Research Article

iMedPub Journals
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Herbal Medicine: Open Access
ISSN 2472-0151

2021
Vol.7 No.4:6850

Animal Self Medication

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Received date: December 09, 2020; **Accepted date:** August 17, 2021**; Published date:** August 27, 2021

Citation: Chamberlin B (2021) Animal Self Medication. Herb Med Vol: 7 No: 4.

Introduction

What is Zoopharmacognosy?

Zoopharmacognosy is the practice in which wild animals self-medicate using an evolutionary adaptation in which their innate instinct enables them to communicate and relate with medicinal plants within their environment, to bring about health and wellbeing. The term Zoopharmacognosy originates from Greek words, zoo ("animal"), pharma ("drug"), and gnosis ("knowing"). Unfortunately, domestication has restricted the opportunity for animals to use their instinctive knowledge to select nature's medicines. Applied Zoopharmacognosy takes this practice into captive and domestic environments.

Help your animal to heal themselves

The sense of smell to the animal kingdom plays such an important role, not only as a way to communicate and identify others of the same or different species, but also plays a vital role in how they relate to medicinal plants. Since the dawn of time animals have evolved an innate ability in which they are able to self-select medicines that nature has provided for survival. There are a number of theories on how animals have acquired the knowledge to self-medicate. Through evolution and natural selection, the relationship between animals and plants has resulted in animals developing a number of strategies to utilize the medicinal properties of plants.

Wild animals are able to seek out medicinal plants at the first signs of poor health, but because our domesticated and captive animals rarely have the opportunity to forage on a wide variety of medicinal plants, more challenging health problems often occur. Domesticated dogs and cats can be seen to display such behavior by the ingestion of grass to induce vomiting or perhaps for nutritional reasons. Observation of animal behavior has shown evidence of how wild animals self-medicate. Such examples can be seen by great Apes which can be subject to numerous parasite species, ingesting the bitter pith of Vernonia Amygdaline. This plant contains active chemical compounds that are anti-parasitic [1]. Other examples include red and green Macaws of the Amazonian river banks that have been observed ingesting clay to neutralize toxins [2]. External use of plant medicine can also be seen by animals that use masticated plant material and other objects such as insects to rub on to external areas of the body. The use of several species of citrus fruits is rubbed into the fur by the Capuchin monkey [3].

Applied Zoopharmacognosy takes nature's medicine kit to animals in captive and domestic environments, allowing the animal to express its innate ability to self-medicate by offering a wide range of plant compounds such as essential oils, CO2 extracts, macerated oils, dried herbs, powders, clays and algae. Animals with the same symptoms may choose to select a different remedy which is why this approach highlights the fact that this is individualized medicine.

The state of an animal's health can alter the taste and smell preferences of a plant, for a healthy animal it would be deterred by the plants bitter taste and perhaps putrid smell. Once the selected plants have dealt with the problem the animal should then proceed to reject the extracts that have been selected, demonstrating the animals very own dosing mechanism. Based on these principles it is advised not to add medicinal compounds to feed as, if not needed, the animal has no control over its dose and it may cause adverse effects. Depending on where and what the problem is, will determine how an animal will choose to self-medicate, which could be in the form of ingestion, sublingual administration, smelling, inhalation, flames response and topical application.

Equine case study: Tendon injury (Manica Flexoria)

Paddy 11-year-old Cob, ridden as a pleasure horse sustained an injury resulting in a tear to the Manica Flexoria in a hind limb. The veterinary option was to undergo surgery with 6 months rest. The table below shows the plant extracts that were selected on the initial consultation. The selected plant extracts were continuously offered to Paddy and 3 months later the injury has healed.

Plant Extracts Selected	Behavioural Response	Therapeutic properties
Chamomile flower Matricaria chamomila	Ingested	Antihistamine, anti-inflammatory, anxiety, tension
Wild Carrot seed essential oil Daucus carota ssp Maximus	Inhaled, topical application to swelling	Internal bleeding Cell repair Liver disorders Tumours, sarcoids and cysts

Nettle leaf Urtica dioica	Ingested	Kidney, liver and blood support. Detoxifying. Nutrient rich.
Cleavers Galium aperine	Ingested	Aids the lymphatic system
Comfrey leaf Symphytum spp	Ingested	Inflammation – stomach and lungs Muscle, tendon, ligament, cartilage and soft tissue damage
Meadowsweet Filipendula ulmaria	Ingested	Inflammation, flushing out toxins from kidneys
Rosehip shells Rosa canina	Ingested	Cell regeneration, support stomach and immune function.
Slipperyelm powder Ulmus fulva	Ingested small quantity	Colic Diarrhoea, constipation Inflamed mucous membranes Stomach ulcers tapeworms
Yarrow flowers Achillea millefolium	Ingested	Inflammation
Barleygrass powder Hordeum spp	Ingested	Anxious behaviour, Nutrient rich, especially magnesium, skin problems
Flax – fixed oil Linum usitatissimum	Oral administration	Skin disorders, anti-inflammatory, supports nervous, reproductive, circulatory and immune systems
Comfrey macerate Symphytum spp	Oral administration	Inflammation – stomach and lungs Muscle, tendon, ligament, cartilage and soft tissue damage
Peppermint essential oil Mentha Piperita	Oral administration, topical application to swelling	Anti inflammatory Burns Digestive stimulant Excessive heat Colic Itchiness Nerve damage respiratory
Seabuckthorn oil Hippophae rhamnoides	Inhaled, topical application to swelling	Cell renewal and tissue regeneration Repair of skin and eyes UV blocking
Garlic essential oil Allium sativum	Inhaled	Antibacterial, immune stimulant, insect repellent, anti-parasitic
Seaweed extract Fucus vesiculosus	Inhaled, topical application to swelling	Vaccine reactions or toxic conditions Wounds and abscesses
		Thyroid conditions Run down, loss of condition Liver and nerve dysfunction Laminitis Colic Degenerative disorders Immune function
German Chamomile essential oil Matricaria recutita	Oral administration	Antihistamine, anti-inflammatory, anxiety, tension
Wintergreen essential oil Gaultheria fragrantissima wall	Inhaled, topical application to swelling	Inflammatory pain, Muscular aches, trapped nerves.
Yarrow essential oil Achillea millefolium	Inhaled, trance like state	Wounds Trauma

Table 1: Behavioural Response **of Plants**

Why is Animals Selecting a Plant Extract that they have Never Encountered during its life for Health Benefits?

Plants contain many chemical constituents that are shared by different plant species across the globe and, through the relationship that has evolved; animals are able to detect therapeutic compounds within plants rather than the plant as a whole. For example Linalool, the principle constituent in Lavender, can be found in over 200 species of plant throughout the world.

In the Wild Animals would be Self-Medicating using Fresh Plants, so why offer Plant Extracts such as Dried Herbs, Macerates and Essential Oils Instead?

As a general rule, fresh plants have a smaller concentration of medicinal constituents than plant extracts, for example 5ml of garlic essential oil is equivalent to 10 kilos of garlic bulbs. In the wild, an animal has the opportunity to self-medicate as soon as it starts feeling unwell and so can knock the condition on the head as soon as it arises. Captive and domestic animals do not usually have this opportunity, which means their condition can worsen to such an extent that the concentration of medicinal compounds found in the fresh plant would not be enough.

Applied Zoopharmacognosy provides a holistic approach to animal health. During a consultation, reading an animal's body language in response to an extract offered is key to determining whether or not it has been selected. It is important that animals are allowed to walk away from a remedy that is not needed as that ensures that it is not forced upon them. Each animal is different in its response to an extract and may only show subtle signs of interest when an extract is needed.

Important facts to remember is that one man's medicine is another man's poison so it is important not to force a plant extract on any animals whether it be in the feed or topically and allow your animal to walk away from any remedy that has been offered. Please be aware if your animal is on medication as this may affect the potency of the plant chemicals and vice versa. Always consult with your veterinarian. Good quality plant extracts are essential to obtain results. Animals achieve the greatest success when they have acquired the correct dose with high quality plant extracts. Poor quality or adulterated extracts may not be selected leaving you thinking that your animal does not need the remedy.

The process of animals using plant extracts to self –medicate is not only an extension of nutrition but is a homeostatic behavior and environmental enrichment. Providing an opportunity for individual self-medication should be considered one of the fundamental principles for animal health and welfare. Further exploration and studies on the technique in which animals use to self-medicate is a way forward to understanding the process and sequence of behaviors that animals display. For example, a plant extract may be needed to support an area of the body before the animal can then go on to select other needed remedies or a plant extract that is selected after a previously selected plant to neutralize compounds. Not only would further study highlight the behavior of animals but it would further our knowledge of botany and potentially lead to future sources of medicine.

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