

**6<sup>th</sup> Apimedita & 5<sup>th</sup> Apiquality International Symposium**

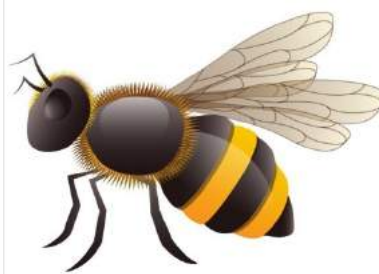
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# **Premises for the application of Apitherapy in Veterinary Medicine**

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# Topics



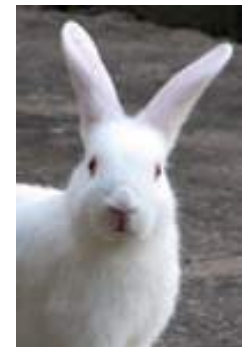
- **Introduction**
- **Applications in Human Medicine**
  - Honey, Propolis, Pollen, Royal jelly, Bee venom
- **Perspectives in Veterinary Medicine**
  - Use of bee products in veterinary: premises
  - Recommendations
  - Allergic reactions

# Introduction

- Apitherapy is the medical use of products made by honeybees (*Apis mellifera*), including honey, propolis, pollen, royal jelly, bee venom and beeswax, not only for nutraceutical purposes.
- This is a quite unknown practice in Italy, so that the objective is to link professionals in order to:
  - share experiences in the discipline;
  - collect relevant case studies and data;
  - define standard procedures.



Apitherapy can be applied  
in veterinary to different  
animal species: pets, exotic,  
livestock, wildlife, birds,  
reptiles....



# Applications in Human Medicine

## **HONEY**

Due to its anti-bacterial, anti-inflammatory, antioxidant, osmotic and analgesic effects, honey can be used to treat different conditions.

### **Product forms**

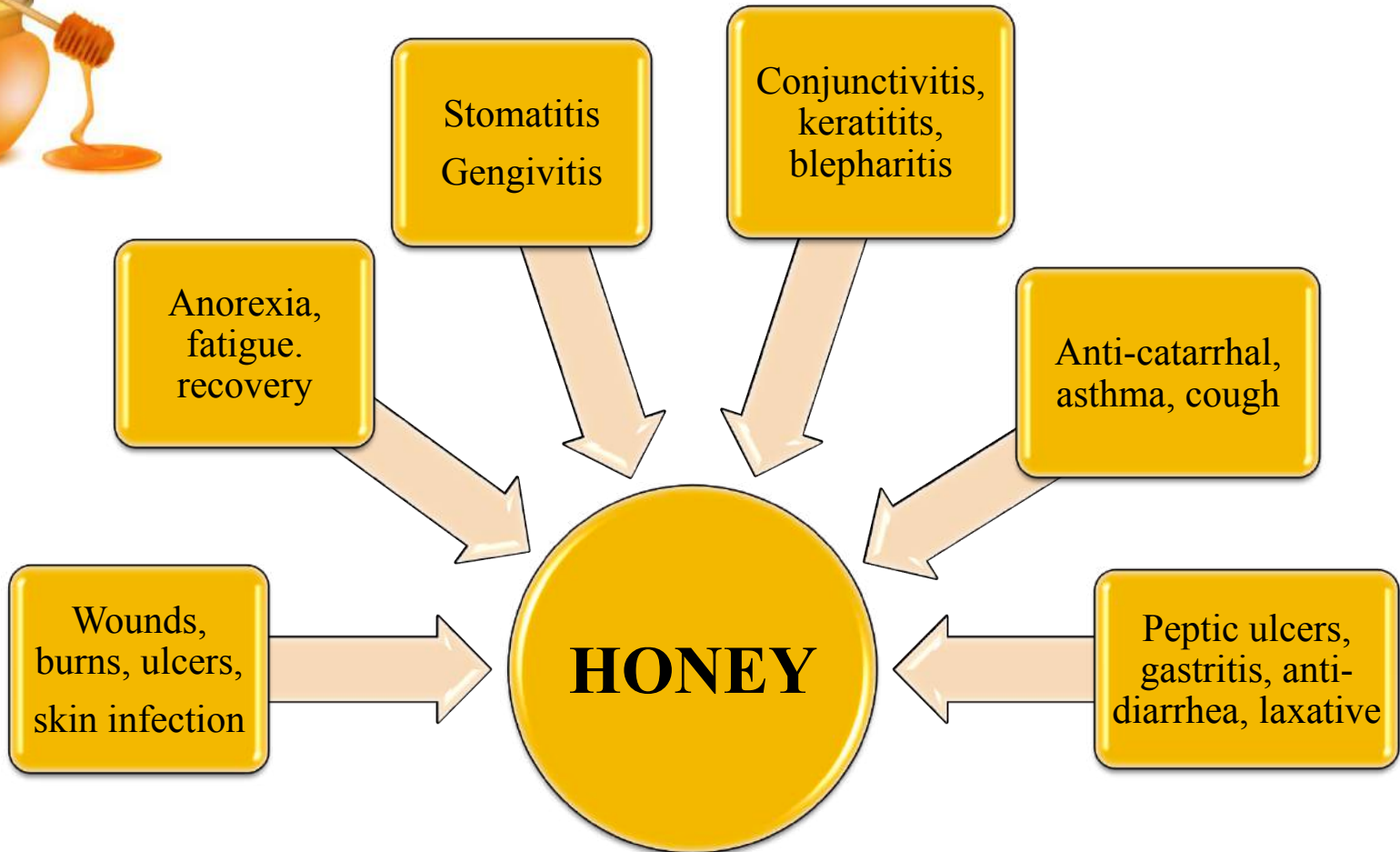
Raw (not filtered, heat treated or processed) or medical.

### **Methods of administration**

Topic or oral application.



# Applications in Human Medicine



# Applications in Human Medicine

## **POLLEN**

Due to its high nutritional value, its antioxidants, anti-anemic and anti-leukemic effects, pollen stimulates cellular regeneration and the hematopoiesis.

### **Product forms**

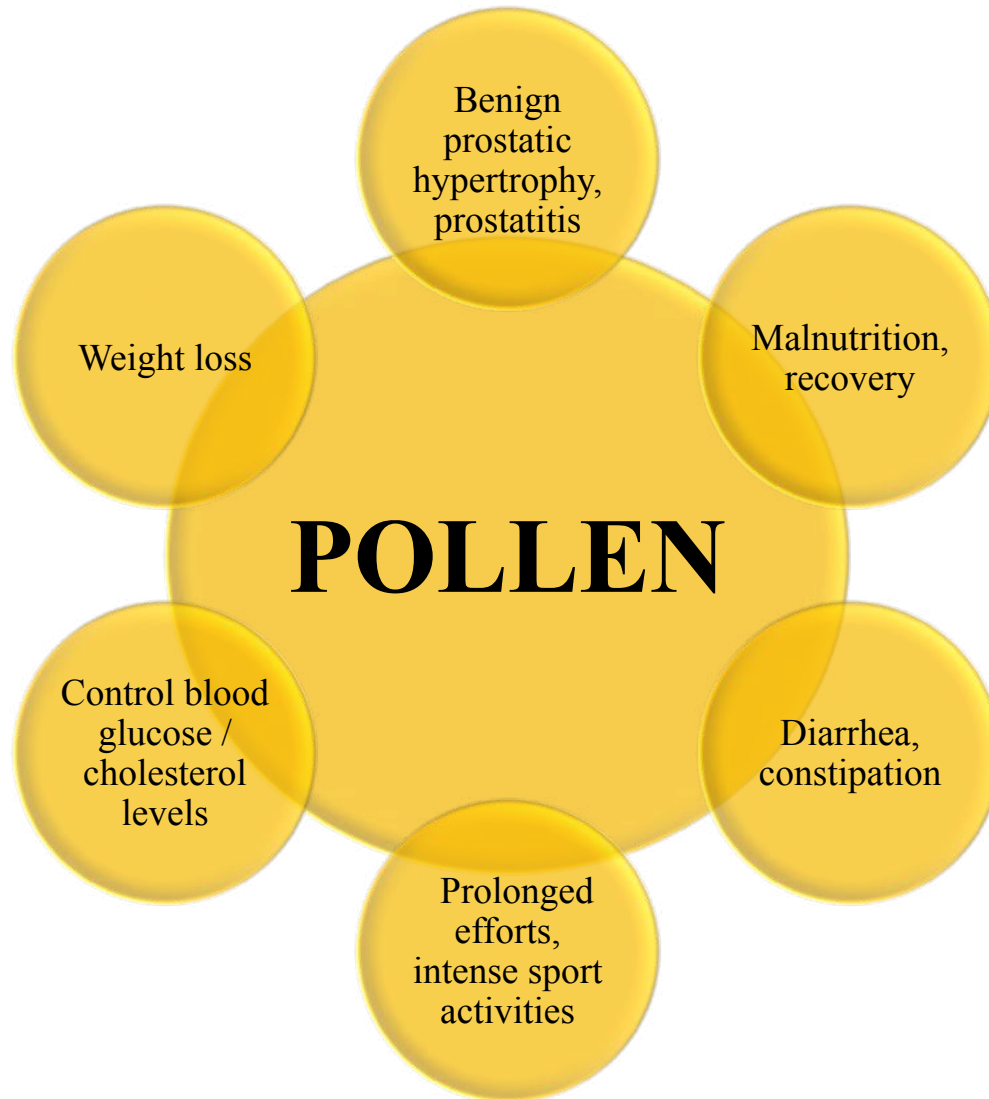
Frozen or fresh pollen grains.

### **Methods of administration**

Oral.



# Applications in Human Medicine





# Applications in Human Medicine

## **PROPOLIS**

Due to its anti-bacterial, anti-viral, anti-fungal, antioxidant and anti-inflammatory effects, propolis can be used to treat different conditions.

### **Product Forms**

Powder of rough propolis  
Tincture (hydroalcoholic solution)  
Salve

### **Methods of administration**

Topic or oral use.



# Applications in Human Medicine

## PROPOLIS



Peptic  
ulcers,  
gastritis

Periodontitis,  
gingivitis,  
abscesses

Aid immune  
system,  
dietary  
supplement

Wounds,  
burns,  
ulcers,  
dermatitis

Bladder  
infection

# Applications in Human Medicine

## **ROYAL JELLY**

It has anti-bacterial, anti-viral, fungicidal activity, anti-inflammatory, anti-hypoxia, anti-oxidant effects. Royal jelly stimulates cellular regeneration and haematopoiesis. It also has immunomodulating, hepatoprotective, remineralizing, anti-anaemic, anti-leucemic and anti-tumoral properties.

### **Product forms**

Fresh, frozen, powder, lyophilized.

### **Methods of administration**

Topic, oral application.



# Applications in Human Medicine

## **ROYAL JELLY**

Antioxidant (toxins, pollutants, chemotherapy)

Immunomodulatory activity (infection, autoimmune diseases)

Reproductive disorders (hormone balancing properties)

Eye disorders

Neuroprotective

# Applications in Human Medicine

## **BEE VENOM**

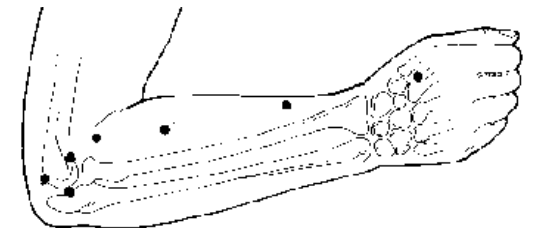
Bee venom has antibacterial, immuno-suppressive, immuno-stimulating, anti-inflammatory, anti-rheumatic, pain-soothing and anticoagulant properties. The anti-inflammation and analgesic effects were proved in various kinds of animal arthritic models.

### **Product forms**

Live honeybee sting, injection of pure and sterile venom, topic (cream, ointment, etc), homeopathic preparations.

### **Methods of administration**

Acupuncture points, acupressure points and local (in situ) pain points, nerve meridians.



# Applications in Human Medicine



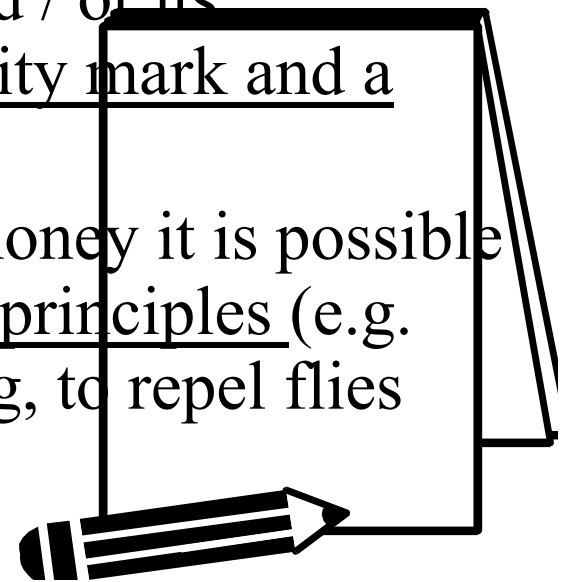
## **BEE VENOM**

- Chronic pain (arthritis, rheumatism, tendonitis)
- Skin diseases (mycosis, keloids, psoriasis)
- Diseases of the central and peripheral nervous system (multiple sclerosis)
- Effects on the heart and blood system (hypertension, arteriosclerosis)
- Anti-cancer

# Perspectives in Veterinary Medicine

## Use of bee products in veterinary: premises

- Lack of scientific bibliography.
- Beehive products have as potential sources many flower species, as a result they have extremely variable characteristics. Therefore it is necessary to determine the overall quality of each product and / or its therapeutic properties to create a quality mark and a certification of this products.
- In the treatment of skin lesions with honey it is possible to combine propolis or phytotherapeutic principles (e.g. essential oils) to deter animal's licking, to repel flies and to enhance the healing effect.



# Perspectives in Veterinary Medicine

## Recommendations

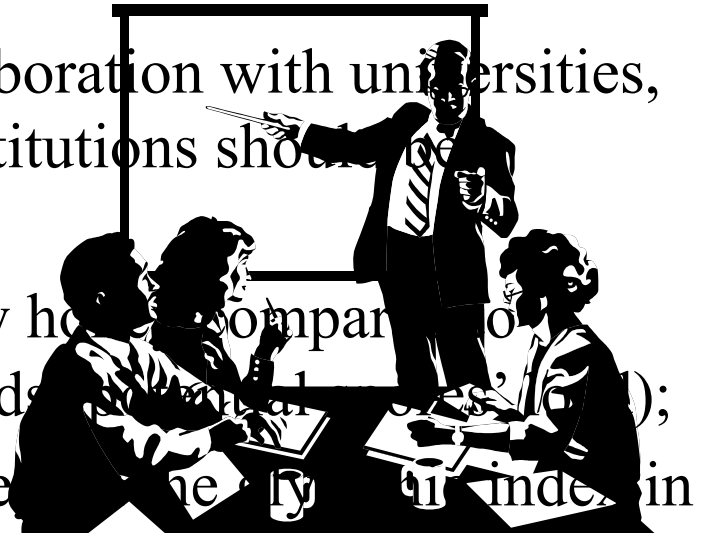
- Organize practical training courses to form specialized veterinarians.
- Doses and application protocols should be defined for their topical and oral use in veterinary or treatment animal species.
- Create a working group of veterinarians specialized in apitherapy, to share skills and updates on the theme.
- A datasheet model for the description of the clinical cases and the collection of national experiences shall be implemented.





# Perspectives in Veterinary Medicine

- Scientific study projects in collaboration with universities, laboratories and other public institutions should be developed, e.g.:
  - to determine the safety of raw honey compared to medical honey in dressing wounds (clinical trial);
  - to evaluate the effects of honey on the fly infestation index in the different animal species;
  - to define the possible risks associated with the use of raw honey in puppies and kitten.
- Consider the ethical component (use of live honeybees for apipuncture).



# Perspectives in Veterinary Medicine

## **Allergic reactions**

- Bee-related products are considered very safe. Allergic reactions are the most common side effects. Bee products should not be used in patients with known allergies to bees or bee products to avoid hypersensitivity reactions;
- It is suggested to integrate honey, pollen, propolis and royal jelly a little at a time in the animal diet or applied with a small amount topically the first time, to avoid the risk of adverse reactions and even anaphylactic shock;

# Perspectives in Veterinary Medicine

- The venom therapy should start with the determination of whether the patient is allergic by administering a small amount of venom intradermally. If there are no adverse reactions, then increase gradually over several weeks until the maintenance dose is achieved.

# Perspectives in Veterinary Medicine

## **Symptoms of an allergic reaction in animals**

- Breathing problems (wheezing, asthma);
- Gastroenteric distress (vomiting or diarrhea);
- Widespread swelling;
- Extreme vocalization;
- Seizures;
- Loss of consciousness;
- Anaphylactic shock.

# Perspectives in Veterinary Medicine

## **Recommendations for the use of the bee venom**

- Bee venom should only be used under the supervision of a qualified veterinarian;
- An allergy test should be performed to the patient before to start with the bee venom therapy;
- In collaboration with a reference laboratory, an IgE test for honeybee venom (*Apis mellifera*) specific for the different animal species must be validated to avoid allergic reaction.
- An emergency allergy kit should be kept on hand all the time in the event of an allergic reaction;
- Emergency protocols must be defined.

# Thanks for your attention!



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