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Welcome TO OUR THIRD ISSUE

Dear Members

My term as President has come to a close with this issue and I'd like to welcome and introduce Dr Joyce Harman as your new President. Joyce is not only a fabulous equine herbalist and person, but an author, teacher and respected equine veterinarian as well. She will bring her vast experience and enthusiasm to the role. Thank you Joyce for taking the reins, I am sure you will lead us well on this wonderful journey.

What does a President do? What does your committee do? The answer to these questions will be revealed later in the journal where all our roles and responsibilities are outlined. Why? Because you might be interested in participating at board level and contributing to your association.

What benefits are there? As President for the last two years I can truly say it is a rewarding experience to get involved. You interact with some of the leading herbalists in the world, you find out what is happening on a global level, you have the opportunity to meet extraordinary people and immerse yourself in the culture of herbal medicine. What could be more exciting?

Perhaps I am biased, but if you truly are passionate about this wonderful medicine, then it's a great way to learn more about it and enjoy the camaraderie of a close knit group who share that interest. Our board meets once every 6 to 8 weeks via telephone to nut out issues and plans, and manage the affairs of the VBMA, our symposiums and other activities.

One of the other benefits of being involved is in the spirit of service to your community of veterinarians. This may seem like a small thing but everyone of you is currently a pioneer in this field of contemporary modern herbal medicine. It really is the renaissance taking us the full circle to where herbs were and now are a necessary and important part of veterinary practice. If you have an inkling that you might like to get more involved, don't hesitate to contact any one of the board members and we can help guide you into a role.

Make sure you put aside the dates for the next VBMA symposium in Seattle April 27, 28 and 29th. This will be a wonderful chance to relax, invigorate your mind and soul and learn with your colleagues. There is a wonderful program which has been developed, so keep your eyes on the website for more information.

We would also like to hear from you. What do you want more of, less of, or how can we make your membership more valuable? Over the coming year we will be asking you to add your ideas and let us know what we can do to serve you.

As I pass the reins to Joyce, I'd like to thank the board for supporting me and assisting me over the past two years. For such a small team we have achieved a lot and are on track with our strategic plan. In the greater scheme of things in our world that we share, the political instability and environmental corruption that seems overwhelming sometimes, our association, while very small, brings a little bit of peace, joy and connection with our earth's plants to us. And that is a beautiful thing!

With kind regards

BARBARA FOUGERE BVSC, PRESIDENT

All Natural Vet Care, Sydney, Australia

Committee Member Responsibilities

EXECUTIVE DIRECTOR

Purpose

The Executive Director is the Chief Executive Officer of VBMA. The Executive Director reports to the VBMA Board of Directors, and is responsible for the organization's consistent achievement of its mission and financial objectives.

Appointment

The ED is appointed by the VBMA board.

Responsibilities/tasks

In program development and administration, the Executive Director will:

Ensure that the organization has a long-range strategy which achieves its mission, and toward which it makes consistent and timely progress.

Provide leadership in developing program, organizational and financial plans with the Board of Directors and staff, and carry out plans and policies authorized by the board.

Promote active and broad participation by volunteers in all areas of the organization's work.

Maintain official records and documents, and ensure compliance with federal, state and local regulations.

Maintain a working knowledge of significant developments and trends in the field.

In communications, the Executive Director will:

See that the board is kept fully informed on the condition of the organization and all important factors influencing it.

Publicize the activities of the organization, its programs and goals.

Establish sound working relationships and cooperative arrangements with stake-holders and the veterinary profession.

Represent the programs and point of view of the organization to agencies, organizations and the general public.

In relations with staff, the Executive Director will:

Be responsible for the recruitment, employment, and release of all personnel, both paid staff and volunteers.

Ensure that job descriptions are developed, that regular performance evaluations are held, and that sound human resource practices are in place.

See that an effective management team, with appropriate provision for succession, is in place.

Encourage staff and volunteer development and education, and assist program staff in relating their specialized work to the total program of the organization.

Maintain a climate which attracts, keeps and motivates a diverse staff of top quality people.

In budget and finance, the Executive Director will:

Be responsible for developing and maintaining sound financial practices.

Work with the staff, Treasurer and the board in preparing a budget.

See that the organization operates within budget guidelines.

Ensure that adequate funds are available to permit the organization to carry out its work.

Jointly, with the president and secretary of the board of directors, conduct official correspondence of the organization, and jointly, with designated officers, execute legal documents.

Person specification

- Be enthusiastic in promoting the VBMA
- Have experience in managing a non profit organization
- Develop an effective management team
- Communicate effectively both verbally and in writing
- Have good personal management skills
- Develop a support network and resources, and
- Maintain perseverance/ stamina/ humor

PRESIDENT

Purpose

The role of the President is to lead, represent and promote the VBMA and to facilitate meaningful communication within the profession and its associated stake-holders.

Election

The President is elected in accordance with the VBMA Constitution.

Responsibilities/tasks

Provide leadership to office bearers and committee members.

Chair regular meetings including AGM.

Communicate with Members by writing a regular column in newsletter/journal and maintaining personal contact where possible.

Keep abreast of relevant issues that affect veterinary botanical medicine.

Ensure that relevant professional issues are dealt with appropriately.

Ensure Members are kept informed in issues affecting or likely to affect them.

Represent Members interests to the veterinary profession.

Take responsibility for governance and statutory requirements of the VBMA ie: Annual Meeting, Rules, provision of reports.

Conduct face-to-face meetings with members as required (AGM essential, teleconference for others).

Promote VBMA policies and represent the VBMA to external bodies, eg: community groups, government, media and industry.

Be responsible for administrative and social functions of the VBMA.

Provide day-to-day management of office staff (if employed), and assist the ED or nominee to undertake regular staff performance reviews.

Person specification

- Be enthusiastic in promoting the VBMA
- Develop an effective management team
- Chair meetings effectively
- Communicate effectively both verbally and in writing
- Have good personal management skills
- Develop a support network and resources, and
- Maintain perseverance/ stamina/ humor

PRESIDENT ELECT

Purpose

The role of the President Elect is to take on the responsibility of president, should the president be unable to carry the role (either temporarily in the case of sickness, or until the next AGM in the case of resignation or unfit for duty) and to support and assist the President as necessary.

Election

The President Elect is elected in accordance with the VBMA Constitution.

Responsibilities/tasks

Chair regular meetings in the absence of the President.

Keep abreast of relevant issues that affect veterinary botanical medicine.

Prepare to promote VBMA policies and represent the VBMA to external bodies, eg. community groups, government, media and industry.

Take responsibility for development of sponsor program, communications and relationships and ensure sponsor benefits are fulfilled.

Person specification

- Be enthusiastic in promoting the VBMA
- Communicate effectively both verbally and in writing
- Have good personal management skills
- Develop a support network and resources, and
- Maintain perseverance/ stamina/ humor
- Be prepared to take on the responsibilities of President

HONORARY TREASURER

Purpose

The member appointed treasurer of the VBMA has the responsibility of accounting for all money received or expended.

Responsibilities

The following main responsibilities apply:

Raising tax invoices for the sale of any goods and services.

Issuing receipts for money received and entry in the appropriate cash book ensuring that any tax collected is entered as a separate item.

Entry of details of purchases, cheque number and purchase number for expenditure made ensuring that any tax paid is entered as a separate item.

Reconciliation of the cash book with the bank statement each month.

Preparation of annual profit and loss and balance sheet.

Report on the financial affairs of the VBMA at the AGM.

Ensure adherence to Regulations promulgated by the VBMA Board in respect of the financial operation of the VBMA.

Provide to the Board information as to income, expenditure, assets and liabilities as required by the Board.

Ensuring that a statement of financial affairs is prepared and available for perusal at the AGM and for members only on the VBMA website.

The principles to be followed by a good Treasurer are:

Be aware of the tax legislation and how it affects the financial operations of the VBMA

Bank cheques and cash received (preferably within 48 hours)

Meet payments promptly and in accordance with the agreed terms and conditions i.e. 7 days, 28 days etc; and

Recommend to the committee on the investment of any surplus cash available.

HONORARY SECRETARIES

Purpose

The Honorary Secretary is responsible for the administration of VBMA meetings and teleconferences.

Prime Responsibilities

Ensure minutes of all meetings are recorded appropriately.

Prepare the final minutes for distribution to those required to receive copies and copy for the VBMA website members only.

Aim for the smooth running of the subcommittees of the VBMA.

Record and answer correspondence received.

Prepare for a meeting ensuring that:

Committee Member Responsibilities (cont)

- a venue is arranged;
- an agenda is prepared and circulated (if appropriate)
- the venue is set up prior to the meeting
- attendance, apologies and proxies (if appropriate) are recorded
- documents to be referred to during the meeting are available (circulated beforehand if appropriate)

Act promptly on decisions taken at meetings, write necessary letters or reports, prepare “action sheet” to remind others of their tasks and distribute minutes.

Person Specification

- Ability to organize oneself and others; and
- Good written and oral skills.

HONORARY WEB MASTER

Purpose

The member appointed web master of the VBMA has the responsibility of managing the website and communication received or sent by the website. The website is the main communication to the general public and for members.

Responsibilities

The following main responsibilities apply:

- Maintaining the upkeep of the website
- Ensuring members are kept abreast of issues that affect them
- Ensuring members details (database available to general public) are posted in a timely way, including changes as they occur
- Ensuring sponsors/ advertisers details are kept in order and in a timely way
- Posting member only information in members only section.

The principles to be followed by a good Web master are:

- Understand how a website works
- Maintain web hosting relationship
- Be prepared to regularly maintain the site, add information and delete as appropriate
- To be motivated to keep the site fresh and newsy and changing to attract repeat visits



Monograph

CHAMOMILE

Matricaria recutita L., synonymous with *Chamomilla recutita* L.

mat-ri-KAR-ee-uh re-KOO-tee-ta

Related to *Anthemis nobilis* (Roman chamomile), which is also a widely used and accepted form of chamomile.

Other Names:

Camomile, Flos Chamomillae, German Chamomile, Matricaire, Matricaria Flowers, Pin Heads, Sweet False Chamomile, Sweet Feverfew, Wild Chamomile

Family:

Asteraceae

Parts Used:

Dried flowering heads

Distribution:

Chamomile is indigenous to northern Europe. It grows wild in central European countries and is abundant in eastern Europe. Also found in western Asia, the Mediterranean region of northern Africa, and the United States. It is cultivated in many countries.

Selected Constituents:

Chamomile contains an essential oil (0.4%–1.5%), which has an intense blue color owing to its chamazulene content (1%–15%). Other major constituents include a-bisabolol and related sesquiterpenes (up to 50% of the oil). Apigenin and related flavonoid glycosides constitute up to 8% (dry weight) of the drug (Bruneton, 1995; Dölle, 1985).

Clinical Actions:

Carminative, spasmolytic, mild sedative, cholagogue, antiallergic, anti-inflammatory, healing, bitter tonic

Energetics:

Slightly bitter and pungent, neutral

History and Traditional Usage

Uses described in pharmacopoeias and in traditional systems of medicine include the following: adjuvant in the treatment of minor inflammatory conditions of the gastrointestinal tract (Weiss, 1987), as an antibacterial and antiviral agent, an emetic, and an emmenagogue. It is also used to relieve eye strain as an eye wash and to treat patients with urinary infection and diarrhea (Tyler, 1988). The dried flower heads of *Matricaria recutita* L. (Asteraceae) are used in to prepare a spasmolytic and sedative tea (Viola, 1995).

According to de Bairacli Levy (1985), chamomile is a female remedy and pregnancy herb. She suggests using chamomile tea to soak oat flakes for handrearing of puppies, for bathing discharging eyes (a mix of chamomile tea and milk), and for treating diarrhea (2 tbsp of tea three times daily) and gastroenteritis (as much as the animal will drink). She suggests it is good for inflamed gums, female ailments, wounds, and bruises; in the treatment of tumors (as a poultice) for blood and skin disorders; and for constipation (de Bairacli Levy, 1963).

Published Research

Chamomile extracts inhibited both cyclooxygenase and lipoxygenase (Wagner, 1986) and thus the production of prostaglandins and leukotrienes. Numerous *in vivo* studies have demonstrated the anti-inflammatory effects of chamomile extract, the essential oil, and isolated constituents (Kakovlev, 1979; Ammon, 1992; Albring, 1983; Della Loggia, 1985; Hempel, 1999; Safayhi, 1994). The principal anti-inflammatory and antispasmodic constituents of chamomile appear to be the terpene compounds matricin, chamazulene, α -bisabololoxides A and B, and α -bisabolol (Jakovlev, 1983). Chamazulene is actually an artifact formed during the heating of flowers when an infusion or the essential oil is prepared (Bruneton, 1995). Chamomile tea has significant antioxidant capacity, according to animal studies (Jung, 2003). *In vitro* studies show possible antibacterial and mild immune stimulating effects (Aggag, 1972; Chao, 2000; Laskova, 1992; Uteshev, 1999).

Chamomile preparations have been found to be beneficial in the treatment of radiation mucositis due to head and neck radiation and systemic chemotherapy (Carl, 1991). However, further studies found conflicting results. A chamomile mouthwash was investigated for its putative ability to relieve stomatitis in people secondary to 5-flourouracil treatment. There was no difference between people treated with the chamomile and those treated with placebo mouthwash (Fidler, 1996). Two separate studies examined the effect of a chamomile spray or a gel used as a lubricant for endotracheal tubes. The authors hypothesized that chamomile could prevent postoperative sore throat and hoarseness. In both trials, there was no difference between chamomile and placebo lubricant (Charulaxananan, 2004), (Kyokong, 2002).

The therapeutic efficacy of chamomile extract was tested in a double-blind trial on 14 patients after dermabrasion from tattoos. Reduction of the weeping wound area, as well as improved drying tendency, was statistically significant (Glowania, 1987).

The efficacy of chamomile cream versus 0.25% hydrocortisone, 0.75% fluocortin butyl ester, and 5% bufexamac was tested in 161 patients with inflammatory dermatoses in a bilateral comparative study. Chamomile cream was as effective as hydrocortisone. It was superior to bufexamac and to fluocortin butyl ester. With neurodermitis, chamomile cream showed the same therapeutic effects as hydrocortisone and was superior to the other reference products (Aertgeerts, 1985).

The antipruritic effects of German chamomile on induced scratching in mice were examined. In mice fed a diet that contained (1.2 w/w% of ethyl acetate extract) dried flower of German chamomile for 11 days, scratching behavior was significantly suppressed with no effect on body weight. The inhibitory effects of the dietary intake of the German chamomile extracts were comparable with those of an antiallergic agent (Kobayashi, 2003).

Apigenin showed anxiolytic activity in mice without sedation, muscle relaxant effects, or anticonvulsant action. A 10-fold increase in dosage produced a mild sedative effect (Viola, 1995). Chamomile depresses the central nervous system (Della Loggia, 1982) and the oil had significant sedative effects in mice (Wakame, 2003). One study found that inhaling chamomile oil vapor, decreased stress-induced increases in plasma adrenocorticotropic hormone (ACTH) level in ovariectomized rats. The plasma ACTH level decreased further when diazepam was administered along with inhalation of chamomile oil vapor (Yamada, 1996). Additional results suggest that chamomile oil may have a strengthening effect on GABAergic (Gamma amino- butyric acid) activity in the central nervous system (Yamada, 2000). The spasmolytic activity of chamomile has been attributed to apigenin, apigenin-7-O-glucoside, and α -bisabolol, all of which have activity similar to that of papaverine (Bruneton, 1995; Della Loggia, 1990).

Chamomile and goats' milk

Six groups of goats were fed different rations that contained variously: black cumin, chamomile, garlic, fenugreek or no supplementation. Gouda cheese was made from the milk of each treatment. The cheese was analyzed monthly for parameters such as moisture, fat, total protein, salt, acidity, soluble nitrogen, and other properties. Sensory evaluation was also carried out. The attributes of the experimental cheeses were better than those of control cheese, and experimental cheeses were characterized by the absence of goaty flavor. The best treatments were derived from the milk of goats fed black cumin seeds and its straw or chamomile flowers and its straw (Mostafa, 1999).

Monograph

CHAMOMILE (cont)

A study determined whether the essential oils from these products could be detected in goat milk after goats were fed chamomile and caraway seed. Although relatively large quantities of chamomile were fed to goats over time, the characteristic essential oils of chamomile could not be detected in milk (Molnar, 1997).

Indications

Internal use: dyspepsia, epigastric bloating, impaired digestion, flatulence, restlessness, and mild cases of insomnia due to nervous disorders. Well known as a remedy for the irritation and pain of teething. Also, for allergic reactions, including: asthma, food intolerance, hay-fever, anorexia, colic, irritable bowel syndrome and diarrhea.

Externally: inflammation and irritation of the skin and mucosa (skin cracks, bruises, frostbite, and insect bites), irritations and infections of the mouth and gums, and hemorrhoids. Also inhaled for relief of irritation of the respiratory tract due to the common cold.

Potential Veterinary Indications

Eyewash, mild sedative anxiolytic, flatulence and mild colic, source of antioxidants, topical wound therapy, for pruritic mice and rats, odor reducer in goats' milk

Contraindications

Chamomile is contraindicated in patients with a known sensitivity or allergy to plants of the Asteraceae (Compositae) family: such as ragweed, asters, and chrysanthemums (Carle, 1992). Chamomile may be contraindicated in cats due to the coumarin content.

Toxicology and Adverse Effects

AHPA class 1. The presence of lactones in chamomile preparations may cause allergic reactions in sensitive individuals; there have also been reports of contact dermatitis (Dstychova, 1992; Subiza, 1990; Paulsen, 1993, 2001). Very few cases of allergy were specifically attributed to German chamomile (Hausen, 1984). A few cases of anaphylactic reaction to the ingestion of chamomile have been reported (Benner, 1973; Casterline, 1980; Reider, 2000; Subiza, 1989).

Means (2002) described a series of cases where cats administered chamomile developed epistaxis and subcutaneous hemorrhage. Anticoagulant activity due to coumarin content was postulated. Details of herb form were not provide

Potential Drug Interactions

The concomitant use of opioid analgesics with the sedative herbal supplement chamomile may lead to increased central nervous system depression. It is suggested that further research is needed to confirm and assess the clinical significance of these potential adverse interactions (Abebe, 2002).

Dosage

External Use

Compresses, baths, vapor inhalations, rinses: 15-50 gm flower/500 ml water, steep 15-30 min, or mix 10 ml fluid extract or 1:2 tincture into 500 ml water

Cream: apply to cover affected area BID-TID

Vapor inhalation: 1-5 drops of volatile oil per L of water

Internal Use

HUMAN

Dried herb: 2-10 gm TID, up to 6 times daily for acute conditions

Infusions and decoctions: 5-30 gm per cup of water, with 1 cup of the tea given TID, up to 6 times daily acutely

Tincture (usually as 50% - 60% ethanol):

1:2 or 1:3: 1 - 5 mL TID, up to 6 times daily for acute conditions

Child dose of the flowers: 2 gm TID; or a single dose of the fluid extract, 0.6-2 mL (British Herbal Pharmacopoeia, 1990). Should not be used by children younger than 3 years old.

DOGS

Dried herb: 25-75 mg/kg divided daily (optimally TID) if extracted and dried; triple or quadruple dose for unprocessed herb.

Infusion: 5-30 gm per cup of water, administered at a rate of 1/4-1/2 cup per 10kg (20lb) divided daily (optimally TID)

Tincture (usually in 50% - 60% ethanol) 1:2 - 1:3 : 0.5-1.5 mL per 10kg (20lb) divided daily (optimally TID) and diluted or combined with other herbs

From Veterinary Herbal Medicine, S WYNN & B FOUGER (Eslevier 2006)

References are available on request

Functional Nutritional Intervention

USING MEDICINAL MUSHROOMS IN A VETERINARY PRACTICE

Introduction

Research studies indicate that medicinal mushrooms contain polysaccharides, which have anti-viral, anti-bacterial, and anti-tumor properties. Some mushrooms contain compounds, which stimulate the immune system and assist healing of the liver, kidneys, and heart tissues.

The most potentially powerful way to use these mushrooms is in the treatment and prevention of cancer. Results compiled from research all over the world suggest that whole-mushroom extracts contain compounds that modulate tumorigenesis and carcinogenesis at different stages. Because they have many different mechanisms and modes of action on cancer cells and the immune system, medicinal mushrooms could potentially provide additive, or even synergistic effects in the prevention and treatment of cancer

Besides having phytotherapeutic actions, these fungal wonders of nature contain many different vitamins, minerals, antioxidants, protein, and sterols. They are easily administered with little or no side effects¹.

In my experience of using these supplements in animals they provide the necessary healing factors to improve the over-all condition of an ailing animal, and can assist in the treatment of:

- Liver disease
- Kidney disease
- Heart disease
- Cancer
- Immune system deficiencies
- Resistant bacterial or fungal infections
- Side-effects from drugs such as cortisone, Cox-2 inhibitor drugs, chemotherapy, and flea & tick control chemicals
- Weakness and degeneration in geriatric pet
- Acute and chronic cystitis

History

Mushrooms have been recognized for their health benefits for many centuries by many different cultures. They have been revered by some of the world's greatest ancient civilizations, including the Mayan, Hindu and Chinese empires.

The Greeks in 455 BC burned medicinal mushrooms onto "therapeutic points" on the body. Hippocrates used polypore mushrooms mixed with honey and vinegar (oxmel) as a tonic. Pliny, during the reign of the Roman Empire, used another polypore that grew on pine (dead) trees which was used to cure gastrointestinal diseases, spinal pain, cystitis, and to detox the body.

In the Middle Ages & Renaissance periods fungi were considered "venomous and full of poison"². Many people even today are suspicious of mushrooms because of their past reputation and myths for being poisonous, hallucinogenic, or something slimy

and "creepy". This prejudice and misunderstanding has tainted many in the scientific world (oncologists?) to ignore their possible use in therapy.

Eastern Europeans developed interest in the culinary and medicinal varieties in the last 200 years. Much of the recent and past Russian research on mushrooms is left untranslated.

The most knowledgeable mushroom cults were located in the regions of Siberia, Tropical India, Southeast Asia, China, Central & South Americas, and Eastern Europe (Ukraine, Poland, Latvia, Lithuania, and Russia).

Uses included:

Nutritional: foods such as soups, sauces and gravies or as a meat substitute (Europe)

Rituals: fertility, spiritual- transformational journey, psychic healing (Siberia, India, Mayan)

Medicinal: nephritis, hepatitis, tonic, adaptogen (Russia, Asia)

Traditional Uses

China & Japan:

To increase stamina, and increase strength

Improve digestive functions

Improve adaptation to physical stress

As an anti-inflammatory for cystitis and nephritis

As calming and relaxing agents

To treat such disease symptoms as edema, hepatitis, frequent urination, weakness, nephritis, diarrhea, cystitis

Recent Interest

Japan, Russia, China, US, Brazil:

In the treatment of cancer, HIV/ AIDS, Hepatitis

Research: Humoral and cellular immunity

Hepatitis

Adaptogens

Nutritional & Health Maintenance Benefits

Vitamins (B's, C, folic acid, pro-vitamin D)

Minerals (Potassium, Selenium, sulfur, sodium, germanium zinc, and phosphorus)

Protein (essential amino acid precursors)

Sugars (mannitol, xylose, ribose, glucose, galactose, mannose)

Lipids (phospholipids, sterols, sterol esters, free fatty acids, mono, di-, and triglycerides)

Polysaccharides (glycogen, chitin, beta-D-glucans)

Essential oils (triterpenes)

Sterols

Enzymes (antibacterial, proteolytic)

There seems to be a recent worldwide revival of interest in the use of mushrooms as healing and health promoting foods (functional food). The mushroom related nutraceutical industry now sells billions of dollars annually in fungi products.

With the increase of Asian people emigrating to the USA, Canada, and Europe within the last 25 years, the health benefits from the Oriental varieties of mushrooms are just beginning to surface in the Western world. Chinese Oriental Medicine (aka TCM) has to be acknowledged for opening the door to a vast area of opportunity of information.

The potential health benefits of medicinal mushrooms has "spurred" a frenzy of interest among holistic and allopathic healers in the West.

The influx of Asian culture, paradigms, and medicines into the US has challenged our own Western (European-based) philosophy, religion, and scientific training.

With the aid of technology and scientific methods, we can now discover the medicinal components of fungi and how to use them in veterinary and human medicine. Research in the use of medicinal mushrooms is increasing world-wide.

Although there are many more medicinal mushrooms that can be used, I have included the most beneficial types to be used in a veterinary practice.

Ganoderma lucidum "The Herb of Immortality" same as Reishi Japan / Ling zhi China

This woody textured, flat, shiny, lacquered kidney shaped mushroom ranges from 5 – 20 cm in diameter. Colors range from a dull red to brownish red, purple, and black.

Habitat: Grows near the soil on dead hardwoods such as oak, elm, willow, maple, and plum. Found in Asia, USA eastern coast (Vermont, New Hampshire, Maine), Gulf Coast, and Southwest. Likes subtropical areas

Other related species: *G. oregonense*, *G. tsugae*, *G. japonicum*, *G. applanatu*. These are commonly found growing on firs, and hemlock in USA, Europe, South America, and the Pacific Northwest.

G. japonicum (black) Japanese variety (Zhi zi). Also contains glucosamines, increases myocardial blood flow, cardiogenic

G. applanatum (artists conk) giant Ganoderma, commonly substituted for *lucidum*. Reduces phelgm, resolves indigestion, stops pain, relieves heat symptoms. Also have ANTI-cancer effects similar to *G. lucidum*. More research is needed to confirm this.

Pharmacology:

Polysaccharides: beta Glucans

Anti-tumor effects (Tumor necrosis factor, enhances NK cells)
Immuno-stimulating properties
(increases macrophages & T-cell activity)
Antiviral (induces interferon activity, anti-HIV, interleukins-1-2)

Triterpenes

Adaptogenic
Anti-hypertensive
Anti-allergic (inhibits anti-histamine release)
Anti-hepatotoxic, liver protectant and detoxifier

Lysosomal enzymes

Antibacterial against *Staph*, *Strep*, *Bacillus pneumoniae*, etc.

Ganodermas contain Germanium, which increases the oxygen utilization of the blood. Extracts of Ganoderma enhance myocardial metabolism and improve coronary hemodynamics.

Other Properties:

Enhances bone marrow proliferation
Antioxidant
Regenerates bronchial epithelium
Increases WBC's
Protects against ionizing radiation
Reduces toxic effects of caffeine
Analgesic & muscle relaxant

Traditional Chinese Medicine TCM actions:

Warming
Nourishing
Tonifies HT, LU, KI
Astringent / mild diuretic
Disperses accumulations (tumors)
Quells Heat symptoms
Tonify Qi, Wei Qi and Essence

Human Medical uses:

Geriatric degenerative conditions
Nephritis
Arthritis
Cardiac disorders: arrhythmias, palpitations, hypertension
Hepatitis
Muscular atrophy
High altitude sickness
Bronchitis, asthma
Sedative: insomnia, nervousness, anxiety, adrenal weakness
Cancer
Side-effects of chemotherapy & radiation
Analgesic and muscle relaxation
Gastric and duodenal ulcers
Hyperlipidemia
Anorexia
Anti-dote for poisonous mushroom poisonings

Veterinary applications:

In general, Ganoderma mushrooms are indicated for use in any pets experiencing chronic degenerative processes, weakened immune systems, dysfunctioning liver heart or kidney systems, or general weakness³.

Most common use in my practice in combination with other therapies and supplements:

Geriatric dogs and cat diseases with chronic debilitation complex: muscle atrophy, cardiac problems, and weakness⁴

Adjunct to chemotherapy for cancer (synergistic effects)

Treats the side-effects of cortisone therapy (adaptogenic & hepatoprotective)

Supportive care with Cushing's disease (adaptogenic)

Weak puppies (demodex) or kittens with severe parasitism (Immunostimulating and modulating/nutritional/anti-inflammatory)

Viral upper respiratory tract infections in kittens and/or compromised immune system (FIV, FIP, FeLV)

Immune suppression from drugs, stress or disease (adaptogenic)

Hepatitis, liver failure, mushroom poisoning

Adjunct to antibiotic or anti-fungal pharmaceuticals (synergistic effects)

Inflammation/fever⁵

Lentinula edodes Shiitake /Asian Forest Mushroom:

Shiitake is an edible mushroom highly appreciated for its nutritional and medicinal properties. In Japan, Shiitake mushrooms have always been considered an elixir of life, possessing the ability to enhance vital energy and cure colds.

Shiitake mushrooms contain 30 enzymes, 10 amino acids, and are high in minerals (Ca, Zn, P, Rb, Se, Cu, Ni, K, Mg, Cd, Fe).

Recent studies report that substances in this popular fungus can reduce blood pressure, decrease blood cholesterol levels, prevent heart disease and cancer. Other studies show its antibiotic potential actions⁶.

In general these mushrooms stimulate WBCs, antibodies, interferon, and inhibit prosta-glandins.

Although more studies are needed, methanolic extracts of shiitake exhibited antimutagenic activity. Possibly, one of the reasons many (more than expected) people in Japan survived the radiation and induced cancers following the Atom Bomb explosions in Hiroshima and Nagasaki was due to the ingestion of shiitake mushrooms.

Habitat: Indigenous to Japan, China, and temperate parts of Asia, this light amber mushroom is found growing on fallen trees such as the chestnut, beech, oak, maple, and walnut. It is commercially grown in Japan and China, although the Japanese varieties appear to be better quality.

Pharmacology: (many references can be found on the web via www.scholar.google.com)

Polysaccharides**Beta (16 & 13) Glucans**

The anticarcinogenic properties of these polysaccharides were attributable to enhancement of the numbers and/or functions of macrophages, NK cells, and subsets of T cells, which modulate both innate and adaptive immunity.

Lentinan (a non-protein that must be used parenterally)

- 1) Anti tumor⁷
- 2) Accelerates the degeneration of tumor cells (indirectly via NK cells)
- 3) Immune enhancing;increases T- lymphocytes inhibits viruses (HIV/AIDS)

LEM (protein bound with Vit. B compounds & sugars)

- 1) Liver protectant
- 2) Stimulates the immune system (T-lymphocytes)
- 3) anti-tumor (NK cells)
- 4) anti-viral
- 5) regulates urinary incontinence

Ertadenine

- 1) lowers cholesterol
- 2) removes lipids in the liver
- 3) improves circulation

TCM actions:

Sweet, warming
Nourishing/ restorative/ Tonifying
Benefits LU/ KI/ Blood

Medical Uses:

Depressed immune system / cancer / HIV
Allergies.
Chemotherapy and radiation side-effects
Frequent flu and colds
Bronchial inflammation
Incontinence
Reduction of serum cholesterol

Veterinary Applications⁸:

Prevention of viral diseases
Prevention and treatment of cancer
Treatment of Incontinence⁹
Kidney Failure
Heart disease
Treatment of resistant bacterial infections



Shiitake *Lentinula edodes*

Preparations:

There is controversy in general among herbalists and phytopharmacologists whether to use the whole mushroom, or use the separated active ingredients in therapy. It is my experience and belief that the nutritional portions of the mushroom coupled with the numerous other substances found in medicinal mushrooms, contribute to the so-called “active ingredients” creating **synergistic** effects.

A therapeutic dose of fresh mushrooms would be too large to consume in one sitting without suffering a gastric upset. Ideally, a standardized extract of LEM would be the easiest method of administering high doses to cats and small dogs, although this would be very expensive to buy if available.

Therefore, dried mushrooms are preferable to use in the form of teas or soups and added to the pets food or administered with a dropper or syringe by the owner.

2 oz of dried shiitake mushrooms can be soaked in 8oz of cold water over night. The “tea” is decanted and saved. The remaining mushrooms can be cooked with another 2 cups of water + a soup bone for another 30 minutes and added to the cold mushroom extract. Refrigerated and stored in a glass jar, the tea should be good for about 5 days.

For longer shelf life, dried mushrooms can be soaked and preserved in alcohol (25% or less) for oral doses or to make tea at a later time. I usually mix this with a multiple vitamin liver flavored syrup to dilute the alcohol and make this more palatable to cats and small dogs.

Most mushrooms in this discussion can be bought as powders, freeze dried granules or alcohol extracts from commercial growers.

It is important to note that clinical results can only occur over months of therapy with chronic diseases. The mushroom tonics discussed above require sometime to strengthen the body (usually between 1-3 months).

Coriolus versicolor Kawaratake /Yun Zhi / Turkey Tails

Coriolus mushrooms are also known as *Trametes versicolor*, commonly as “turkey tails” in the West or, “cloud fungus” in the Asia. It is one of the most easily identifiable polypores. This multicolored mushroom is easily recognized by its colored patterns resembling the colors of a wild turkey’s tail feathers.

Turkey tails are the source of PSK, commercially known as Krestin, responsible for several hundred million dollars of sales as an approved anticancer drug in Asia. The fruiting bodies, which are thin and rubbery, are dried, powdered, and made into teas or capsules.

Although the fruiting bodies contain many biologically active substances, much of the anti-cancer substances are contained within the mycelia under the soil, or buried in organic decomposing substances. These are harvested, fermented and extracted.

Habitat: This mushroom is found throughout the world and is native to tropical, subtropical and temperate zones, and is highly adaptive, growing on a wide assortment of woods. 15 different species are found in the US and Canada

Pharmacology: Two immunologically active protein bound polysaccharides are the main biologically active substances.

PSK- Extract of mycelium

Use in animal studies show a broad spectrum of tumor suppression injected locally, it inhibits tumor growth and prevents metastasis suppresses sarcomas, adenocarcinoma, fibrosarcoma, mastocytoma, mammary, colon and lung cancer
decreases effects of radiation
enhances results of chemotherapy, radiation and immunotherapy
antiviral
improves circulation
supports hepatic function
improves results of antibiotic therapy
10.increases interferon in cancer patients

PSP-Glucose molecules (oral or parenteral)

Increases phagocytes
Increases T-cells
Increases production of interleukin
Decreases effects of chemotherapy
Tumor inhibiting properties, especially sarcomas
Lymphomas, leukemias, lung adenocarcinoma, liver and stomach cancers.

Ergosterol

Cytotoxic to hepatoma cells
Controls tobacco mosaic virus glycoproteins
Antidiabetic
Antitumor
Prevents thrombosis
Lowers blood pressure
Anti-rheumatic
Analgesic
Antipyretic, anti-inflammatory
Lowers blood cholesterol
Facilitates the healing of kidney problems

In animal studies, the use of the whole polypore demonstrated to lower cholesterol, enhance neutrophil production, diuretic, and sedative effects.

TCM actions:

Sweet, slightly warming
Clears dampness
Reduces phlegm
Benefits the HT / KI / BL
Invigorates Shen
Tonifies Qi and Blood

Medical Uses:

Heals pulmonary disorders
Treats inflammation of the urinary & digestive tract
Hepatitis
Weakened immune system (HIV/AIDS)

Veterinary Applications¹⁰:

Cancer therapy: lymphomas, sarcomas, adenosarcomas
Chronic hepatitis
To treat the side effects of chemotherapy
To treat the side effects of cortisone
The treatment of immune deficiency diseases (FIV/FELV/FIP)

Products / Preparations:

Turkey tails can be easily found growing on dead wood in most forests of the USA and Europe¹¹.

(Do not pick any type of mushroom to ingest if near a waste dump, or chemically contaminated area.)

Immediately after collecting, freeze for 24 hours, then dry in food dryer at 120 F. They can also be stored in raw honey after drying.

Dosage: 2-10gms daily for dogs
1-2 gms daily for cats
50-100 gms daily for horses

Grifola frondosa Maitake

Boletus frondosus or *Polyporus frondosus*

Maitake means “dancing mushroom” in Japanese, or “chicken of the woods” in the West. It is commonly found growing in Eastern USA, Europe, and Asia. Rarely, will it be reported in the Pacific Northwest, where “mushroom” wars over collecting rights have spurred multiple shootings and deaths at \$45 dollars/lb.

The name probably comes from the fact that this mushroom grows in over-lapping groups which resemble butterflies in a wild dance. Japan now commercially grows these mushrooms since wild crafted mushrooms are endangered if not extinct in many areas.

Habitat: This mushroom has no caps and grows in clusters usually near oak stumps or trunks. It is one of the most tasty edible mushrooms that also has medicinal properties.

Pharmacology:

Beta 1, 6 glucans (more tumor inhibiting than Coriolus)
Immune stimulating agent (T-cells, macrophages)
Tumor growth inhibition (NK cells)
D-fraction extraction¹²

Other substances:

Phospholipids:
Phosphatidylethanolamine
Phosphatidylinositol

Phosphatidylcholine
Phosphatidylserine (anti-Alzheimers)
Phosphatidic acid
N-aceylgalactosamine (lectin)

Properties:

Has many properties similar to Shiitake
Lowers blood pressure
Decreases cholesterol
Hepatoprotective
Enhances immune system function
Lowers blood glucose/ anti-diabetic
Anti-inflammatory¹³

TCM Actions:

Slightly warming, sweet
Benefits LIV / Blood/ SP/Lu
Disperses Phlegm
Qi tonic

Medical uses:

Cancer therapy, especially sarcomas (fibrosarcomas), syngeneic tumors (MM-46 and IMC carcinomas)
Also: stomach, lung and hepatocellular cancers, leukemia, and Kaposi's sarcomas.
Prevention of cancer
With chemotherapy, support for cancer treatment
Lowers cholesterol in diabetics, and improves glucose utilization

Veterinary Applications:

Adjunct to chemotherapy for Cancer
Treats side-effects of chemotherapy (drugs such as cortisone, Immuran, and cancer therapeutics.)
Diabetes support?
Antiinflammatory effects

Cordyceps sinensis (*Dong chong xia cao*)

Also known as the “caterpillar fungus” or “deer antler fungus,” this mushroom is rarely found in nature because it is hard to find, has been over harvested, and due to loss of habitats.

It is commercially grown to make herbal medicines. Known as primarily a Chinese “mushroom”, its popularity has increased in Japan because it helps to prevent and treat lung cancer. Traditionally, this fungus is cooked inside of duck, chicken, pork, or fish for people with weakened conditions.

Habitat: This fungus belongs to a different classification Pyrenomycetes or “flask fungi” and grows at high elevations (2000 meters and higher) in marshlands near melting snowfields of China. It is a parasite which uses caterpillar larvae, insects and truffles as hosts. *Cordyceps ophioglossoides* grows in Eastern USA and is known as “club headed fungus”. *C. Canadensis* grows on truffles in the

North America and Europe and may have similar properties to *C. sinensis*, but no one has investigated this yet.

Pharmacology:

Chemistry: 11% water, 8.4 % fat, 25.3% coarse protein, 19% coarse fiber 28.9% carbohydrates, and the rest ash.

Active ingredients:

3 protein bound polysaccharides

anti-tumor properties especially lung
immunostimulating
immunoregulating
increases bone marrow cells

amino acids:

glutamic acid, tyrosine, L-tryptophan
sedative effects

Mao inhibition

increases platelet formation and treats anemia¹⁴

prevents liver and spleen atrophy

prevents thymic hypertrophy

antifungal (*Microsporum spp.*)

antibacterial (*Staph, Strep, B.anthrax, Pasturella*)

TCM actions:

Sweet, neutral
Benefits LU / KI
Nourishes KI
Reinforces QI
Stimulates Blood

Medical Uses:

Cordyceps sinensis is used in China for the treatment of general debility¹⁵ after sickness and for geriatric degenerative diseases such as:

Chronic liver disorders

Hyperlipidemia, hypercholesterolemia

Chronic nephritis / kidney failure

Cardiac arrhythmias

Lung carcinoma

Asthma

Impotence

Veterinary Applications:

Generalized weakness in young and old deficient animals

Anemias

Geriatric animals¹⁶

Bone marrow stimulation

Kidney failure

Lung cancer

Asthma (Def. LU Yin) / chronic coughing

OTHER MUSHROOMS

Agaricus blazei Royal Agaricus, Sun Mushroom

This mushroom was recently discovered in the state of São Paulo, Brazil, and sent to Japan to be studied for its medicinal properties. Studies in guinea pigs revealed antitumor properties, triggering Japanese importation of *A. blazei* from Brazil. Because of its high price on the international market, many companies and rural growers produce *A. blazei* as alternative crop to increase income, but because interest in this mushroom occurred suddenly there has not been enough time for the scientific community to investigate it and, technology used for its cultivation is still based on empirical rules.

There are also some contradicting data regarding the classification of this mushroom, and its antitumor properties still need to be confirmed in humans.

Grifola umbellate Polyporus umbellatus/Zhu Ling/Coreito

Inhibitory effect of Zhuling (*Grifola umbellata pilat*) on urinary bladder cancer was determined experimentally and clinically¹⁷.

I have personally experienced its potential to slow down the progression of bladder cancers in dogs.

This mushroom is a mild diuretic with inhibitory actions on *Staph* and *E.coli*. Traditionally it has been used in Asia to treat painful cystitis in conjunction with the mushroom *Poria cocos* Fu ling / Tuckahoe.

I use a formula made up of both these mushrooms to treat male cats with obstructive urethral calculi and painful urination¹⁸.

Summary

Integrating medicinal mushrooms into a conventional or alternative veterinary practice provides the veterinarian and client with more options and choices in the prevention and treatment of many degenerative diseases without side-effects and without interference to other modalities.

Although more scientific research and clinical trials are needed and results carefully evaluated, veterinarians can begin their own evaluation with the prescription of medicinal mushrooms to their patients safely.

Resources & Products:

For veterinary use, I recommend buying good quality products from suppliers that have high standards. Most medicinal mushrooms are available in Asian groceries stores, or through mail-order herbal suppliers. Some of my sources for mushroom products are listed here:

GANODERMA

- Genesis/Resources Feline or Canine CAS OPTIONS

Contains antioxidants + ganoderma/shiitake/maitake
www.genesisvets.com

- Ling zhi with Royal Jelly (Patent Medicine) vials
Sick kittens and puppies 1 cc tid
Brand: Peking Dietetic Preparation Manufactory
Beijing, China. Imported by Overseas Factors, San Francisco

- Power Mushrooms (Health Concerns)

1 tablet per 10 –20 lbs body wt tid
www.herbalist@healthconcerns.com

- Reishi Mushroom Extract

standardized extract 10% polysaccharides 4% triterpenes
1 capsule (500mg) per 25 lbs bid
(Pure Encapsulations) www.purecaps.com /800-753-2277

- Reishi Mushroom Powder Extract

Brion Herb Co or Mayway Co. 1/4tsp per 25 lbs / bid
www.mayway.com

- North American Medicinal Mushroom Extracts (Nammex)

PO Box 1780 Ginsons, BC, Canada, VON 1 VO
Extracts of Reishi, Maitake, Shiitake, & Cordyceps
www.nammex.com
www.fungiperfecti.com

CORIOLUS

- Coriolus-3 (Seven Forests) with ganoderma and cordyceps

1 tablet/15-25lbs/bdwt 2-4 X daily
Order from ITM 503-233-4907 or Health Concerns

- Coriolus PS (Health Concerns)

25% polysaccharides 500mg
1 tablet/15-25lbs/bdwt 2-4 times daily

SHIITAKE & MAITAKE

- <http://www.botanicalpreservationcorps.com/mushrooms>

- <http://www.fungiperfecti.com/mycomeds/pets.html>

- Genesis/Resources Feline or Canine CAS OPTIONS

Contains antioxidants + ganoderma/shiitake/maitake
www.genesisvets.com

CORDYCEPS

- Essence of Chicken with Cordyceps (5%)

This liquid can be easily administered to cats and small dogs.
Dosage: 1 cc / lb /bdwt / 3 –4 times daily
The United Pharmaceutical Manufactory
Guang Zhou, China (Yang Cheng Brand)
(order from Mayway, or find in Chinatown herb shoppes)

- Cordyceps (Health Concerns) 500mg tablets

Dosage: 1 tablet /10-25lbs t.i.d.

- Cordyceps 9 (with Rehmannia + Yang Tonics) (Seven Forests)

Dosage: 1 tablet / 20lbs t.i.d.

- Cordyceps Extract in large quantities: Nammex

BOOKS & WHOLE MUSHROOM PRODUCTS

http://www.botanicalpreservationcorps.com/mushrooms_1.htm

<http://www.fungiperfecti.com>

<http://www.begellhouse.com/journals/708ae68d64b17c52,0d0f121956dd501b,630017ec3f0664a7.html>

http://powderz.com/storefront/index.php?main_page=index&cPath=10&zenid=6ec6f860488b736e745811b63b6cdb0b

1 Some animals sensitive to mushrooms may break out in rashes, or have diarrhea, although this is very rare.
2 Mushrooms can also absorb toxins from the soil and concentrate them such as heavy metals (cadmium, mercury), pesticides, and radiation (Chernobyl Disaster: Many imported mushrooms from the area of the nuclear melt down were eaten by people in Eastern Europe, Finland, Sweden, and Norway without their knowledge.)

3 due to Deficient KI Yang, Qi, Wei Qi Deficiency, LIV Heat, HT Shen Disharmonies

4 KI Yang & Qi Deficiency

5 ganoderic acids A (8c), B (8a), G (8g) and H (8h), isolated from *G. lucidum*. These substances showed a stronger effect in this animal model than acetylsalicylic acid

4 KI Yang & Qi Deficiency

5 ganoderic acids A (8c), B (8a), G (8g) and H (8h), isolated from *G. lucidum*. These substances showed a stronger effect in this animal model than acetylsalicylic acid

6 ANTIBACTERIAL ACTIVITY OF LENTINULA EDODES GROWN IN LIQUID MEDIUM.Noemia Kazue Ishikawa; Maria Catarina Megumi Kasuya; Maria Cristina Dantas Vanetti Departamento de Microbiologia, Universidade Federal de Viçosa, Viçosa, MG, Brasil

7 Application of lentinan (parenteral) in addition to chemotherapy led to prolongation of survival time, restoration of immunological parameters and improvement of life quality in patients with stomach cancer, colon cancer and other carcinomas in comparison to patients who had chemotherapy alone

8 In general I use Shiitake in combination with other synergistically acting mushrooms such as Ganoderma. Lucidum, and Maitake

9 (KI YIN Deficiency)

10 I usually use this mushroom in combination of with ganoderma, cordyceps, maitake, or shiitake which act synergistically.

11 False turkey tails (*Stereum hisutum*) can be confused with Versicolor mushroom. These other mushrooms are thinner, more parchment like, and have a white colored underside, whereas the versicolor is thicker and has the underside color similar to its top. This false turkey tail also has anti-tumor properties, and is antibacterial.

12 Most active form of Beta glucan by Professor Hiroaki Namba of Kobe Pharmaceutical University in Japan

13 The edible mushroom *G. frondosa* contains ergosterol, ergosta-4-6-8(14),22-tetraen-3-one (21) and 1-oleoyl-2-linoleoyl-3-palmitoylglycerol, which inhibit cyclooxygenases 1 and 2 activity

14 Br J Nutr 2000 Feb; 83(2):197-204

Effects of the mycelial extract of cultured *Cordyceps sinensis* on in vivo hepatic energy metabolism and blood flow in dietary hypoferric anaemic mice.

Manabe N, Azuma Y, Sugimoto M, Uchio K, Miyamoto M, Taketomo N, Tsuchita H, Miyamoto H, Department of Animal Sciences, Kyoto University, Japan.

15 KI Yin and Yang Deficiencies / Lu Yin Def.

17 Inhibitory effect of Chinese herb medicine zhuling on urinary bladder cancer. An experimental and clinical study.

[Article in Chinese] Yang DA, General Hospital of Jian Unit of People's Liberation Army.

18 Polyporous Combination (Zhu Ling Tang) available from Mayway Herb Co or Brion Herb Co.

Ihor Basko, DVM

All Creatures Great & Small, Kauai, Hawaii

Email: drbwavevet@hawaiiink.net Tel: 808-822-4229

(from the 2003 VBMA symposium)

Practice Insights

AN INTERVIEW WITH SHEN (HUI SHENG) XIE DVM, PhD

Huisheng Xie received his DVM at the Sichuan College of Animal Science and Veterinary Medicine in Sichuan, China. He was an assistant and staff veterinarian in the College of Veterinary Medicine of the Beijing Agricultural University.

After receiving his master of veterinary science in veterinary acupuncture, he was assistant and associate professor in the Beijing Agricultural University College of Veterinary Medicine. He received advanced training in human acupuncture at the Beijing College of Traditional Chinese Medicine and the National Academy of Traditional Chinese Medicine, and later earned his PhD from the University of Florida for investigation of the mechanisms of pain control in horses using acupuncture.

Currently, he is clinical assistant professor and director of the acupuncture internship training program in the College of Veterinary Medicine at the University of Florida.

Dr. Xie is founder of the Chi Institute in Reddick, Florida, which trains veterinarians in Chinese acupuncture and herbal medicine (www.tcvm.com). He has received achievement awards from the Ministry of Agriculture, the National Science and Technology Committee, the Beijing Agricultural University, Nihon University (Japan), University of Mexico (Mexico), and China National Society of TCVM.

He speaks internationally on veterinary acupuncture and herbal medicine, and is the author of 10 books and 100 papers. His textbooks include *Traditional Chinese Veterinary Medicine*, and *Traditional Chinese Veterinary Medicine, Vol. 1, Fundamental Principles*.

Why do you think herbal medicine is gaining popularity now, in the age of miracle drugs and surgical advances?

First of all, I do not think there are any miracle drugs, including herbals, because NO drugs can cure all diseases. Secondly, surgical advances are great if something is broken or if something needs to be removed, however, it offers no relief to chronic organ ailments or internal medical conditions. Thirdly, being veterinary practitioners and scientists, we are responsible to be up to date on ANY possible treatment modalities. Herbals are more popular now simply because more evidence has been reported and more veterinarians are using them and therefore more people are experiencing the benefits and talking about it.

Do you have a garden?

Yes, I have a 1/2 acre garden. We grow Polygonum multiflorum (He Shou Wu), chives (Jiu Zai), dandelion (Pu Gong Ying), Chinese Yam (Shan Yao), peanut, bitter melon, water melon, green pepper, eggplant, squash, tomato.

You really plant dandelion on purpose?

Yes.

What are your favorite kinds of plants to grow?

(Medicinal) herbal plants as they can teach me their energy when I watch them grow. For example, honeysuckle flower (Jin Yin Hua) and dandelion (Pu Gong Ying) can really show what they can do to my patients by just looking at and feeling them.

Why and how did you first start using plants as medicine?

I was born and grown in an "herbal family". I started to plant, collect, mix and grind herbals when I was 6 years old. I am very grateful to my grandfather and father who were my first teachers of Chinese Herbal Medicine. All my herbal knowledge originated from my initial family education.

Who was your most memorable patient?

Sly, a 13-year thoroughbred gelding who had severe colitis. The gelding had been suffering from chronic diarrhea for 2 days and conventional Western medicine had not been able to control his worsening condition at the VMTH. Then I was asked to treat him, and did so using both Chinese herbal medicine and acupuncture. Within two days, the gelding was markedly improved and within five days, he had completely recovered and discharged from the VMTH.

What would you advise a new veterinary graduate today?

Don't limit yourself to all you had been taught. Learn what is outside the box and it will make you a better healer.

What was the best professional advice you ever received?

Skin conditions are always challenging, from my mentor Professor Zhang Kejia.

Who has inspired you?

My grandfather and father.

Dog person or cat person?

It depends on the dog or the cat.

What books do you consider essential for the veterinary herbalist?

- 1) *Chinese Herbal Medicine Materia Medica* by Dan Bensky & Andrew Gamble and published by Eastland Press
- 2) *Chinese Herbal Medicine Formulas & Strategies* by Dan Bensky & Randall Barolet and published by Eastland Press
- 3) *Chinese Veterinary Herbal Handbook* by Huisheng Xie, published by Jing-tang.

What was the last really great book you read, of any sort?

A Complete Collection of Dr. Yu Chuan's Dissertations (Yu Chuan Lun Wen Ji).

What tunes are on your iPod?

I'm not advanced enough to have an iPod.

What part of your work do you enjoy most?

To teach veterinarians how to practice Traditional Chinese Veterinary Medicine (TCVM).

Do you think there is a critical missing element in the education of veterinary herbalists today?

Lack of the direct exposure to herbal gardens, collection, and preparation.

What is your basic teaching philosophy?

As a teacher, I feel that it is my responsibility to find an easy and practical way for Western veterinarians to learn Chinese herbal medicine and be able to integrate it into their practice.

How would you encourage more veterinarians to learn about herbal medicine?

Traditional Chinese Veterinary Medicine (TCVM) has been routinely practiced in China for more than 2,000 years, incorporating both acupuncture and Chinese Herbal Medicine (CHM). Although many people routinely associate Chinese therapies with acupuncture, the truth is that only about 30% of all traditional Chinese medicine patients receive acupuncture. The remaining 70% are treated with Chinese herbs or a combination of herbs and acupuncture.

What is your favorite sanity check?

The basketball court.

Do you have a bad habit?

I love drinking herbal wine.

Has your chosen path in veterinary medicine made it difficult for you at times? If so, how?

Any road worth traveling will have bumps and detours. If it were easy everyone would do it. It takes a special person to stay on the path which rewards him or her financially and spiritually at the end.

What do you think is the “cutting edge” in herbal medicine?

Unlike early herbalists who once had to boil herbs in water to extract compounds from the plants, modern nanotechnology has vastly improved the technique. Even more innovative are the newest cutting edge methods that allow the plant cells to be broken down to a micro-fine powder.

What do you identify as veterinary medicine’s greatest challenge for the future?

Even though it is a great challenge, it is essential for the herbal medicine and other alternative medicines to be a part of the main stream of veterinary medicine. Western conventional medicine can better handle herd health problems.

Although Western veterinarians promote disease prevention through yearly physical exams and vaccines, alternative therapies are

highly beneficial for identification of potential problems and preventing disease through dietary modification or preventative therapies. The therapeutics of alternative medicines can avoid some of the deleterious side effects of Western drugs, but Western drugs act much more quickly. Thus, through integration of the two systems, one may take advantage of the strengths of each, while minimizing the weaknesses. Practitioners who are able to bridge the mental gap between Eastern and Western medicine may find that this combination brings better results than either one alone.

Do you see any dangerous trends in the growth of “alternative medicine”?

Yes, people using alternative medicine allopathically or ill trained. A standard certified training program for each modality of alternative medicines is mandatory for a licensed veterinarian who plans to practice any those disciplines.

Do you think the veterinary profession is failing the animals it serves at this time? In what way(s)?

Only if the patient is given no other options. In my practice, I always offer my clients the options (drugs, surgery, herbal medicine, acupuncture etc), and provide information on good and bad sides of each option.

What is in your emergency medical kit when you travel?

Yunnan bai yao (bleeding and wound), Yin Qiao Jie Du (anti-viral) and Huo Xiang Zheng Qi (travel sick).

Do you have a favorite condition to treat?

Internal medicine disorders including gastrointestinal, cardiovascular, endocrine and respiratory disorders.

What changes do you hope will occur in veterinary medicine in the next 25 years?

Traditional Chinese Medicine including acupuncture and herbal medicine will be a part of mainstream.

What makes a good veterinarian?

Care for our four-leg friends.

Interviewed by Susan Wynn.

Practice Pearls

PRACTICAL TIPS FROM VETERINARY HERBALISTS

Escharotics and Cancer Salves in Veterinary Practice

What is an escharotic?

An escharotic is a herbal paste or salve applied to superficial warts, tumors and skin lesions. It separates the abnormal tissue from the surrounding tissue. It forms a scab called an eschar (hence escharotic) which sloughs off taking the growth with it. Underlying healthy tissue remains intact and when the growth comes off the lesion is bloodless. It is an alternative to surgery, sometimes called “botanical surgery”.

History

The use of herbs to remove tumors has been practiced in many traditions and cultures. Hippocrates makes mention of caustics as a treatment approach. The early 12th century Christian abbess Hildegard von Bingen, refers to herbal salves in the treatment of “bubos”. Escharotics have been used by Native American Indians, using poultices of roasted onion and bloodroot. The juice of chelidonium or dandelion latex has been used in China to remove warts, and dandelion latex is a Chinese folk remedy for breast cancer. Poultices of taro potato (*Colocasia esculenta*) are used in Japan, Africa and India for growths.

Samuel Thompson reported the successful treatment of breast cancer using a paste of thickened decoction of red clover blossoms. It was applied thickly and repeatedly, and covered with a protective bandage. After a short time the cancer literally sloughed off through the surface of the skin, leaving a shallow crater.

In Europe during the mid 1800s to the 1900s some cancers were treated with zinc chloride. In the early 1850s Dr. J. Weldon Fell, a faculty member of New York University and founder of the New York Academy of Medicine, moved to the UK and built up a very successful cancer treatment practice. At Middlesex Hospital in London he developed a paste made of bloodroot, zinc chloride, flour and water. This was directly applied as a paste to a malignant growth, and reportedly destroyed the tumor within two to four weeks.

Another MD: Frederic Mohs, B.Sc., M.D. (Clinical Professor of Surgery at the University of Wisconsin Medical School) called his approach chemosurgery and used a fixative paste. He used an integrated approach combining an escharotic with surgical tumor removal and histopathology. A text entitled Chemosurgery: Microscopically controlled Surgery for Skin Cancer was written by Mohs and last published by Charles Thomas in 1978. It uses the same basic escharotic paste for the removal of various cancers, moles, warts and other growths and excrescences.

Formulas

Escharotics can be made from a number of herbs and herb chemical formulas that are readily available (see appendix). While there are “solely herb” salves, most are a combination of herbs and zinc chloride (and sometimes dimethyl sulfoxide).

The herbs most commonly used include:

Bloodroot *Sanguinaria canadensis*
 Goldenseal *Hydrastis canadensis*
 Celandine *Chelidonium majus*
 Chaparral *Larrea tridentate*
 Cayenne *Capsicum frutescens*
 Mistletoe *Viscum album*
 Red clover *Trifolium pratense*
 Poke root *Phytolacca decandra*
 Birch Bark *Betula alba*
 Burdock Root *Arctium lappa*
 Irish Moss *Chondrus crispus*
 Black walnut bark *Juglans nigra*
 Garlic *Allium sativum*
 Dandelion *Taraxacum officinale*

Commercial formulations include “Cansema”, “Black Salve” or “Compound X”, and veterinary formulations are also available.

In my experience

I have been using a sanguinaria and zinc chloride paste, applied with a tongue depressor about 1/4-1/2 teaspoon to small warts, sebaceous cysts, tumors too small to FNA and lumps in very old dogs. Typically one treatment is required, although a few times I have repeated the application. I estimate 7 of 10 lumps are removed with this treatment.

I warn the owners that the area may become inflamed. I have applied the escharotic to my skin and left it on for several hours. A very mild burning sensation is felt but no reddening or tissue damage is observed.

The lumps have fallen off between 1 and 7 days in general, and some up to 10 days. Initially there is a separation of abnormal tissue from surrounding normal tissue. Then necrosis and pus formation, with a scab forming soon after. In some cases there is no pus or necrosis, merely a sloughing of the scab leaving a granulating “pit” or cavity. Healing occurs with hair re-growth. Frequently the site looks a lot worse initially, and I was told by one client that the growth was bigger, only to find the lump had discharged into the fur and it had matted. If a lump is still present, or the growth is expected to be malignant, a reapplication of the salve may be necessary.

For larger tumors, wound management, including cleaning and healing support, (i.e: use of turmeric and vitamin E, or calendula and vitamin E or medical honey) after the eschar falls off, are helpful.

Disadvantages of Escharotics

There are concerns about the use of escharotic therapy.

Pain and irritation

The escharotic may be irritating and painful to the patient. One adverse event was observed with a 12 yo Cocker Spaniel with a growth on its lower right lip. After application of the escharotic the dog scratched the growth off in the clinic. Yunnan Pai Yao application quickly stemmed the bleeding. The dog returned for a second application and the growth was markedly reduced but still present. Pain medications may be prescribed. I would be inclined to use a xylocaine gel in future for open growths. I would recommend an anti-inflammatory analgesic for larger growths.

Wound care and infection

Infection is a possibility but not experienced so far in more than 30 applications. *Sanguinaria* has antimicrobial action. The wound should be kept clean.

Licking the escharotic off

This has occurred in several instances directly following application. The patient salivates a little bit but quickly recovers with a liver treat. The escharotic is reapplied and the patient distracted.

Lack of efficacy

Cosmetic removal of the growth may not prevent metastasis or provide complete removal. Supportive therapies, other anticancer, antiviral formulas, dietary changes, etc are important.

Potential Veterinary Applications

Feline leprosy
Periodontitis
Sebaceous cysts
Warts
Tumors

One of the main herbs described repeatedly for its effectiveness as an escharotic is Bloodroot.

Bloodroot (*Sanguinaria canadensis*)

Sanguinaria canadensis L., a member of the Papaveraceae family, commonly known as bloodroot, red puccoon, Indian paint, redroot, pauson, or tetterwort; is found throughout most of North America east of the Rocky Mountains (Reed 1999) and is a primary ingredient in most escharotic salves and pastes. Rhizomes produce an extract that is a mixture of benzophenanthride alkaloids, most notably sanguinarine (Godowski 1989). Sanguinarine is also found in other Papaveraceae such as the roots of *Chelidonium majus* L, and the seeds of the *Argemone mexicana* L (Hu 2000) American

Indians used the rhizome in treatment of: rheumatism, asthma, bronchitis, lung ailments, laryngitis, fevers and warts (Anon 1995).

S. canadensis extracts have antimicrobial activity against a wide variety of organisms (Ignatov 1994, Newton 2001, Madady 2003). Extracts of *S. canadensis* have been shown to possess anti-oxidative, antitumor, antibacterial and anti-inflammatory properties in animals, and to reduce gingival inflammation and supragingival plaque (Chaturvedi 1997, Ahmad 2000, Sen 2002, Munro 1999). Its principal pharmacologic use is in dental products, where it has antibacterial, antifungal, and anti-inflammatory activities which reduce gingival inflammation and supragingival plaque formation (Eun 2004).

Sanguinarine has been shown to inhibit several enzymatic activities (such as lipoxygenase, cholinesterase, and Na⁺/K⁺-ATPase) and signaling pathways such as nuclear factor-κB pathway (Chaturvedi 1997). Sanguinarine, at micromolar concentrations, imparts cell growth inhibitory response in human squamous carcinoma cells via an induction of apoptosis (Ahmad 2000). An important observation of this study was that sanguinarine treatment did not result in apoptosis of the normal human epidermal keratinocytes at similar concentration.

Angiogenesis is indispensable for inflammation, and most angiogenesis is dependent on vascular endothelial growth factor (VEGF). In vitro studies demonstrate that sanguinarine markedly suppressed VEGF-induced endothelial cell migration, sprouting, and survival in vitro in a dose-dependent manner at nanomolar concentrations. Furthermore, sanguinarine potently suppressed blood vessel formation in vivo. It was concluded that sanguinarine is a potent antiangiogenic natural product (Eun 2004).

Sanguinaria has also been investigated as an anti cancer treatment in uterine cervical cancer (Ding 2002). It induced growth inhibitory and antiproliferative effects in human prostate carcinoma cells (Adhami 2004). The activation of human myeloid cells with tumor necrosis was completely suppressed by sanguinarine in a dose-and-time-dependent manner (Chaturvedi 1997). Four cases in which patients had used sanguinarine extracts in lieu of the recommended conventional treatment for basal cell carcinomas were reported. One patient had a residual tumor, and another resolved for several years but then had deeply recurring basal cell carcinomas (McDaniel 2002).



Bloodroot *Sanguinaria canadensis*

Continued overleaf

Escharotics and Cancer Salves in Veterinary Practice (cont)

Safety

Sanguinaria has been reported as having adverse effects: genotoxicity and hepatotoxicity. One study evaluated the effects of daily administration of an extract in the diet on the health status of swine. After 90-day administration, alkaloids were retained to a different extent in tissues. The highest retention was detected in the gingiva and liver. An average daily oral dose of alkaloids up to 5 mg per 1 kg animal body weight proved to be safe (Kusina 2004). The oral intake of sanguinaria extract has no selective effect on fertility, reproduction or fetal and neonatal development in rats or rabbits (Keller 1989).

APPENDIX

Various Escharotic Formulas

Cansema "Black Salve" formula:

zinc chloride
 NDGA (nordihydrogauractic acid, from *Larrea mexicata*)
 sanguinaria (*Sanguinaria canadensis*)
 galangal root (*Alpinia officinarum*)
 ginger root (*Zingiber officinale*)
 graviola leaf (*Annona muricata*)
 bitter melon seed (*Momordica charantia*)
 glycerine (used as a humectant, to keep the product moist).

Directions: Cover the area with at least 1/1 inch thickness of the ointment, with a little extra area covered in all directions beyond the visible skin changes. Then cover the ointment with a bandaid, leaving it on for only 24 hours. When removing the bandaid after 24 hours, wash off the ointment with water (acid water if available) and note whether the area is red (normal tissue) or anything from whitish-yellow to black (abnormal tissue). If the tissue is whitish-yellow or black, continue as follows. Cover the area with vaseline (or unpetroleum jelly) at least 1/1 inch thick 24 hours a day for 10 days. Between days 7 to 14 watch for formation of an eschar, or ball of tissue, which may fall out on its own, or may be gently plucked out when all attachments to the body are gone. Then switch to Vitamin A&E for the next 2 to 4 weeks, keeping the area covered 24 hours a day to help promote normal tissue regeneration without scarring.

Sanguinaria Paste:

1/2 cup powdered Blood Root (*Sanguinaria canadensis*)
 1/2 cup zinc chloride: crystals or liquid
 1/2 cup common white flour
 1 1/2 cup warm water
 100ml Chaparral extract or 100gm of powdered Chaparral (*Larrea mexicana*)

Directions: Pre-mix all but the water, thoroughly, before adding to the water. Using a stainless steel double boiler, add in water, then

stir in the other ingredients. Stir well using a wooden spoon. Cook for thirty minutes over boiling water, stirring constantly. Apply a thin layer (2-3mm) of the paste over the affected area and cover for 24 hours. Then remove the covering but do not disturb the lesion at all. Do not attempt to pull the cancer out at any time, it should fall out in 10 days or so.

From <http://www.mnwelldir.org/docs/cancer1>

Hildegard von Bingen Single Herb Formula

Juice of Viola spp (violets)
 Olive Oil
 Tallow

Directions: Add together until a thick paste is formed.

Escharotic Paste

Hydrastis canadensis (Goldenseal)
 Zinc chloride
 Flour
 Water

Directions: Add together in equal parts.

Escharotic Liniment

Iris vesicolor tincture (Blue Flag) - 2 oz.
Trifolium pratense tincture (Red clover) - 1 oz.
Sanguinaria canadensis tincture (Bloodroot) - 1 oz.

Directions: Saturate a small cloth after mixing well. Apply to the affected area and then cover with plastic. Change twice daily.

Black Salve

Alpina officinarum (Galangal root) - 1 part (powdered)
Sanguinaria canadensis (Bloodroot) - 1 part (powdered)
 Zinc chloride - 2 parts

Directions: Add distilled water to the zinc chloride and then the herbs. Flour may be added if the mixture is too thin. The pH should be 3.7-3.8. Add more herbs in equal proportion if necessary to bring pH to established limits.

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References are available on request.

Event Calendar

October 3-5: Healer, Heal Thyself 2006 Heartland Retreat

Haverkos Farm Oldenburg, IN

The "Healer, Heal Thyself 2006 Heartland Retreat" will be held from noon on Tuesday, October 3 through noon on Friday, October 6th, at the farm of Dr. Mark Haverkos in Oldenburg, Indiana. Local motels are available and no-fee camping is permitted on the farm. Activities will include Tai Chi, Qi Gong, a herb walk, body work including network chiropractic and massage, a sweat lodge, photography instruction, and short presentation topics from COE members.

Contact Dr. Mark Haverkos for further information at mphvillagevet@aol.com

October 11-15: 12th Annual Wild West Veterinary Conference

Reno Hilton 2500 East Second Street Reno, NV 89595

The 12th Annual Wild West Veterinary Conference will be held October 11-15, 2006 at the Reno Hilton, Reno, Nevada. The Complementary/Alternative Medicine Tract will feature over 30 hours of lecture from Drs. Steve Marsden, Mona Boudreaux, Bruce Ferguson, and Sandy Bond.

Please call 800-775-7062 or visit www.wildwestvc.com for more information.

IVAS Basic Course 2006/2007

Tampa Marriott Westshore Tampa, FL USA

Session 1: Oct. 18-22, 2006

Session 2: Nov. 15-19, 2006

Session 3: Jan. 17-21, 2007

Session 4: Feb. 21-25, 2007

Exams: Mar. 24-25, 2007

Registration now open! Go to www.IVAS.org

Further details and necessary information for interested applicants about upcoming courses may be obtained from the IVAS office by contacting the address below:

The International Veterinary Acupuncture Society
P.O. Box 271395
Ft. Collins, CO 80527-1395
Phone: (970) 266-0666
Fax: (970) 266-0777
e-mail: office@ivas.org

October 18-22: Veterinary Acupuncture and Herbology

The Healing Oasis Wellness Center 2555 Wisconsin St Sturtevant, WI 53177

Veterinary Acupuncture & Herbology Certification Program: The Healing Oasis is committed to teaching Traditional Chinese Veterinary Medicine (which will include veterinary herbology and veterinary acupuncture), to the attendees of this comprehensive certification program. The class size will be small to provide a good learning environment.

For more information contact

http://www.thehealingoasis.com/html/veterinary_acupuncture.html

April 28-30, 2007: VBMA Symposium

Seattle, Washington.

The Spring Symposium offers veterinary herbalists advanced information, and the 2007 general theme of the symposium is "Infectious Disease: Turn On or Off the Immune System?" Our plenary speaker will be Eric Yarnell, ND, author of multiple clinical manuals and the text, *Clinical Botanical Medicine*. Dr. Yarnell is a founding member of the Botanical Medicine Academy, a specialty board for practitioners who utilize herbal medicines in human medicine.

The conference committee is soliciting proposals for lectures, labs, posters and masterclasses related to veterinary herbal medicine. Academic, scientific and clinical presentations are welcome. Please send your presentation title and abstract to one of our conference committee members:

Jane Morse: purrersist@aol.com

Elise Holt: eliseholt@comcast.net

Mike Kohn: mikedkohn@gmail.com

Susan Wynn: swynndvm@bellsouth.net

The symposium will include a vendor area and will provide a unique opportunity for a synergistic educational experience. Registration details for the conference will be available from early 2007, but be sure to mark your calendar now!

