



Natural products application: Health, Cosmetic and Food

Provided by nature, adapted scientifically for industry



Book of abstracts
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1st Natural products application: Health, Cosmetic and Food: book of abstracts

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1° Online Congress on Natural products application: Health, Cosmetic and Food

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The Mountain Research Center is one of the 5 research centers within the Polytechnic Institute of Bragança and is an RD unit of excellence. CIMO conducts research on the Mediterranean mountain systems following an interdisciplinary strategy that goes from Nature to Products.

In all these years, we have had the commitment of disseminating science around the world, creating solid and robust bonds and partnerships with both, academia and industry, and we are always looking for more challenging collaborations.

In this sense, the mountain research center gathers different ways to keep evolving in our main mission of science dissemination, especially now during this difficult pandemic situation, in which science dissemination has been extremely affected.

Therefore, one of our responses was the creation of the first edition of the Natural Product Applications Online Congress, which consists in the dissemination of research using natural products applied in 3 different areas: cosmetic, food, and health.

Thanks to all of you in less than a month the congress reached more than 483 registration from universities and important companies from different parts of the world, such as Algeria, Argentina, Brazil, Colombia, France, Greece, Italy, Mexico, Netherlands, Poland, Russia, Serbia, Slovenia, Spain, Ukraine, and USA.

The NPA congress received and processed more than 211 communications, from which the scientific committee has selected the most appropriate for each type of communication, considering the limited time we have for this conference.

All the submitted works were divided into three main categories, Oral, Pitch, and Poster communications, which will join 9 Keynote lectures and one invited oral communication, to which, we would also like to thank for their availability and for accepting this invitation.

We could not thank you more for your participation, and we hope to see you next year on the second edition of the Natural Product Applications Congress.

NPA Team.

PCF-37

***CALOCYBE GAMBOSA* (FR.) DONK WILD GROWING IN SERBIA AS FUNCTIONAL INGREDIENT IN OATMEAL**

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Edible mushrooms have been appreciated globally for their organoleptic, nutritional and chemical properties. In the present study, fruiting body of *Calocybe gambosa*, wild growing in Serbia has been chemically characterized (content of macronutrients, soluble sugars, tocopherols, fatty and organic acids) and its bioactive properties (antimicrobial and antioxidant) evaluated. Obtained results suggest that this mushroom is a source of carbohydrates and proteins, with low fat content. Sugar analysis revealed presence of trehalose and mannitol. Tocopherol composition revealed presence of α -tocopherol, while fatty acid analysis revealed presence of 24 fatty acids with prevalence of polyunsaturated fatty acids. Amongst organic acids, oxalic, quinic, malic, citric and fumaric acid were detected. Comprehensive antioxidant analysis (reducing power, DPPH scavenging activity, β -caroten/linoleic acid and TBARS assay) indicate that mushroom is a perspective antioxidant, whereas its antimicrobial potential turned out to be moderate. Nevertheless, at sub-inhibitory level methanolic extract disrupted cell-to-cell communication using *Pseudomonas aeruginosa* PAO1 as a model system. Finally, enrichment of oatmeal cookies with *C. gambosa* flakes not only improved nutritional value of cookies, but was praised among participants in sensory evaluation test (**Table 1**), indicating that along with results of chemical composition and biological activity, this mushroom has potential to be regarded as functional food.

Table 1. Oatmeal cookies enriched with *C. gambosa* flakes.

| Amount per serving (1 cookie ~ 25 g) | Cookie with <i>C. gambosa</i> | Cookie without <i>C. gambosa</i> |
|---|-----------------------------------|--------------------------------------|
| Fat (g/100 g dw) | 3.40 | 3.37 |
| Proteins (g/100 g dw) | 1.82 | 1.47 |
| Carbohydrates (g/100 g dw) | 14.95 | 13.47 |
| Energy (kcal/100 g dw) | 98.57 | 90.98 |
| Appearance | 4.66 | 4.25 |
| Smell | 4.25 | 4.25 |
| Taste | 4.66 | 4.25 |
| Consistency | 4.83 | 4.54 |
| Overall acceptability by panelists | 4.68 | 4.24 |

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