK EXPERIENCES (3/2018-9/2019 maternity/parental leave)

Since 2016 Assistant Professor at the Department of Crop Science and Agroforestry, FTA, CZU, Prague

- Teaching activities:
 - courses supervisor, lecturer, and instructor: ICO021E Cash Crop Production (on-line master study program, English language), IRI002E Ekosystémy světa (bachelor study program, Czech language), ICI013E Fruit Production (master study program, English language), ICI012E Vegetable Production (master study program, English language), IRI009E World Ecosystems (bachelor study program, English language);
 - special lectures in courses: ICI01E Cereals and Pulses (master study program, English language), IZI009E Introduction into the Tropical Agriculture (bachelor study program, English language), IRI005E Plantation Crops (bachelor study program, English language), ICI29E Quality, Storage and Processing of Plant Products (master study program, English language), ICI001E Tropical Crop Production (master study program, English language).
- The number of students supervised:
 - successfully defended: 4 bachelor, 2 master, 2 doctoral (co-supervisor);
 - currently supervised: 5 bachelor, 2 master, 1 doctoral.
- Research interest: Biological activity of neglected and underutilized tropical edible and medicinal plants and their secondary metabolites; antimicrobial combinatory effect with special focus on antibiotic resistant strains; plant-based micronutrients in human nutrition with special focus on compounds related to antioxidant properties; green extraction methods.

2015 Postdoc/Technician in Laboratory of Ethnobotany and Ethnopharmacology, FTA, CZU, Prague

- Research interest: determination of biological activity of edible and medicinal tropical plants (antioxidant and antimicrobial activity); collection of plant materials and extracts preparation; optimization of standard methods for evaluation of different biological activities (especially antioxidant activity, combinatory effect, antimicrobial activity).

SCIENTIFIC ACTIVITY

Dr. Rondevaldová has been engaged in research since 2009 (3/2018-9/2019 maternity leave) when she worked on her diploma thesis in the "Optimization of broth microdilution method for testing of volatile compounds of *Nigella sativa*". She continued in this field during her doctoral studies (2011-2014), when she worked on the topic "Evaluation of plant quinones for *in vitro* antimicrobial synergistic effect". Then, as a postdoc, she continued research related especially to the antimicrobial activity of traditional medicinal tropical plants, such as the evaluation of the combined effect of plant extracts, natural substances, and antibiotics, especially against resistant strains; and optimization of the broth

microdilution method for testing volatile substances. Since 2015 she has expanded her research into neglected and underutilized edible tropical plants and their content of micronutrients and bioactive compounds with a special focus on substances related to antioxidant properties.

During her entire scientific career, Dr. Rondevaldová, together with her colleagues made several interesting discoveries, such as the antimicrobial effect of many medicinal tropical plants used in various traditional medicinal systems; the discovery of many effective (synergistic) combinations of plant extracts/plant-derived compounds with common antibiotics, especially against drug-resistant strains; interference between oxacillin and some edible oils and their constituents and the negative effect on the treatment of staphylococcal infections in humans and animals; the structure-activity relationships of plant-derived compounds; the optimization and development of several original and innovative assays for evaluation of antimicrobial activity in vapor phase; identification of various underutilized edible tropical plants as an important source of minerals, vitamins, and other bioactive compounds.

SIGNIFICANT INTERNATIONAL EXPERIENCES

7/2016- 8/2016: Two-months field research and teaching internship at **Royal University of Agriculture, Phnom Penh, Cambodia**. Teaching several lectures and practical trainings for BSc and MSc students covering topics about edible and medicinal plants and its biological activity evaluation. Networking activities: attendance on workshop “Promotion of neglected and underutilized indigenous crop species for food security and nutrition in Southeast Asia and the EU” (oral presentation “Neglected and underutilized fruit species as a potential source of antioxidants”).

5/2017 – 6 /2017 – Five-weeks field research on **the Philippines**, collaboration with University of the Philippines, Los Baños and Visayas State University, Baybay City, Leyte.

During the both abroad experiences the field research was focused on identification and collection of data and/or samples of underutilized and neglected medicinal and edible plant species, discussions with local experts working in the field of tropical agriculture with special focus on underutilized crops and preparation for further research collaboration. Three scientific articles were published in international journals with IF based on the research and collaboration established during these two abroad experiences.

SCIENTOMETRIC PARAMETERS (Web of Science)

H-index: 13

Sum of the Times Cited: 382 (355 without self-citations)

Jimp: 24

Meeting abstracts: 2

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AWARDS

2017 Best Poster Award – 2nd place on 1st International conference on food, environment and culture, Baguio, Philippines, poster topic: Antimicrobial and antioxidant activity of Cambodian neglected edible and medicinal plants

2015 Award of the Minister of Agriculture of the Czech Republic for outstanding dissertation with significant contribution to the field of agriculture, forestry, water management and land protection

2014 Award of Josef Hlávka for the best students and graduates of public universities in Prague, Brno University of Technology and talented young workers of Academy of Sciences of the Czech Republic

2011 Award of the Head of the Institute of Tropics and Subtropics for extraordinary study results

PROJECTS

2017-2018 Main investigator, project CIGA 20175001 - Advanced methods for *in vitro* antimicrobial activity determination of plant compounds, extracts and essential oils, financially supported by University Internal Grant Agency, CZU, Prague, 580 CZK (in thousands). The main aim of this project was the identification of antimicrobial active plant extracts, essential oils and plant compounds. Standard microdilution method was evolved for simultaneous testing of substances in both gaseous and liquid phases. Simple as well as combinatory antimicrobial activity were determined. Plant extracts were fractioned by prepHPLC and the main present secondary metabolites in plant extracts and essential oils were identified by HPLC with diode array detector and/or by gas chromatography coupled with mass spectrometry (GC/MS). Outputs from the projects: 8 scientific articles in Jimp.

2012 Main investigator, project Evaluation of antimicrobial synergistic effect of selected phenolic plant compounds, financially supported by Tomáš Baťa Foundation, 50 CZK (in thousands). The main aim of this project was to determine antimicrobial combinatory effect of natural phenolic compounds and antibiotics and to identify the most active combinations with synergistic interactions against drug-resistant *Staphylococcus aureus*. Outputs from the project: 1 scientific article in Jimp.

MEMBERSHIP

Since 2022, member of the Czech Academy of Agricultural Sciences, Department of Plant Production

PAPERS PUBLISHED IN JOURNALS WITH IMPACT FACTOR

1. **RONDEVALDOVA**, Johana; QUIAO, Maria Alma; DRABEK, Ondrej; DAJCL, Julie; DELA PENA-GALANIDA, GERALYN D.; LEOPARDAS, Venus E.; KOKOSKA, Ladislav. Mineral composition of seaweeds and seagrasses of the Philippines. *Phycologia*, 2023, early access DOI10.1080/00318884.2023.2183315.
2. **RONDEVALDOVA**, Johana; NOVY, Pavel; TAUCHEN, Jan; DRABEK, Ondrej; KOTIKOVA, Zora; DAJCL, Julie; MASCELLANI, Anna; CHRUN, Rithy; NGUON, Samnang; KOKOSKA, Ladislav. Determination of antioxidants, minerals and vitamins in Cambodian underutilized fruits and vegetables. *Journal of Food Measurement and Characterization*, 2023, 17(1): 716-731.
3. OSEI-OWUSU, Hayford; KUDERA, Tomas; STRAKOVA, Marie; **RONDEVALDOVA**, Johana; SKRIVANOVA, Eva; NOVY, Pavel; KOKOSKA, Ladislav. *In vitro* selective combinatory effect of ciprofloxacin with nitroxoline, sanguinarine, and zinc pyrithione against diarrhea-causing and gut beneficial bacteria. *Microbiology Spectrum*. 2022, 10(5): e01063-22.
4. NETOPILOVA, Marie; HOUDKOVA Marketa; URBANOVA, Klara; **RONDEVALDOVA**, Johana; KOKOSKA, Ladislav. Validation of qualitative broth volatilization checkerboard method for testing of essential oils: dual-column GC-FID/MS analysis and *in vitro* combinatory antimicrobial effect of *Origanum vulgare* and *Thymus vulgaris* against *Staphylococcus aureus* in liquid and vapor phases. *Plants-Basel*. 2021, 10(2), article number 393.
5. LALOUCKOVA, Klara, SKRIVANOVA, Eva; **RONDEVALDOVA**, Johana; FRANKOVA, Adela; SOUKUP, Josef; KOKOSKA, Ladislav. *In vitro* antagonistic inhibitory effects of palm seed crude oils and their main constituent, lauric acid, with oxacillin in *Staphylococcus aureus*. *Scientific Reports*. 2021, 11(1), Article number: 177.
6. NETOPILOVA, Marie; HOUDKOVA, Marketa; URBANOVA, Klara; **RONDEVALDOVA**, Johana; VAN DAMME, Patrick; KOKOSKA, Ladislav. *In vitro* antimicrobial combinatory effect of *Cinnamomum cassia* essential oil with 8-hydroxyquinoline against *Staphylococcus aureus* in liquid and vapour phase. *Journal of Applied Microbiology*. 2020, 129(4), 906-915.
7. ZAKOVA, Tereza; **RONDEVALDOVA**, Johana; BERNARDOS, Andrea; LANDA, Premysl; KOKOSKA, Ladislav. The relationship between structure and *in vitro* antistaphylococcal effect of plant-derived stilbenes. *Acta Microbiologica et Immunologica Hungarica*. 2018, 65(4), 467-476.

8. HOUDKOVA, Marketa; URBANOVA, Klara; DOSKOCIL, Ivo; **RONDEVALDOVA**, Johana; NOVY, Pavel; NGUON, Samnang; CHRUN, Rithy; KOKOSKA, Ladislav. *In vitro* growth-inhibitory effect of Cambodian essential oils against pneumonia causing bacteria in liquid and vapour phase and their toxicity to lung fibroblasts. *South African Journal of Botany*. 2018, 118, 85-97.
9. NETOPILOVA, Marie; HOUDKOVA, Marketa; **RONDEVALDOVA**, Johana; KMET, Vladimir; KOKOŠKA, Ladislav. Evaluation of *in vitro* growth-inhibitory effect of carvacrol and thymol combination against *Staphylococcus aureus* in liquid and vapour phase using new broth volatilization chequerboard method. *Fitoterapia*. 2018, 129, 185-190.
10. HOUDKOVA, Marketa; DOSKOCIL, Ivo; URBANOVA, Klara; TULIN, Ea Kristine Clarisse B.; **RONDEVALDOVA**, Johana; TULIN, Ababella B.; KUDERA, Tomas; TULIN, Edgardo E.; ZELENY, Vaclav; KOKOSKA, Ladislav. Evaluation of antipneumonic effect of Philippine essential oils using broth microdilution volatilization method and their lung fibroblasts toxicity. *Natural Product Communications*. 2018, 13(8), 1059-1066.
11. ROMULO, Andreas; ZUHUD, Ervial A. M.; **RONDEVALDOVA**, Johana; KOKOSKA, Ladislav. Screening of *in vitro* antimicrobial activity of plants used in traditional Indonesian medicine. *Pharmaceutical Biology*. 2018, 56(1), 287-293.
12. **RONDEVALDOVA**, Johana; HUMMELOVA, Jana; TAUCHEN, Jan; KOKOSKA, Ladislav. *In vitro* antistaphylococcal synergistic effect of isoflavone metabolite demethyltexasin with amoxicillin and oxacillin. *Microbial Drug Resistance*. 2018, 24(1), 24-29.
13. KUDERA, Tomas; **RONDEVALDOVA**, Johana; KANT, Rashmi; UMAR, Mohammed; SKRIVANOVA, Eva; KOKOSKA, Ladislav. *In vitro* growth-inhibitory activity of *Calophyllum inophyllum* ethanol leaf extract against diarrhoea-causing bacteria. *Tropical Journal of Pharmaceutical Research*. 2017, 16(9), 2207-2213.
14. **RONDEVALDOVA**, Johana; NOVY, Pavel; URBAN, Jan; KOKOSKA, Ladislav. Determination of anti-staphylococcal activity of thymoquinone in combinations with antibiotics by checkerboard method using EVA capmat (TM) as a vapor barrier. *Arabian Journal of Chemistry*. 2017, 10(4), 566-572.
15. HOUDKOVA, Marketa; **RONDEVALDOVA**, Johana; DOSKOCIL, Ivo; KOKOSKA, Ladislav. Evaluation of antibacterial potential and toxicity of plant volatile compounds using new broth microdilution volatilization method and modified MTT assay. *Fitoterapia*. 2017, 118, 56-62.
16. CUSSY-POMA, Victor; FERNANDEZ, Eloy; **RONDEVALDOVA**, Johana; OFFOVA, Hana; RUSSO, Daniela. Ethnobotanical inventory of medicinal plants used in the Qampaya District, Bolivia. *Boletín Latinoamericano y del Caribe de Plantas Medicinales y Aromaticas*. 2017, 16(1), 68-77.
17. TEKA, Alemtshay; **RONDEVALDOVA**, Johana; ASFAW, Zemedet; DEMISSEW, Sebsebe; VAN DAMME, Patrick; KOKOSKA, Ladislav; VANHOVE, Wouter. *In vitro* antimicrobial activity of plants used in traditional medicine in Gurage and Silti Zones, south central Ethiopia. *BMC Complementary and Alternative Medicine*. 2015, 15, 286-292.
18. HUMMELOVA, Jana; **RONDEVALDOVA**, Johana; BALASTIKOVA, Amalie; LAPCIK, Oldrich; KOKOSKA, Ladislav. The relationship between structure and *in vitro* antibacterial activity of selected isoflavones and their metabolites with special focus on antistaphylococcal effect of demethyltexasin. *Letters in Applied Microbiology*. 2015, 60(3), 242-247.
19. NOVY, Pavel; DAVIDOVA, Hana; SERRANO-ROJERO, Cecilia Suqued; **RONDEVALDOVA**, Johana; PULKRABEK, Josef; KOKOSKA, Ladislav. Composition and antimicrobial of *Euphrasia rostkoviana* Hayne essential oil. *Evidence-Based Complementary and Alternative Medicine*. 2015, DOI:10.1155/2015/734101.
20. **RONDEVALDOVA**, Johana; LEUNER, Olga; TEKA, Alemtshay; LULEKAL, Ermias; HAVLIK, Jaroslav; VAN DAMME, Patrick; KOKOSKA, Ladislav. *In vitro* antistaphylococcal effects of *Embelia schimperi* extracts and their component embelin with oxacillin and tetracycline. *Evidence-Based Complementary and Alternative Medicine*. 2015, DOI:10.1155/2015/175983.
21. **RONDEVALDOVA**, Johana; NOVY, Pavel; KOKOSKA, Ladislav. *In vitro* combinatory antimicrobial effect of plumbagin with oxacillin and tetracycline against *Staphylococcus aureus*. *Phytotherapy Research*. 2015, 29(1), 144-147.

22. LULEKAL, Ermias; **RONDEVALDOVA**, Johana; BERNASKOVA, Eva; CEPKOVA, Jindriska; Asfaw, Zemed; KELBESSA, Ensermu; KOKOSKA, Ladislav; VAN DAMME, Patrick. Antimicrobial activity of traditional medicinal plants from Ankober District, North Shewa Zone, Amhara Region, Ethiopia. *Pharmaceutical Biology*. 2014, 52(5), 614-620.
23. NOVY, Pavel; KLOUCEK, Pavel; **RONDEVALDOVA**, Johana; HAVLIK, Jaroslav; KOURIMSKA, Lenka; KOKOSKA, Ladislav. Thymoquinone vapor significantly affects the results of *Staphylococcus aureus* sensitivity tests using the standard broth microdilution method. *Fitoterapia*. 2014, 94, 102-107.
24. NOVY, Pavel; **RONDEVALDOVA**, Johana; KOURIMSKA, Lenka; KOKOSKA, Ladislav. Synergistic interactions of epigallocatechin gallate and oxytetracycline against various drug resistant *Staphylococcus aureus* strains *in vitro*. *Phytomedicine*. 2013, 20(5), 432-435.