

**Russia, September 20-21, 2021
International online Symposium
on global trends in beekeeping**

COVID-19 and PROPOLIS

dr. Cristina Aoşan
www.melidava.ro
contact@melidava.ro



COVID – 19 infection

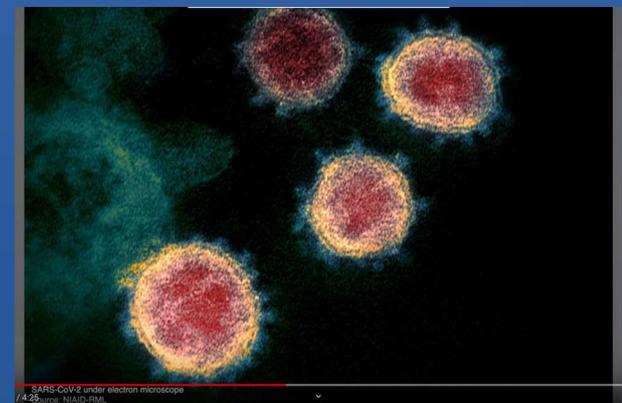
Corona-viruses are known from decades to determine the most part of the respiratory infections, mostly colds.

Main characteristics in Covid – 19

- viral infection
- inflammation in the body; the most severe: cytokine storm
- immunity dis-balance: immune-depression
- thrombosis, in some cases

Main directions for action in treatment

- anti-viral
- anti-inflammatory (inclusively against **citokines**)
- immune-regulator



Bees products clinically manifesting on the directions needed in COVID – 19 infection ACTIONS

Bee product \ Action	ANTI - VIRAL	ANTI - INFLAMMATORY	IMMUNE - REGULATOR
Propolis	Yes	Yes	Yes
Bee venom, apitoxin	Yes	Yes	Yes
Royal jelly	Yes	-	Yes
Honey	Yes	Yes	Yes
Pollen / bee bread	Yes, low activity	-	Yes

Bees products clinically manifesting on the directions needed in COVID – 19 infection ADMINISTRATION

Bee product \ Action	Administration	Availability / price	Approach on body for Covid-19
Propolis	Self- administration	Yes / accessible	Oral, nose (drops, inhalation), eyes, rectum
Bee venom, apitoxin	Therapist	Difficult	Skin – stings Maybe oral, inhalation
Royal jelly	Self-administration	Yes / may be expensive	Oral
Honey	Self-administration	Yes / accessible	Oral, inhalation Maybe i.v.
Pollen / bee bread	Self-administration	Yes / accessible	Oral

Propolis book, chapter 2, by Stefan Bogdanof

<https://www.bee-hexagon.net/english/bee-products/downloads-propolis-book/>

ANTIVIRAL - ALL PROPOLIS TYPES

Poplar propolis - antiviral compounds

Polyphenols, phenyl- carboxylic acids, and esters of substituted cinnamic acids, caffeic acid, quercetin, luteolin, fisetin, quertecagetin

Viruses on which propolis acts

Adenovirus, **Coronavirus**, Herpes symplex, Influenza A and B virus, Newcastle disease virus, Polio virus, Vaccinia, Rotavirus; Vesicular Stomatitis Virus, Coronar virus

Compounds / types of propolis

Actions useful in infections

Polyphenols and flavonoids

/
Mostly poplar, but present in most propolis types

Antiviral, anti-inflammatory, immune-modulating, antibacterial, antifungal, antiallergic, hepatoprotective, cardioprotective, cicatrising, antioxidant

Caffeic acid phenethyl ester (**CAPE**) and other caffeates
/ Poplar, Bacharis

Antiviral, anti-inflammatory, immune-modulating, antibacterial, antifungal, hepatoprotective, cardioprotective, antioxidant

Caffeic acid (**CA**) / Poplar, Baccharis

Antiviral, antioxidant

Studies / articles on ANTIVIRAL, anti-flu activity of propolis and its compounds



1985 (PubMed.gov) <https://pubmed.ncbi.nlm.nih.gov/3834770/>

Antiviral action of fractions isolated from propolis
(V Maksimova-Todorova, N Manolova, G Gegova, Iu Serkedzhieva, S Uzunov)

1992 Mar (PubMed.gov) <https://pubmed.ncbi.nlm.nih.gov/1593279/>

Anti-influenza virus effect of some propolis constituents and their analogues (esters of substituted cinnamic acids)
(J Serkedjjeva, N Manolova, V Bankova)

2011 (PubMed.gov) <https://pubmed.ncbi.nlm.nih.gov/21423687/>

Caffeoylquinic acids are major constituents with potent anti-influenza effects in Brazilian green propolis water extract
(Tomohiko Urushisaki, Tomoaki Takemura, Shigemi Tazawa, Mayuko Fukuoka, Junji Hosokawa-Muto, Yoko Araki, Kazuo Kuwata)

2011 (PubMed.gov) <https://pubmed.ncbi.nlm.nih.gov/21876716/>

3,4-Dicaffeoylquinic Acid, a Major Constituent of Brazilian Propolis, Increases TRAIL Expression and Extends the Lifetimes of Mice Infected with the Influenza A Virus

(Tomoaki Takemura, Tomohiko Urushisaki, Mayuko Fukuoka, Junji Hosokawa-Muto, Taketoshi Hata, Yumiko Okuda, Sachie Hori, Shigemi Tazawa, Yoko Araki, Kazuo Kuwata)

2020 Apr 16 (Elsevier)

<https://www.apiservices.biz/en/articles/sort-by-popularity/2578-potential-therapeutics-against-covid-19>

PAK1 blockers: Potential Therapeutics against Covid 19

(Hiroshi Maruta, Hong He)

“**PAK1** (RAC/CDC42-activated kinase 1) is the major “**pathogenic**” kinase whose abnormal activation causes a wide variety of diseases/disorders including cancers, inflammation, malaria and pandemic viral infection including influenza, HIV and **COVID-19** ... Thus, as alternative potentially more direct “broad-spectrum” COVID-19 therapeutics, several natural and synthetic **PAK1-blockers** such as **propolis**, melatonin, ciclesonide, hydroxy chloroquine (HQ), ivermectin, and ketorolac, which are readily available in the market, are introduced here.”

Studies / articles on ANTIVIRAL, anti-flu activity of propolis and its compounds

2020 April 22

https://www.scienceopen.com/hosted-document?doi=10.14293/S2199-1006.1.SOR-.PP5BWN4.v1_

Investigation of potential inhibitor properties of **ethanolic propolis extracts against ACE-II receptors for COVID-19** treatment by Molecular Docking Study

(Halil Ibrahim Güler , Gizem Tatar , Oktay Yildiz, Ali Osman Belduz, Sevgi Kolayli)

“The results are shown that rutin has the best inhibition potentials among the studied molecules with high binding energy -8,97 kcal/mol and K_i 0,261 μ M, and it is followed by myricetin, caffeic acid phenethyl ester, hesperetin and pinocembrin. However, the reference molecule has binding energy of -7,28 kcal/mol and 4,65 μ M. In conclusion, the **high potential of flavonoids in ethanolic propolis extracts to bind to ACE II receptors** indicates that this natural bee product has **high potential for Covid-19 treatment**, but this needs to be supported by experimental studies.”

2020 Apr 30 (PubMed.gov) <https://pubmed.ncbi.nlm.nih.gov/32360300/>

Natural product-derived phytochemicals as potential agents **against coronaviruses**: A review_

(Janice S Mani, Joel B Johnson, Jason C Steel, Daniel A Broszczak, Paul M Neilsen, Kerry B Walsh, Mani Naiker)

“...with **55 primary research articles** identified. ... Compounds that show promise for the inhibition of coronavirus in humans include scutellarein, silvestrol, tryptanthrin, saikosaponin B₂, quercetin, myricetin, caffeic acid, psoralidin, isobavachalcone, and lectins such as griffithsin. Other compounds such as lycorine may be suitable if a therapeutic level of antiviral activity can be achieved without exceeding toxic plasma concentrations. It was noted that **the most promising** small molecules identified as **coronavirus inhibitors** contained a conjugated fused ring structure with the majority being classified as being **polyphenols**.”

Studies / articles on ANTIVIRAL, anti-flu activity of propolis and its compounds

2020 June <https://www.sciencedirect.com/science/article/pii/S0753332220308155?via%3Dihub>
Propolis and its potential **against SARS-CoV-2** infection mechanisms and COVID-19 disease
(Andresa Aparecida Berretta, Marcelo Augusto Duarte Silveira, Jos´e Manuel Condor ´ Capcha, David De Jong)

“Conclusions ... Propolis has proven **anti-inflammatory and immunoregulatory effects, including PAK-1 inhibition**. Also, **attachment to ACE2**, a major target of the **SARS-CoV-2 virus** for host cell invasion, **is inhibited** by propolis. Propolis components, including CAPE, rutin, quercetin, kaempferol and myricetin have demonstrated in silico a strong interaction with ACE2. Kaempferol reduced the expression of TMPRSS2. In addition to these activities, propolis does not interact with the main liver enzymes or with other key enzymes; according to criteria adopted by the World Health Organization, therefore **propolis can be used concurrently with the main drugs without risk of potentiation or inactivation**. To determine if propolis specifically affects SARS-CoV-2 will require more research. But given that propolis is a **risk-free product**, except for those who may develop an allergy to it, the known biological activities of this natural bee product lead us to suggest its use for reducing the risk and impact of infection and as an adjunct to treatment.”



Studies / articles on ANTIVIRAL, anti-flu activity of propolis and its compounds

2020 June 16 (Authorea)

<https://www.authorea.com/users/333966/articles/460083-evidence-of-the-existence-of-a-large-amount-of-cationic-antimicrobial-peptides-in-propolis-with-a-strong-physical-electrostatic-mechanism-of-action-detergent-like-and-their-possible-promising-effects-in-the-treatment-of-covid-19-by-means-of-propolis-extract-inhalation>

Evidence of the Existence of a Large Amount of **Cationic Antimicrobial Peptides in Propolis**, with a Strong Physical/Electrostatic Mechanism of Action (Detergent-like), and their Possible Promising Effects in the Treatment of **COVID-19** by means of Propolis Extract Inhalation

(Eric A. Burger, burger.eab@gmail.com)

“... In the scientific literature there are already consistent clues that propolis main components, responsible for its medicinal properties, are, actually, **antimicrobial peptides** (AMPs). To investigate this possible existence of AMPs in propolis, experiments that can be easily reproduced were developed and, beyond not allowing the rejection of the hypothesis, may have revealed extraordinary evidence that the substance has a large amount of cationic AMPs, which produce strong effects. It was found that propolis, differently from the effects produced only by its phenolic compounds, has, given the significant **hydrophobic residues of the water-soluble cationic peptides** that abound in it, strong amphipathic/surfactant(detergent-like) character and its therapeutic mechanism of action is physical/structural, through **electrostatic force**. In order to produce effects, the cationic peptides in propolis bind, by attraction, to anionic moieties of the organism/agent with which the substance interacts, and generate a cascade of phenomena. Thus, the results of the experiments developed suggest that there is a potential that should be extensively explored by science; i.e., propolis and its cationic AMPs possibly have strong antimicrobial and disease fighting properties and are designed to not be resisted by any pathogen, mainly if applied directly to the infection/disease site in the necessary amount. The experiments may also have revealed, as studies have been demonstrating that propolis is **non-toxic and safe to be used by humans even in large doses**, a possible powerful therapeutic agent that is ready to be utilized now against SARS-CoV-2. “

Studies / articles on ANTIVIRAL, anti-flu activity of propolis and its compounds

2020 June 1 (PubMed.gov) <https://pubmed.ncbi.nlm.nih.gov/32431217/>

Withanone and caffeic acid phenethyl ester are predicted to interact with main protease (M^{pro}) of SARS-CoV-2 and inhibit its activity

(Vipul Kumar, Jaspreet Kaur Dhanjal, Sunil C Kaul, Renu Wadhwa, Durai Sundar)

“Data presented here predicted that these natural compounds may possess the potential to **inhibit the functional activity of SARS-CoV-2 protease** (an essential protein for virus survival), and hence (i) may connect to save time and cost required for designing/development, and initial screening for anti-COVID drugs, (ii) may offer some therapeutic value for the management of novel fatal coronavirus disease, (iii) warrants prioritized further validation in the laboratory and clinical tests”

2020 June 7 (Dermatological Therapy Wiley) <https://onlinelibrary.wiley.com/doi/10.1111/dth.13780>

Back to the basics: Propolis and COVID-19

(Dimitri Bachevski, Katerina Damevska; Faculty of Medicine, University Clinic for Dermatology, Ss. Cyril and Methodius University, Skopje, Macedonia)

“We review the effects of **propolis, an old remedy with proven antiviral properties**, as a possible low-cost inhibitor of SARS-CoV-2 in the oropharyngeal niche, prophylaxis, or adjuvant therapy. “

“Be it **alcoholic or aqueous, propolis extracts** from temperate climate have been shown to possess a potent and broad-spectrum **antiviral activity against a diverse panel of viruses** such as HSV-1, HSV-2, Influenza virus type A and B, Parainfluenza virus, Adenovirus, HIV, infectious bursal disease virus, and avian reovirus, Newcastle virus disease, bovine rotavirus, pseudorabies virus, feline calicivirus, canine adenovirus type 2, and bovine viral diarrhea virus.”

Studies / articles on ANTIVIRAL, anti-flu activity of propolis and its compounds

2020 July 15

https://chemrxiv.org/articles/preprint/In_Silico_Screening_of_Potent_Bioactive_Compounds_from_Honey_Bee_Products_Against_COVID-19_Target_Enzymes/12644102/1

In Silico Screening of Potent Bioactive Compounds from Honey Bee Products Against COVID-19 Target Enzymes

(Moataz A. Shaldam, Galal Yahya, Nashwa H. Mohamed, Mohamed M. Abdel-Daim, Yahya Al Naggar)

“Conclusions

Theoretical studies through molecular docking of collection of bioactive compounds of honey bee products against selected targets of COVID-19 including Mpro and RdRb enzymes of the 2019-nCoV virus have distinguished promising bioactive compounds of natural origin that exhibited profound binding to the respective COVID-19 targets. Among the investigated bioactive compounds derived from **honey** and **propolis**, **p-coumaric acid**, **ellagic acid**, **kaemferol** and **quercetin** are the most promising compounds **on 2019-nCoV active sites (RdRb and Mpro)**. These potent bioactive compounds were also found to have potential antiviral activity against the common cold human rhinovirus which is RNA virus like SARS-CoV2. Taken all together and based on our theoretical studies supported by previous in vitro confirmatory studies, we recommend further in vivo investigations to assess the predicted affinity of the selected compounds against the novel coronavirus (COVID-19) target enzymes.”



Studies / articles on ANTIVIRAL, anti-flu activity of propolis and its compounds

2020 Jul 28 (PubMed.gov) <https://pubmed.ncbi.nlm.nih.gov/32735799/>

Roles of flavonoids against coronavirus infection

(Maria Russo, Stefania Moccia, Carmela Spagnuolo, Idolo Tedesco, Gian Luigi Russo)

“Up to now, there is no cure for COVID-19 and waiting for an efficacious vaccine, the development of "savage" protocols, based on "old" anti-inflammatory and anti-viral drugs represents a valid and alternative therapeutic approach. As an alternative or additional therapeutic/preventive option, different *in silico* and *in vitro* studies demonstrated that small natural molecules, belonging to **polyphenol** family, can **interfere with various stages of coronavirus entry and replication cycle**. Here, we reviewed the capacity of well-known (e.g. quercetin, baicalin, luteolin, hesperetin, gallic acid, epigallocatechin gallate) and uncommon (e.g. scutellarein, amentoflavone, papyriflavonol A) flavonoids, secondary metabolites widely present in plant tissues with **antioxidant and anti-microbial functions**, to inhibit key proteins involved in coronavirus infective cycle, such as **PL^{pro}, 3CL^{pro}, NTPase/helicase**. Due to their pleiotropic activities and **lack of systemic toxicity**, flavonoids and their derivative may represent target compounds to be tested in future clinical trials to enrich the drug arsenal against coronavirus infections.”

Studies / articles on ANTIVIRAL activity of propolis and honey

2020 August

<https://www.umf.org.nz/wp-content/uploads/2020/09/Bee-products-as-a-source-of-promising-therapeutic-and-chemoprophylaxis-strategies-against-COVID-19.pdf>

Bee products as a source of promising therapeutic and chemoprophylaxis strategies against COVID-19 (SARS-CoV-2)
(William G. Lima, Júlio C. M. Brito, Waleska S. da Cruz Nizer)

“The **antiviral activity** of propolis is associated with the presence of **phenolic** compounds (e.g., galangin, chrysin, p-coumaric acid, kaempferol, and quercetin), which block or reduce the adsorption and entrance of the virus into the host cells (Kwon et al., 2019; Schnitzler et al., 2010). Since these are considered early steps of the viral cycle, the use of propolis may be more suitable for chemoprophylaxis. Furthermore, similar to honey, propolis is known to stimulate the adaptive immune response, which reinforces its prophylactic antiviral effect (Babaei et al., 2016)”

TABLE 1 **Ongoing randomized, double-blind clinical trials** on the therapeutic and prophylactic use of bee products against patients with COVID-19 patients

NCT number	Country	Number enrolled	Bee product	Intervention	Study phase	Study status	Category/setting
NCT04323345	Egypt	1000	Honey	Supplementation of 1 mg/kg/day divided into 2–3 doses for 14 days with standard care	III	Recruiting	Treatment/multicenter
NCT04347382	Pakistan	30	Honey	30 mL of honey orally twice a day for 14 days and Nigella sativa seed powder (1 mg) twice daily in capsule for a maximum of 14 days with standard care	III	Recruiting	Treatment/single center
NCT04480593	Brazil	120	Brazilian green Propolis extract	400 or 800 mg/day orally or via nasogastric tube with standard care	II	Recruiting	Treatment/single center

Studies / articles on ANTI-INFLAMMATORY and IMMUNE-MODULATOR activity of propolis and its compounds

2009 (PubMed.gov) <https://pubmed.ncbi.nlm.nih.gov/19699326/>

Propolis effects on pro-inflammatory cytokine production and Toll-like receptor 2 and 4 expression in stressed mice (Ana Carolina Pagliarone 1 , Cláudio Lera Orsatti, Michelle Cristiane Búfalo, Fabiane Missima, Tatiana Fernanda Bachiega, João Pessoa Araújo Júnior, José Maurício Sforcin)

“Introduction: **Propolis** is a beehive product and its **immunomodulatory** action has been well documented; however, little is known concerning its activity on the immune system of stressed mice. This work investigated a possible role of propolis against the immunosuppressive effects induced by stress in mice, assessing the pro-inflammatory cytokine (IL-1beta and IL-6) production and Toll-like receptor (TLR-2 and TLR-4) expression by spleen cells.

Methods: BALB/c mice were divided into 3 groups: G1 was considered control; G2 was submitted to restraint stress for 3 days, and G3 was treated with propolis and immediately submitted to stress. After sacrifice, spleens were removed and TLR-2 and TLR-4 gene expression was analyzed, as well as the pro-inflammatory cytokine production. Serum corticosterone levels were determined by radioimmunoassay as a stress indicator.

Results: Stressed mice, treated or not with propolis, produced higher corticosterone levels, whereas IL-1beta and IL-6 production was inhibited. TLR-2 and TLR-4 expression was inhibited in stressed mice, while propolis exerted an immunorestorative role in TLR-4 expression. The immunosuppressive effects on IL-1beta and IL-6 production and on TLR expression by stressed mice might have occurred due to a higher corticosterone production during stress.

Conclusion: Propolis treatment did not antagonize the **inhibitory effects on pro-inflammatory cytokine production**, however it restored at least partially TLR2 mRNA expression and counteracted the inhibition on TLR-4 expression in stressed animals, contributing to the recognition of microorganisms during stressful conditions.”



Studies / articles on ANTI-INFLAMMATORY and IMMUNE-MODULATOR activity of propolis and its compounds

2012 (PubMed.gov) <https://pubmed.ncbi.nlm.nih.gov/22275284/>

The effects of propolis and its isolated compounds on cytokine production by murine macrophages

(T F Bachiega, C L Orsatti, A C Pagliarone, J M Sforcin)

“Since propolis and phenolic compounds, such as cinnamic and coumaric acids, have several biological properties, their **immunomodulatory effect on cytokine production** (IL-1 β , IL-6 and IL-10) was investigated. Peritoneal macrophages from BALB/c mice were incubated with propolis, coumaric and cinnamic acids in different concentrations and the concentrations that inhibited cytokine production were tested before or after macrophage challenge with LPS, to evaluate a possible immunomodulatory action. Propolis and the acids stimulated IL-1 β production, while IL-6 production was significantly inhibited after incubation with propolis (5, 50 and 100 μ g/well), coumaric and cinnamic acids (50 and 100 μ g/well). In LPS-challenge protocols, inhibitory concentrations of cinnamic and coumaric acids after LPS incubation prevented efficiently its effects on IL-6 production, whereas propolis inhibited LPS effects both before and after its addition. Propolis, coumaric and cinnamic acids (50 and 100 μ g/well) inhibited IL-10 production as well. Both acids showed a similar inhibitory activity on IL-10 production when added after LPS challenge, while propolis counteracted LPS action when added before and after LPS incubation. **Propolis modulated the immune/inflammatory response**, depending on the concentration. Its efficiency may occur due to the synergistic effect of its compounds, and cinnamic and coumaric acids may be involved in the action of propolis on cytokine production.”



Anti-thrombosis action of propolis

In the experience on apitherapy – practical observation:

- propolis alone
- as pollen alone
- more when they are combined

act **MODULATING THE HOMOEOSTASES.**

Propolis probably contributes in preventing the thrombosis in Covid-19 infection.



Propolis has NO TOXICITY

Prof. Dr. Siegfried Ansoerge (Faculty of Medicine of Magdeburg University, Institute of Experimental Internal Medicine, presented in the International Conference of Apitherapy held in Austria in 2008 a study made on mice:

- they administered propolis 1400 mg/Kg/day, for 90 days
- no toxic effect was observed

By a proportional calculation, for one person of 70 Kg, would correspond 98 g de propolis/day, which no one never administered. The maximum doses administered in severe conditions (e.g. cancers, generalised infections) correspond to maximum 10 g/day

Propolis book – chapter 2 (Prof. Stefan Bogdanof) on page 21:

“Toxicology

Burdock reviews many animal toxicological studies in animals. He concludes that an intake **until 4000 mg/kg per day there are no measurable effects** and establishes a **No Effect Level (NOEL) at 1400 mg/kg per day**. Generally a safety margin of 100 is assumed for drug and food additives. This means that a maximum of 14 mg/kg or 980 mg per day for a human of 70 kg can be the daily acceptable intake.”

Propolis has NO SIDE EFFECTS

In practice, we don't meet real side effects of propolis.

During my 26 years of experience with propolis, I observed only in few cases, two transitory unpleasant things, that disappeared fast:

A. In internal use, by taking too much compared with the need AND for too long time compared with the need, a dry caught may appear, especially if not drinking enough liquids

E.g.1 In a case of cancer, taking for 2-3 months, a dose of 3x16 ml/day, instead of the recommended dose of 3x5 ml/day,

E.g.2 In the case of cold, taking 3x10 ml/day, instead of 3x3(4) ml/day, for 3 weeks

In both conditions, caught disappeared in few days, by diminishing the dose, taking honey and drinking enough liquids. No need to interrupt the propolis.

B. In external use, in few cases (3-4 totally, in 28 years of practice) may appear a local hypersensitivity on the normal skin only, strictly on application place, manifested by redness, itch and possible light swelling. It disappeared in about 2 days, by interrupting the application of propolis and using locally a herbs calming oil. Internally the propolis can be taken without any change.

CLINICAL observation on propolis activity on Covid-19 in France, April 2020

2020 (Apiservices) <https://www.apiservices.biz/en/articles/sort-by-popularity/2603-poplar-propolis-and-covid-19>

Poplar brown propolis titrated in polyphenol and Covid-19 : Feedback from a retrospective field study
[Becker Anne (MD), Cardinault Nicolas (PhD), Nonotte-Varly Claude (MD) - Association Francophone d'Apithérapie]

"Twenty four dependent elderly people supplemented their diet served in their hospital with brown poplar propolis titrating 400 milligrams / day of polyphenol, divided into two takes over four consecutive weeks in **April 2020**.

Thirty-five other people of the same profile and from the same hospital shared the same meals without supplementation.

During this period, 38% of Covid-patients are reported in individuals eating propolis versus 43% in those who do not eat propolis. The initially clinical Covid-19 disease diagnoses were subsequently confirmed by a positive Covid-19 serology. The observation of a lethal evolution was the same in propolis users and non-users (8% versus 9%).

The asymptomatic clinical forms (with positive seroconversion) and the proportion of non-sick subjects (with absence of seroconversion to Covid-19) are greater in propolis users compared to others (respectively 38% versus 23% and 33% versus 21%).

The different results between users and non-users of propolis above are not statistically different (non-parametric Z tests comparing two proportions - $er < 1.96$).

However, the proportion of very **favorable clinical forms** (sum of the proportions of asymptomatic and non-sick subjects) is **significantly higher in propolis users (71%** versus 44% - $er = 2.04$ - $p < 0.05$).

Laboratory tests carried out in individuals sick with Covid-19 have all shown leukopenia often associated with big lymphopenia.

In individuals who used propolis after the onset of symptoms, and in whom a biological assessment was carried out at the onset of the disease, a **very rapid rise in leukocytes** was observed, **in particular lymphocytes, with the absolute values doubling within a few days**. This finding is not observed in those who did not use propolis."

Efficacy of propolis as an adjunct treatment for hospitalized COVID-19 patients: a randomized, controlled CLINICAL TRIAL

Results delivered in January 2021

Hospital Sao Rafael, Salvador, Brazil <https://www.medrxiv.org/content/10.1101/2021.01.08.20248932v1.full-text>

Marcelo Augusto Duarte Silveira, David De Jong, Erica Batista dos Santos Galvão, Juliana Caldas Ribeiro, Thiago Cerqueira Silva, Andresa Aparecida Berretta, Thais Chaves Amorim, Raissa Lanna Araújo San Martin, Luis Filipe Miranda Rebelo da Conceição, Marcel Miranda Dantas Gomes, Maurício Brito Teixeira, Sergio Pinto de Souza, Marcele Helena Celestino Alves dos Santos, Márcio de Oliveira Silva, Monique Lírio, Lis Moreno, Julio Cezar Miranda Sampaio, Renata Mendonça, Silviana Salles Ultchak, Fabio Santos Amorim, João Gabriel Rosa, Paulo Benigno Pena Batista, Suzete Nascimento Farias da Guarda, Ana Verena Almeida Mendes, Rogerio da Hora Passos

THREE GROUPS of patients with Covid-19:

- 1. 40 patients with standard care plus 7 days of 400 mg propolis extract**
- 2. 42 with standard care plus 7 days of 800 mg propolis extract**
- 3. 42 in control group, with only standard care**

Of these:

- age: average 50 +/- 12.5 years
- important co-morbidities: 51,6% obesity, 21% diabetes, 7,2% chronicle obstructive pulmonary diseases
- oxygen supplementation: 3,2% invasive mechanical, 48,4% non-invasive ventilation
- 41,1% necessitated intensive care

RESULTS

Time of hospitalisation reduced to (average):

- 7 days for group 1
- 6 days for group 2
- comparing with 12 days for control group

Acute kidneys lesions observed to:

- 5 patients of group 1
- 2 patients of group 2
- 10 patients of control group

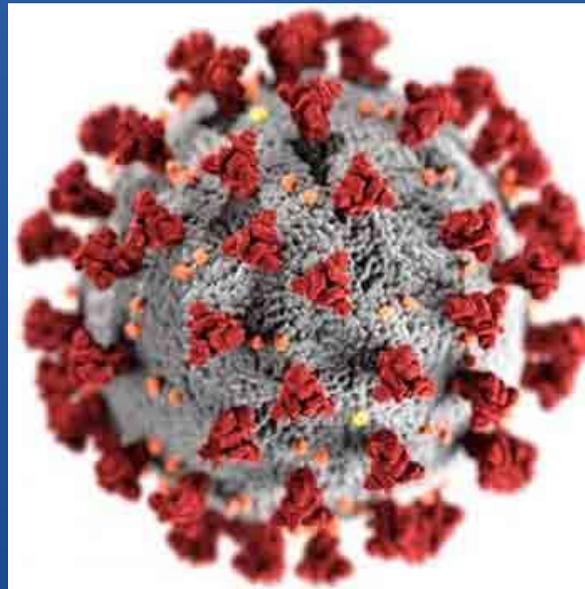


Online database "Bee products and Covid 19"

Managed by GILLES RATIA, former President of Apimondia

Thank you so much, dear Gilles !

<https://www.apiservices.biz/en/articles/articles-bee-products-and-covid-19>



Our perspective on Covid-19 situation

- When the Covid-19 situation started, we were at peace thinking that it is just a virosis and that after about 28 years of practical experience when treating various virosis, it could be similarly
- I mention types of virosis under our observation during this time: respiratory virosis all kinds (colds, flu, rhinitis, pharyngitis, pharynges-amigdalitis, bronchitis, bronchiolitis), ORL (oto-rhyno-laringology) virosis, ophthalmic, digestive, cardiac-vascularly, neurological,...
- In all this cases, propolis was present as main recommendation
- I trust propolis and was sure it will act fine. I was thinking that I only need to acquire a bit of experience with this new type of virosis, which was looking similarly with a cold
- Then, in the first months, while observing the people who used propolis, the big **S U R P R I S E** was to see how **F A S T AND ACCURATE IT ACTS**
- And at this moment, it is a fact in my consciousness that bees propolis really helps people in this new virosis, both as prophylaxis and curatively

Scientific clinical study or clinical observing and analysing, by direct practice ?

- The treatments for Covid-19 were recommended by us to **people in need and scared** by death.
- The patients usually ask to a doctor **help for their sufferance**, but not to be subjects of a study.
- A double blind scientific study assumes that half of people receive a non-active "remedy". But in our case, in reality **people need immediate action**.
- I can not afford to offer to someone who suffers, a **placebo which doesn't work by itself**, which I know from the beginning, only to satisfy the curiosity of someone's mind.
- We have to choose between scientific statistic and moral application of an effective treatment.
- So, in Covid-19 situation, as practitioner I choose to treat a **virosis** with a safe remedy, the **propolis**, that I already know it acts due to a practice of 28 years, by applying the **previous experience** with the caution necessary in a new situation, to help people in need. And at the same time to gain new and particular experience by observing them attentively and adapting, on the go, the treatment to their needs. Further on, we will use this **new experience** to help better and faster other people in the same situation.
- My way is to seek and offer all the best I can to help people, and after that I study the situation to extract the knowingness that I will apply forward.
- This new experience that resulted, is improvable by continuing to observe and adapt practically, by **offer and receive valuable information**, sharing with others involved in this field of healing people with simple remedies from the nature.

Ways to use propolis in Covid-19 infection



Prophylaxis

- Orally intake: various extracts simple or mixed with honey
- Nasal / eye drops: water extract
- Aerosols: diffusers in the room, in the car
- Soaps, sprays with propolis

Curative:

- all as for prophylaxis, plus depending the condition, next:
- inhalations
- suppositories



Practical experience with Covid-19 people using bees products

AS PROPHYLAXIS

- We recommended **generally** one dose/day of **3 ml of propolis tincture (PT) 30%** (European Poplar type)
- For the **contacts** with Covid-19 persons, having no symptoms: **2 x 3 ml/day PT**
- We recommended the PT **mixed with honey**, to improve the action

RESULTS

1. **In 2020**, I calculated more than **200 persons** whom I know, who took preventively the propolis. Among them, there were only **3 who became positive**:

- symptoms: one has smell and taste decreased; one had fever, cough, asthenia; the third added pains in the skin and muscles, throat dryness and lack of appetite
- they didn't need hospitalization, they didn't take conventional drugs
- after following the curative recommendations, they restored in few days.

2. **Until May 2021**, **tens of direct contacts** with positive tested persons, were isolated at home for 14 days, and took PT 2 x 3 ml/day. They had no symptoms. They didn't have a test before isolation, but the test in the 15-th day was negative for all of them.

Practical experience with Covid-19 people using bees products

AS CURATIVE APPLICATION

- For people with light or moderate symptoms we recommended generally **3 doses/day of 3-4-5 ml of PT 30%** (European Poplar type), according to the **weight**
- For severe symptoms, we observed during the last year that the evolution is faster to complete recover without sequels, by taking from the beginning **6 x 5 ml/day of PT 30%**, before and after the three meals, in order to have the night free of treatment, for resting well
- We recommended the PT **mixed with honey**, to improve the action



Practical experience with Covid-19 people using bees products

BEES PRODUCTS AS CURATIVE APPLICATION – clinical examples

1. Man 80 years age (August 2020)

- with fever and altered general condition for one week, he was tested positive for Covid-19; after two days was hospitalized and found with double pneumonia
- after 4 days he added PT 3 x 3 ml/day; after other 4 days he felt better and turned to negative for Covid-19
- he got out of hospital after 19 days, with 78% pulmonary capacity (spirometry)
- he continued at home to take PT
- in December 2020, 90% pulmonary capacity (spirometry)

2. His wife of 77 years age

- after he entered in hospital, she remained at home and felt bad, with fever
- she took PT 3 x 3 ml/day
- in 5 days she was completely recovered

Practical experience with Covid-19 people using bees products

BEES PRODUCTS AS CURATIVE APPLICATION – clinical examples

3. Woman, 80 years age (August 2020)

- Covid-19 positive
- hospitalized in intensive therapy, with oxygen saturation of the blood under 90%
- PT administered 3 x 3 ml/day
- after three days, the oxygen saturation of the blood increased to 97%, she felt better

4. Woman, 61 years age (September 2020)

- Covid-19 positive
- hospitalized in intensive therapy with a poor clinical condition, needing oxygen-therapy
- PT administered 3 x 3 ml/day
- after three days, she didn't need anymore oxygen, she got up from the bed, started to eat and the test was negative

Practical experience with Covid-19 people using bees products

BEES PRODUCTS AS CURATIVE APPLICATION – clinical examples

5. Man, 52 years (October 2020)

- 90 Kg, allergic rhinitis

- positive symptomatic from 4 days: severe asthenia (can't even talk), severe cough in crises, fever constantly 38,5-39°C, loss of appetite; he wasn't hospitalized

- he took himself 3 x 3 ml PT for 2 days with a slight improvement, then he searched us, and we recommended 6 x 5 ml PT

- in 4 days the fever was only at evening 38°C, and during the day 37-37,5°C; he feels better, the cough diminished, started to eat a bit, very much sweating

- after the first week, started bee bread 5 teaspoons /day, to recover faster

- sweating reduced gradually

- after two weeks he get out in his yard and diminished the PT to 3 x 5 ml/day



Practical experience with Covid-19 people using bees products

BEES PRODUCTS AS CURATIVE APPLICATION – clinical examples

6. Woman 40 years (January 2021)

- co-morbidities: bronchial asthma

- positive symptomatic: dyspnoea, asthenia, dry frequent cough, fever constantly 38,5°C, blood saturation in oxygen 95%; treated initially conventionally with 2 anti-coagulants, 2 anti-inflammatory and one antibiotic

- having **no response after 8 days**, she searched us, and we recommended 6 x 5 ml PT, eliminating at first step one anti-coagulant and one anti-inflammatory; the other drugs remained to be taken out later

- in 24 hours she felt better, the fever decreased at 37,5°C, blood saturation in oxygen increased to 98%

- **she restored in few days**

RESUME of the last year of practical experience with Covid-19 people, using bees products

We recommended the products available on our market:

- **Propolis tincture** (European Poplar type) 30% (PT) as main product, mixed with **honey**
- **Raw royal jelly** in severe cases, as antiviral, vitalizing and regenerator
- **Pollen or bee bread** in severe cases, as general regulator, vitalizing and regenerator
- **AS PROPHYLAXIS - Propolis tincture 30%**
- Generally **1 dose/day of 3 ml** of PT
- For the contacts with Covid-19 persons, having no symptoms: **2 x 3-4-5 ml/day PT**, according to weight
- **AS CURATIVE APPLICATION - Propolis tincture 30%**
- For people with light or moderate symptoms: **3-4 x 3-4-5 ml/day of PT**, according to the **weight**
- For severe symptoms: **6 x 5 ml/day of PT**, before and after the three meals, in order to have the night free of treatment, for resting well
- Inhalation of propolis **aerosols** may help pulmonary recovering, if available on mask or simply in the room
- **Nose drops** improve nasal breathing
- For faster recovering we added orally: **royal jelly** and **pollen / bee bread**
- Considering the results with propolis, I didn't feel the need to add any other remedy, but if necessary I would recommend essential oils (e.g. Thyme)

RESUME of the last year of practical experience with Covid-19 people using bees propolis

RESULTS AS PROPHYLAXIS

- **About 97 %** of those whom we know as taken for general prophylaxis, **didn't have a symptomatic infection**
- Direct contacts: didn't became symptomatic



RESULTS AS CURATIVE APPLICATION

- Those with **light and moderate symptoms: recovered in few days**
- Those with **severe symptoms** who started fast the intake: **recovered in about one week**, without pulmonary nor other sequels
- Those with severe symptoms who delayed 4-7 days the intake, recovered in longer time, and some had pulmonary sequels, recovered gradually in about few months
- **No thrombosis were observed**
- **No kidneys or other organs sequels**

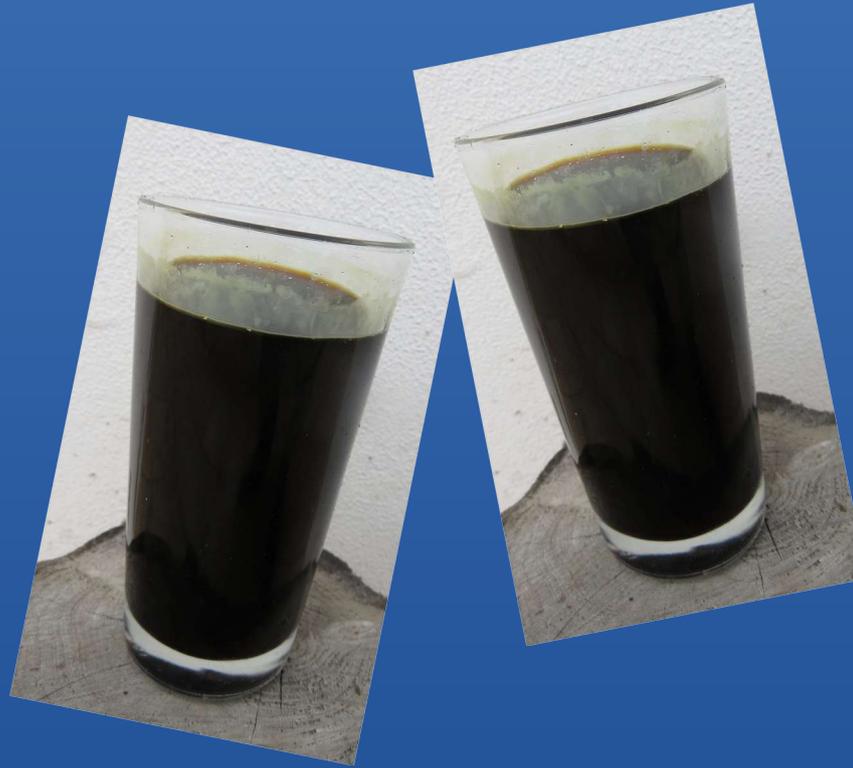
RESUME of the last 1,5 year of practical experience with Covid-19 people using bees propolis

The propolis made the difference, for many people:

- between a slow regression of severe symptoms or stagnation by taking only conventional treatment, and a faster progressive recovery, after adding the propolis
- between a slow recovery with low doses of propolis, and a fast recovery by taking large doses comparing with the usual ones, but which have proved in practice to be proper for this particular condition.



**Cheers and health !
Thank you for your attention !**



Bees and harmonicas

The **BBZZZ** of the bees is a healing **HARMONICA**, of 432 Hz.



This healing frequency is loaded in **ALL BEES PRODUCTS**.

In quantum terms, they act by
HARMONIZING
the energetic field.



The bees kept their originary energy from the beginning of the life till today.

The humans changed their energy. The humans consume the Planet.

The bees continue transmitting to us one and the same message since the origin of the LIFE.

It is the message of **COLLABORATION, HARMONY, COMPASSION.**



But the humanity turned onto **COMPETITION, CONFLICT.**

From this perspective, we **THINK** the bees products are **ANTI-microbial, ANTI-viral, ANTI-bacterial, ANTI-fungal, ANTI-inflammatory, ANTI-diabetes, ANTI-tumor, ...**

But they are not **AGAINST** anything.

The bees keep **LIVING PRO LIFE.**

Their products keep acting **PRO LIFE.**

Deeply with their originary energy, vibrations, frequencies, they simply live, and through this they restore the harmony in our disturbed field of energy, vibrations, frequencies.



When we will RE-TURN to the ordinary natural condition of
COLLABORATION and COMPASSION,
THE WORLD WILL BE HEALED.

THE BEES KEEP SHOWING US THIS CONDITION OF
ORIGINAL NATURAL BALANCE.

KINDLY THANKS TO THE BEES
FOR THEIR SIMPLE GIFT !

dr. Cristina Aohan
www.melidava.ro
contact@melidava.ro

