

# Integrative Therapies

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*Ed. Note: According to the American Holistic Veterinary Medicine Association, "...the word 'holistic' means taking in the whole picture of the patient – the environment, the disease pattern, the relationship of pet with owner – and developing a treatment protocol using a wide range of therapies for healing the patient." This includes integrating conventional protocols with possible complementary and alternative therapies – whatever are the most efficacious, least invasive, least expensive and least harmful paths to cure. The chapter presented here is a brief introduction to selected integrative therapies in order to familiarize the avian practitioner with those that have been used in pet bird practice and to offer options for possible further study.*

Integrative therapies constitute a very wide range of disciplines from around the world. Many of these therapies can be utilized to treat pet birds, although none was specifically developed for avian species. Because birds have not been domesticated, remaining genetically and evolutionarily close to their wild counterparts, they tend to be very responsive to natural therapies. Certain modalities, such as chiropractic and acupuncture, must be modified for differences in avian anatomy and physiology. Others can easily be extrapolated to pet birds from human or other mammals with only slight adjustments. Some examples include homeopathy, flower essences, nutraceuticals and many herbs. Other therapies, such as diffusion aromatherapy, must be used with caution to avoid toxic reactions. Integrative therapy in birds has existed for centuries in poultry medicine through acupuncture and herbal therapy in China.

Many terms have been used to describe these forms of treatment, including integrative therapy, alternative therapy, holistic care and complementary medicine. Each of these terms has specific implications and none of them is entirely accurate. Alternative therapy suggests another way to do the same thing. Complementary implies that it augments conventional therapy. Holistic refers to treatment of the whole patient in a complete approach, but usually infers that it is separate from conventional therapy. Integrative therapy involves the integration of a variety of modalities into a more complete healthcare system. This term is most appropriately applied when the varying therapies are used in conjunction with conventional Western therapy.

Several integrative modalities are described below, with specific indications for birds. This is not intended to be an exhaustive list of therapies for birds or serve as a

complete description of these therapies. Rather, this is an introduction into the wide array of holistic modalities and their potential implications for pet birds. Further training and education is recommended prior to widespread implementation of these therapies in practice. Veterinary certification programs are available for some of these modalities, including animal chiropractic and veterinary acupuncture. A list of resources and programs is provided in [Table 10.6](#).

## Integrative Modalities

### ANIMAL CHIROPRACTIC

The practice of chiropractic is credited to D.D. Palmer during the mid-1890s.<sup>27</sup> D.D. Palmer's son, B.J. Palmer, further developed the practice through research and clinical practice. Although the Palmers are known as the founders of current chiropractic care, adjustments have been used for thousands of years. B.J. Palmer established the first chiropractic school in Davenport, Iowa, known as Palmer Chiropractic College.

Chiropractic is defined as "that science and art which utilizes the inherent recuperative powers of the body and deals with the relationship between the nervous system and the spinal column, including its immediate articulations, and the role of this relationship in the restoration and maintenance of health."<sup>27</sup> Because all functions of the body are innervated and controlled by nerves, the implications of chiropractic care in health management are enormous. Not only can chiropractic therapy treat a stiff neck or back pain, it may be useful in many systemic and metabolic disorders.

Chiropractic therapy is directed at the release of fixations and subluxations of the spine. The term subluxation is used to describe a misaligned vertebra that is unable to properly move in relation to adjacent vertebrae. This can be either a structural or functional malalignment, which may not be obvious on radiograph or conventional physical examination. These subluxations are corrected by a precise manipulation of the spine known as an adjustment. An adjustment involves the application of a high-velocity, low-amplitude manual force to release fixations without damage to the motor unit.<sup>27</sup> A motor unit is defined as two adjacent vertebrae and the associated structures between them, including ligaments, blood vessels, nerves, joints and muscles. The adjustment must be specific in regard to the force and angle applied to the specific vertebral joint.

In general, any vertebrate is a potential chiropractic patient, including birds. The avian skeletal system is

unique from those of mammals in several ways. Birds are bipedal with modified forelimbs as wings. Many of the long bones in their limbs are pneumatic, allowing for extension of the air sac system as well as less weight for flying. The air sacs also may perfuse certain segments of the vertebral spine. The avian spine is divided into cervical, thoracic, synsacral, free-caudal and pygostyle (fused-caudal) sections.<sup>20</sup> The number of cervical vertebrae varies with species, with budgerigars having 11 and Amazon parrots having 12. The last cervical vertebrae and first 3 thoracic vertebrae are fused in Galliformes. The number of thoracic vertebrae varies from 3 to 10, depending on species. Ribs are present on both cervical and thoracic vertebrae. A large portion of the avian spine is fused into the synsacrum, including the lower thoracic, lumbar, sacral and caudal spine. There are 10 to 23 synsacral vertebrae and 5 to 9 caudal vertebrae. The ilium and ischium are fused together and to the synsacrum. The pubic bones are unfused, except in ratites.

Chiropractic care can be used in a variety of avian cases from trauma to reproductive conditions. Traumatic injury to the cervical vertebrae is a sequela to flying into a wall or window. Torticollis and localized feather picking also can be potential chiropractic cases. Adjustment of the thoracic spine may correct certain respiratory or digestive disturbances with underlying neurologic or neuromuscular origin. Dystocia can be the result of an abnormal egg, metabolic disturbance or abnormal pelvic anatomy. The latter etiologies may be assisted by chiropractic adjustment.<sup>22</sup>

### VETERINARY ACUPUNCTURE

Acupuncture has been used for at least 5000 years in China, which is considered the site of origin. Early acupuncture needles were made from stone and fish bones. About 500 A.D., the practice of acupuncture spread to Japan and Korea, which established their own forms. By the 6<sup>th</sup> century, acupuncture had spread throughout Asia. By the 17<sup>th</sup> century, it was found in Europe, and finally arrived in North America during the 19<sup>th</sup> and 20<sup>th</sup> centuries. It was not until 1971 that acupuncture made its way into American culture. This was the result of a New York Times journalist being treated with acupuncture while on assignment in China. He had his appendix removed and was treated with acupuncture for postoperative pain. Over the past 30 years, acupuncture has slowly become more mainstream in American culture.

Veterinary acupuncture also has a long history. Evidence of elephant acupuncture dates back about 3000 years in Sri Lanka. The Chinese Chou Dynasty dating back to 1066 to 221 B.C. recorded several veterinary applications. The father of Chinese veterinary medicine is Shun

Yang (Pao Lo), who was the first full-time practitioner of Chinese veterinary medicine in 430 B.C.<sup>31</sup> Veterinary acupuncture has developed in various parts of the world, especially in Asia, over the past 2000 years. In 1974, the National Association of Veterinary Acupuncture (NAVA) was established as the first veterinary acupuncture association in the West, but was active for only 5 years.<sup>10</sup> Later in 1974, the International Veterinary Acupuncture Society (IVAS) was established and has since become a core association for veterinary acupuncture in the United States and the world. Since 1998, three other teaching organizations in the USA have offered training in veterinary acupuncture.

Acupuncture is one part of the holistic health system known as Traditional Chinese Medicine (TCM). Other TCM components include proper nutrition, exercise, herbal remedies and appropriate lifestyle. The main premise of TCM is that we are all part of nature, and health is achieved by establishing balance with the natural world. This balance of nature is characterized by the Chinese concept of Yin-Yang, which is the balance between such things as light and dark, wet and dry and hot and cold.

Acupuncture involves the placement of fine needles into specific points on the body to elicit a physiologic and energetic response along energetic pathways known as meridians. Meridians are interconnected energetic pathways that run throughout the body. These pathways carry the body's Qi (vital life force or energy). The presence of Qi is what defines the existence of life. The placement of acupuncture needles into points along these meridians enables the body to restore itself to homeostasis by affecting the Qi flow.

The physiologic effects of acupuncture are being studied and verified by scientific methods. The anatomic locations of acupuncture points coincide with sites of an increased density of nerve endings, small capillary beds and mast cell aggregation. As a result, a measurable physiologic effect in beta-endorphin release, stimulation of circulation and decrease in inflammation results from acupuncture stimulation. In pain control, experiments have shown a modification in neural impulse transmission from the spinal cord to the brain after acupuncture. This effect is known as "gate control" theory, which proposes that acupuncture can block the action of pain fibers in the spinal cord.<sup>26</sup>

A variety of acupuncture techniques exist. The use of the different techniques depends on the species and general cooperation of the patient, type and severity of the condition being treated, and personal preference of the acupuncturist. Traditional dry needling is commonly used in mammals but is more difficult in birds. Most

juvenile and some adult parrots, columbiformes, waterfowl and poultry readily accept dry needles. The use of 36- or 38-gauge by 15-mm needles is appropriate for parrots, poultry and other larger birds. Plastic Seirin #5 needles can be made lightweight and better balanced by cutting off the plastic handle for better retention of the needle in birds. Smaller birds may require Sooji Chim hand needles (Korean gauge 8-mm length).

An effective alternative to traditional needling is aquapuncture. This technique involves the injection of cyanocobalamin (vitamin B<sub>12</sub>) or saline into the acupoint using a 27- to 29-gauge hypodermic needle and 0.5- to 1-ml syringe. Medium to large size parrots receive up to 0.10 ml per site, while smaller birds get as little as 0.01 ml per site. The aquapuncture technique has the added advantage of providing a longer lasting effect at the site.

Another technique for potential use in birds is laser therapy. Low-intensity, cold laser lights are effective in penetrating the thin skin of birds to stimulate the shallow acupoints on birds. Disadvantages of laser therapy include the lack of specificity for acupoint stimulation in areas where multiple points are close together and lack of stimulation of deeper acupoints. Gold beads or wire implants have been used in birds for chronic cases requiring much longer periods of stimulation. Acupuncture techniques seldom used in pet birds include electroacupuncture and moxibustion, since birds are Yang by nature and both of these are strong Yang-stimulating techniques.<sup>24</sup>

The clinical applications of veterinary acupuncture include everything from pain management to treatment of systemic diseases. Acupuncture is effective for many chronic disorders such as allergies, arthritis, urinary incontinence and reproductive disorders. Typically, acupuncture is combined with Chinese herbs and proper nutrition to achieve the greatest effect.

Acupuncture and Traditional Chinese Veterinary Medicine (TCVM) have been developing over the past 20 years in pet bird medicine. Historically, the use of acupuncture on birds in China was primarily restricted to poultry, which was fairly limited due to the lack of economic benefit in treatment of individual birds. Rather, the administration of herbal treatments was more common for flock treatment.<sup>7</sup> However, the use of acupuncture in pet birds has gained some popularity in the USA in recent years, especially for the treatment of feather picking.<sup>1,28</sup> Despite the lack of historical documentation, acupuncture can be beneficial in the treatment of many pet bird conditions.

The use of acupuncture in birds poses various challenges from their anatomic differences and physiologic

characteristics. Birds have a high metabolic rate and relatively high body temperature (42.4° C) with rapid heart and respiratory rates. They have hollow bodies with air sacs, pneumatic bones and hollow feather shafts. As compared to mammals, birds are relatively dry, possessing minimal moisturizing glands. These characteristics make birds Yang by nature.<sup>24</sup> As a result, birds have a tendency toward a relative or true Yang excess when they are sick. The stress and anxiety inherent in the restraint of birds also must be considered when using acupuncture. In addition, because birds instinctively mask signs of disease, they must be thoroughly examined to reveal their true status prior to selection of the acupuncture points.

Acupuncture points are commonly extrapolated from one species to another, and special points are commonly described for individual species. Avian acupuncture employs the same techniques to locate and describe acupuncture points. Transpositional points from mammals constitute the majority of the acupoints in birds, and these may be of TCM origin or special points defined in other species. Special TCM points for poultry without a mammalian counterpart also are used in pet birds, including Gu Duan (end of thigh), used for drooping wings, and Bei Ji (back of the body spine), which is a grouping of three points used to treat respiratory disease. A few points that have been specifically described for pet birds include some of the back Shu points, which do not correspond to the mammalian counterparts because of the fused synsacrum. Detailed descriptions and indications of specific avian acupoints are defined in the listed references.<sup>24</sup>

Certain disorders in TCVM are more frequently seen in birds. In general, these include Liver Yin deficiency, Heart Yin deficiency, stagnant Liver Qi, Kidney Yin deficiency, Blood deficiency, Lung Yin deficiency and Lung Dryness. Kidney Essence deficiency is common in cockatiels and budgerigars that have been inbred for generations. External pathologic factors, described as Wind-Damp and Damp-Heat, are common in the Western diagnosis of microbial infections.<sup>16</sup>

Acupuncture can be effective in the treatment of many conventional Western conditions diagnosed in pet birds. Bacterial infections are commonly diagnosed in birds and are described as Damp-Heat or other pathogenic Heat conditions in TCVM. Conjunctivitis can be treated with local points and specific meridian points for Liver/Kidney Yin deficiency. Sinusitis is often the result of a Wind-Cold or Wind-Heat condition, based on the characteristics of the discharge. Various other TCVM conditions can present with sinusitis as a clinical sign. Identification and specific treatment of underlying fac-

tors is just as important in TCVM as in conventional therapy. Crop stasis is thought of as a problem with the Stomach or Liver meridian. The TCVM diagnosis of egg binding is a Kidney Qi condition. Kidney disease is not treated as directly with TCVM in birds as in mammals because the kidney association point is not available, yielding to the use of various kidney meridian points based on the TCVM diagnosis. Applying the basic concepts of TCVM to establish a diagnosis and treat accordingly is more effective than applying a standard set of procedures to a conventional diagnosis. As a point of reference, [Table 10.1](#) has a list of common acupoints used in the treatment of common conditions in pet birds. In addition, [Figs 10.1-10.3](#) illustrate the position of these points.<sup>16</sup>

## HERBAL THERAPY

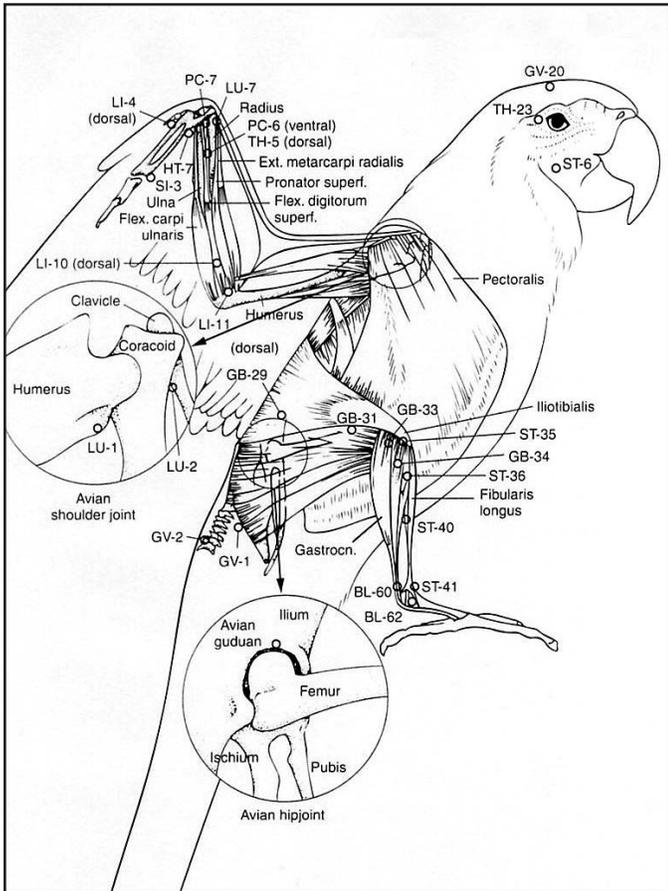
The use of specific herbs for medicinal purposes dates back thousands of years. Several herbs are mentioned in the Bible, and archeologists have documented herb use back to prehistoric times. Herbs are used around the world, including Western herbs from North America, Ayurvedic herbs from India and traditional Chinese herbs.

Approximately 25% of our conventional drugs are derived from plants. Conventional drugs typically contain a single active constituent from the plant, whereas herbs provide a broader and more balanced effect on the body through the synergistic actions of the herbal components. Herbs are best prescribed to treat the entire individual and not only the clinical signs. Herbal blends and formulations combine the benefits of multiple herbs, which typically produce a synergistic action while minimizing the potential toxic effects of a single herb. Herbs provide many unique qualities that are very limited in conventional medicine, such as anticancer, antiviral and immunoregulation properties.

Currently, herbal products are not regulated or controlled. Therefore, practitioners and clients must remain cautious in administering a product without evaluating the company and verifying that the active component of the herb or plant actually is in the formulation. Product labels can bear the name of an herb or plant substance as long as some portion of it is present in the formulation, but it does not always imply that the medicinally active constituent is included. Standardized extracts are available for certain herbs through concentrating the active ingredients, resulting in more of a plant drug than an herbal medicine.<sup>29</sup> Standardizing alters the physical and energetic nature of the herb. This process also eliminates the synergistic effects of the myriad chemical components in the plant. For some herbs such as milk thistle, standardization is advantageous, since the specific active constituent is clearly known and purified in the process.

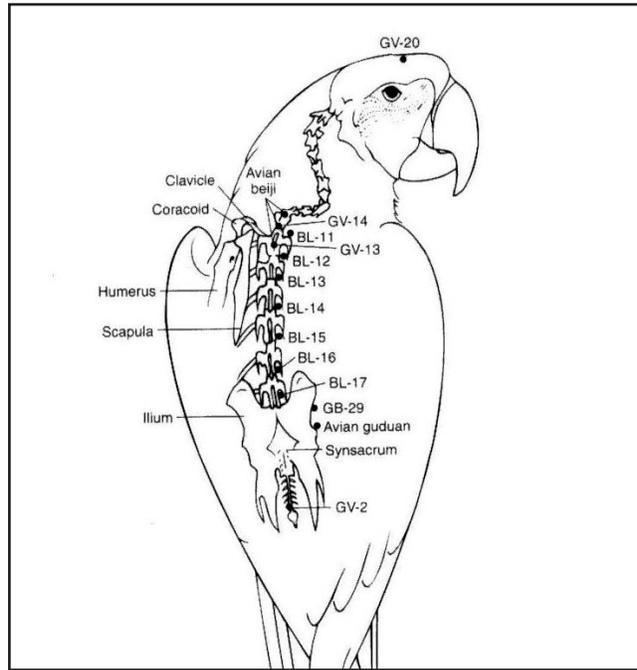
**Table 10.1 | Acupuncture Points in Birds**

Acupoint	Name	Characteristics	Indication / Action
LU-1	Avian Fei Tang	Alarm point for Lung	Acute resp. disease, fever, wing weakness
LU-2	Avian Yi Gen		Cold, fever, tracheitis, ptosis of wing
LU-7	Lie Que	Master point for head & neck	Neck stiffness, resp. disease, weak carpus
LU-9	Tai Yuan	Tonification for LU channel	Regulate Lung Qi, clear Lung & Liver heat
LI-4	He Gu	Master point for face & mouth	Facial swelling, eye pain, egg binding, diarrhea
LI-10	Shou San Li	Tonifies Qi	Abdominal pain, Bi syndrome of wing
LI-11	Qu Chi	He Sea point, tonification point	Pain of elbow, abdominal pain & regurgitation
ST-6	Jian Che		Facial paresis & swelling, neck pain & stiffness
ST-35	Avian Xi Gai		Inflamed, painful & swollen knee, leg weakness
ST-36	Zu San Li	Master point upper abdomen	Tonifies Qi & Blood, raises Yang, body strength
ST-37	Shang Ju Xu	Lower He-Sea point of LI	Chronic diarrhea & loose stool, remove LI damp
ST-40	Feng Long	Connecting point	Resp. disease, muscle atrophy & weak, mental
ST-41	Avian Gou Qian	Tonification point	Bi syndrome in hock & digits, pharyngitis
SP-6	San Yin Jiao	"Three Yin meeting" of leg	Egg binding, cloacal prolapse, leg paralysis/pain
SP-9	Yin Ling Quan	Sea & Water point	Distended abdomen, edema, diarrhea, knee pain
SP-10	Xue Hai	Sea of blood	Blood disorders, urticaria, pain in medial thigh
SP-11	Avian Kua Nei	Blood letting point	Inflammation, swelling or poor mobility in legs
HT-7	Shen Men	"Mind door," source point	Mental disorder, epilepsy, feather picking
SI-3	Hou Xi	Tonification point, opening of GV	Neck rigidity, wing contracture, back problems
BL-11	Avian Xin Shu	Assn. point for Heart	Mental disorders, irritability, epilepsy
BL-12	Avian Fei Shu	Assn. point for Lung	Respiratory disease/infection, fever
BL-13	Avian Wei Shu	Assn. point for Stomach	Crop disease, vomiting/regurg., indigestion
BL-14	Avian Pi Shu	Assn. point for Spleen	Maldigestion, indigestion, diarrhea, vomiting
BL-15	Xiao Chang Shu	Assn. point for Small Intestine	Lower abdominal pain, diarrhea
BL-16	Avian Gan Shu	Assn. point for Liver	Hepatopathy, conjunctivitis, inflamed cloaca
BL-17	Avian Xin Shu	Assn. point for Large Intestine	Pain in lower back, LI & cloacal disorders
BL-40	Avian Xi Wan	Master point of back & legs	Inflammation, pain, & swelling of feet & knee
BL-60	Kun Lun	Expels Wind & clears Heat	Pain in back, shoulder & wing, egg binding
BL-62	Shen Mai	Eliminate interior Wind	Epilepsy, mental confusion, pain in back & legs
KI-1	Avian Jiaodi	Foot base, sedation point	Calms mind, tonifies Yin, remove Yin-heat
KI-3	Tai Xi	Greater stream, source point	Inferility, sore throat, back pain, insomnia
KI-6	Zhao Hai	Nourishes Yin, cools blood,	Calms mind, anxiety, soft-shelled eggs, Yin def.
PC-6	Nei Guan	Inner gate, master chest/lung	Mental disorder, pain, epilepsy, fever
PC-7	Da Ling	Source point, sedation point	Gastric pain, regurgitation, panic, epilepsy
TH-4	Yang Chi	Yang pond, source point	Pain in wing & shoulder, kidney disease
TH-5	Wai Guan	Outer gate, connecting point	Motor problems in wing, behavior problems
TH-10	Tian Jing	Heavenly well	Mood swings, Bi syndrome of wing, damp-heat
TH-23	Avian Yan Jiao	Eye correct	Eye problems, expels wind, pain relief
GB-13	Benshen	Point of Yang Linking Vessel	Emotional problems, epilepsy, calming point
GB-29	Ju Liao	Removes channel obstructions	Pain & paralysis of back & legs
GB-31	Avian Kua Wai	Expels Wind - relieves itching	Inflammation, swelling & difficult leg movement
GB-34	Xi Yang Guan	Relaxes Sinews	Pain & swelling of knee (Bi syndrome)
GV-1	Avian Hou Hai	Regulates GV & CV	Loss of appetite, mental depression, prolapse
GV-2	Avian Wai Gen	Extinguishes interior Wind	Diarrhea, mental depression, cloacal prolapse
GV-12	Avian Bei Ji	TCVM poultry point	All respiratory diseases
GV-13	Avian Bei Ji	Similar to Tao Dao, clear heat	All respiratory diseases
GV-14	Avian Bei Ji	GV, BL, GB & ST meeting point	All respiratory diseases
GV-20	Avian Guan Ji	Meeting point of all Yang channel	Mental stress, depression, cloacal prolapse
GV-24	Shenting Du	Meeting point of GV & ST	Severe anxiety & fear (calms mind)
Ba Feng	Avian Jiao Pan	TCVM poultry bleeding point	Relax Sinew, pain & infection in feet
Gu Duan	Avian Gu Duan	TCVM poultry point	Ptosis of wing (poultry), Bi syndrome of pelvis



**Fig 10.1** | Acupuncture points of birds, lateral view.

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**Fig 10.2** | Acupuncture points of birds, dorsal view.

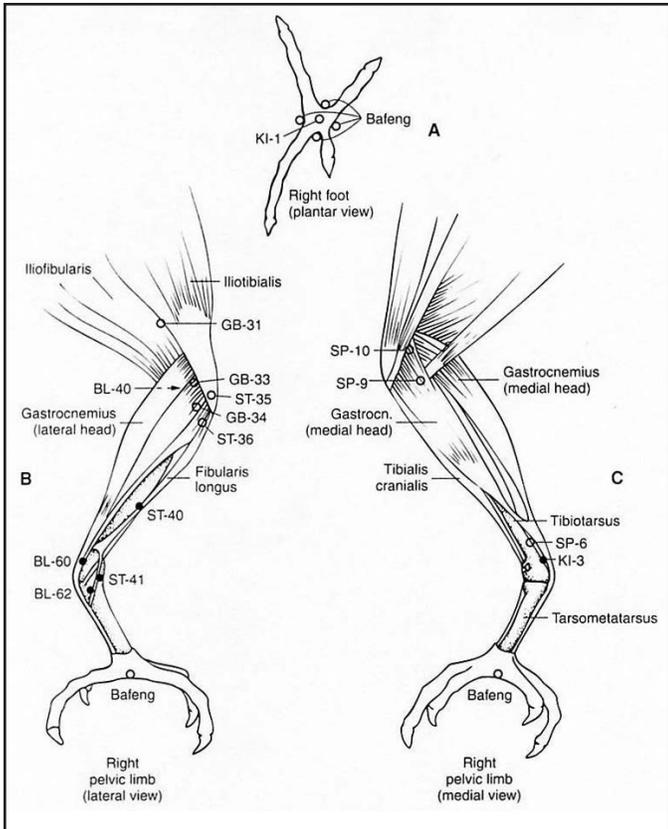
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Other factors that affect the potency and medicinally active components of the herb include the method and time of harvest, the parts and preparation of the plant that are included and the handling and processing of the finished product. Only well-known and respected herbal companies should be considered when purchasing herbal products. Whenever possible, fresh herbs or vegetable glycerin-based extracts should be used.

Herbs are effective in the treatment of many conditions in birds. Herbal remedies are much more effective than conventional therapy in treating metabolic conditions such as liver and kidney diseases. Herbs are an excellent alternative to antibiotics in the treatment of infectious diseases, with wider antibacterial effects in addition to various antifungal and antiviral actions. Many of these herbal remedies also support the immune system to assist in the full recovery of the patient. Some herbal formulations serve as detoxification agents, antioxidants and anticancer therapies. **Table 10.2** lists several common herbal remedies with potential indications in avian therapy.<sup>18</sup>

Liver disease is a common diagnosis in pet birds. Hepatic lipidosis is often the result of poor nutrition, typically sunflower seed-based diets. Other chronic conditions leading to hepatic disease in birds include repeated aflatoxin exposure, heavy metal toxicity and *Chlamydophila* spp. Hepatic fibrosis and cirrhosis are potential sequelae to these conditions. However, conventional therapy falls short in treatment of these liver diseases. Certain herbs have been used for centuries in the treatment of liver disease in people, and these can

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**Fig 10.3** | Acupuncture points of the avian leg and foot.

**Table 10.2 | Herbal Remedies for Birds**

Herbal Remedy	Scientific Name	Healing Properties	Indications
Astragalus	<i>Astragalus membranaceus</i>	Immune system booster, especially on the digestive tract	Enteritis and diarrhea, pancreatic disorders, respiratory disease, uric acid excretion
Burdock Root	<i>Arctium lappa</i>	Nutritive liver tonic, blood cleansing, gallbladder stimulant and diuretic	Chronic liver disease, environmental toxins, skin disease and irritation
Chamomile	<i>Matricaria recutita</i>	Analgesic, calming, anti-inflammatory and symptom relief of GI disorders	Calming effects, eg, feather-picking birds
Chaparral	<i>Larrea tridentata</i>	Anticancer, antioxidant, analgesic, antiseptic and anti-arthritis	Cancer treatment with red clover Do not use in egg laying, hand-feeding, or liver-diseased birds
Dandelion	<i>Taraxacum officinale</i>	Potent diuretic (leaf) and increase bile production and excretion (root)	Diuresis - ascites and respiratory fluid, liver disease - increase bile flow
Echinacea	<i>Echinacea</i>	Immune booster (especially against viruses)	Early course of infection, chronic sinusitis viral or candida infections, PBD support
Elderberry	<i>Sambucus nigra</i>	Anti-inflammatory, alterative and antiviral	Viral infection, viral skin disorders, acute rhinitis and sinusitis
Essiac	Combination of herbs - Indian rhubarb, Slippery elm, Burdock root & Sheepshead sorrel	Anticancer formulation and lessens pain of cancer	Pain, cancer
Feverfew	<i>Tanacetum parthenium</i>	Analgesic and lowers fever	Relieves non-specific pain and inflammation, especially of GI tract
Ginseng	<i>Panax</i>	Potent immune and energy booster (use less than 2 weeks)	Anemia, immune deficiencies, diarrhea, chronic enteritis, cystic ovaries, cancer
Hawthorn Berry	<i>Crataegus</i>	Cardiac supportive, lowers blood pressure	Heart disease, supports heart in several aspects
Marshmallow	<i>Althea officinalis</i>	Antitussive, soothing of membranes and emollient	Cloacaliths and uroliths, mycobacteria, GI inflammation, feather picking
Milk Thistle	<i>Silybum marianum</i>	Hepatoprotective, hepatoregenerative and potent antioxidant	Hepatitis, hepatic lipidosis, cirrhosis, bile duct inflammation, hepatic toxicosis
Mullein	<i>Verbascum thapsus</i>	Emollient, antitussive, antispasmodic, expectorant and vulnerary properties	Self-induced trauma, ear infections, respiratory disorder, diarrhea
Olive Leaf	<i>Olea europaea</i>	Antimicrobial (bacterial, viral and fungal) and diuretic	Virtually any infection (potent effect) ascites - promote fluid excretion
Red Clover	<i>Trifolium pratense</i>	Anticancer, blood cleansing, diuretic, tonic, nutritive, estrogenic	Cancer therapy (with other herbs) supports debilitated patients
St. John's Wort	<i>Hypericum perforatum</i>	Sedative, antidepressive effects, anti-inflammatory and astringent	Pruritic or painful feather picking, chronic viral infection, anxiety
Valerian Root	<i>Valeriana officinalis</i>	Tranquilizer and sedative	Nervousness, convulsions/epilepsy, pain relief, insomnia

be extrapolated for use in birds and other pets. Some of the herbs that support and protect the liver include milk thistle (*Silybum marianum*), dandelion (*Taraxacum officinale*), Oregon grape (*Mahonia* spp.), burdock root (*Arctium lappa*) and licorice root (*Glycyrrhiza glabra*).<sup>23</sup>

## NUTRICEUTICAL SUPPLEMENTS

Nutraceuticals are micronutrients, macronutrients and other nutritional supplements that are used as therapeutic agents. Examples include vitamins and minerals, probiotics, digestive enzymes and antioxidants. This is the clinical application of nutrition in the treatment of disease and metabolic disorders. It is commonly stated that malnutrition is the underlying cause of many of the disease syndromes encountered in birds and exotic pets. Significant advances have been made in avian nutrition with the advent of formulated diets, but it is only the beginning. Specific nutritional requirements have not been established for the various bird species commonly kept as pets, therefore current recommendations and diets are based on anecdotal experience and limited nutritional studies. The primary diet of most pet bird

species should be an organic formulated diet, with limited portions of fresh organic fruit, vegetables and rice. Seeds and nuts should be considered treat items and fed in limited proportions because they are breeding stimulants (see Chapter 4, Nutritional Considerations).

The recommended diet varies according to species, age, health status and activity level. In addition, certain nutritional supplements may be indicated in the face of disease or metabolic challenges to further complement an otherwise balanced diet.

Nutraceuticals are used for various digestive disorders and other metabolic conditions in pet birds.<sup>18</sup> Some of the commonly used supplements are aloe juice, apple cider vinegar, probiotics<sup>a</sup> and digestive enzymes. *Aloe vera* (Fig 10.4) provides an effective boost to the immune system, a soothing anti-inflammatory effect on the GI tract and is an excellent source of vitamins, minerals and amino acids. Aloe can be administered orally in the form of a gel or juice at the dose of 1 drop per 100 g body weight 3 to 6 times daily or in the drinking water at the rate of 2 ml per 4 ounces of drinking water. Apple cider vinegar is an



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**Fig 10.4** | Aloe is a hardy plant grown in the full sun. It is often the best source of bioactivity. The gel from inside the plant's leaves is used for wounds. For internal consumption, the pointed edges are removed and the entire leaf is chopped up and offered, or further ground and gaviged.

acidifier of the intestinal tract and entire body. Specific avian indications for apple cider vinegar (organic, non-pasteurized) include chronic bacterial or yeast infections, chronic diarrhea or foul stools and proventricular dilation disease support. It is dosed at 1 to 2 tablespoons per 8 ounces of drinking water, as the only water source for 2 weeks. Probiotics are supplements of beneficial bacteria<sup>a</sup> given to reestablish the normal bacterial flora in the digestive tract. They may be administered to birds after antibiotic therapy or severe GI disturbances.

Digestive enzymes are beneficial in birds with pancreatic disease or primary digestive disorders leading to maldigestion. The classic essential enzymes provided in most formulations include protease, lipase and amylase. These may be combined with other specific enzymes or herbs, depending on the condition.

Supplements used in the treatment of inflammatory conditions and arthritis include glucosamine, methyl sulfonal methane (MSM) and proanthocyanidins.<sup>18</sup> Proanthocyanidins are a group of strong antioxidants that scavenge destructive free radicals and include grape seed extract, pine bark extract, bilberry and citrus bioflavonoids. These substances provide excellent antioxidant effects that reduce inflammation, improve cellular integrity and eliminate free radicals from the body. Glucosamine sulfate is the preferred and most effective form of glucosamine products. It has reparative effects on arthritis. Some formulations of glucosamine contain chondroitin or MSM for further joint support, but glucosamine is shown to be effective alone. MSM is a sulfur-based supplement that is proposed to have anti-inflammatory effects on joints and generally supports healthy tissue and cells. Sulfur is suspected to be an

important mineral for the body to prevent degradation of tissues at the cellular level.

## HOMEOPATHY

Homeopathy as practiced today is credited to Dr. Samuel Hahnemann, a German medical doctor from the mid-1800s. The governing principle of homeopathic medicine is "*similia similibus curantur*" or "like cures like." This concept is based on using a very diluted form of a substance to treat a condition or group of symptoms, which in its full strength would cause the same set of symptoms in the patient. These remedies are made from plants, minerals, drugs, viruses, bacteria or animal substances. Homeopathic remedies work on the deep energetic level of the patient to undermine the constitutional cause of the disease, rather than mask its symptoms.<sup>4</sup>

Homeopathy is very effective in pet birds.<sup>13</sup> Birds are highly energetic beings and thus are particularly responsive to energetic therapies. In choosing an appropriate homeopathic remedy, the practitioner must be thoroughly acquainted with the Western medical examination, conventional diagnosis, particular behavior characteristics and situational conditions of the avian patient. The mental and emotional disturbances may be difficult to discern, because most bird owners do not fully understand the normal behavior and nature of their pet. Evaluating the bird in its own environment, either personally or by videotape, is invaluable in evaluating these aspects of the diagnosis.

Because most pet birds do not visit the veterinary clinic until they are quite ill, allopathic medications (antibiotics or antifungals) may be required to get the patient through the crisis before treating with the homeopathic remedy. Due to the critical nature of clinically sick birds in practice, the practitioner may not have the opportunity to try a second remedy if the first is ineffective. The first indication of a remedy failure in these cases may be death of the patient. Initial supportive care with allopathic and other holistic therapies to stabilize the critical patient either before or in addition to the homeopathic remedy is recommended by the author.

The practice of homeopathy involves matching the patient's symptoms with an appropriate remedy. The first step involves making a list of the clinical signs from an evaluation and thorough history of the patient. This list is then used to look up rubrics, or lists of potential remedies, for each clinical sign from a homeopathic repertory. The rubrics are compared for overlapping remedies, which are selected as possible treatments. These are then compared in a homeopathic *materia medica*, which describes all the symptoms potentially treated with that remedy. The remedy that matches the

symptoms or clinical signs most accurately is selected as the first remedy of choice. The most detailed repertoires and *materia medica* are based on human symptoms and responses, however, limited veterinary references exist and continue to be developed. An avian homeopathic repertory (Table 10.3) has been compiled<sup>16</sup> and a simplified *materia medica* (Table 10.4) summarized.<sup>3</sup> The potency and frequency are selected based on the sever-

ity of the condition and the characteristics of the patient.

Homeopathic remedies are made by serial dilutions of toxic substances that, if used in full strength, would cause symptoms similar to those being treated. Substances are diluted serially, either in 1/10 (X potency) or 1/100 (C potency) stages. Therefore, a 30C potency is a tincture of the homeopathic substance diluted 1/100, 30 times.

**Table 10.3 | Avian Homeopathic Repertory**

Location	Condition	Treatment
<b>Beak</b>	Cere, brown hypertrophy	Arnica montana, graphites, lycopodium clavatum, pulsatilla pratensis
	Easily cracked	Antimonium crudum, natrum muriaticum, silicea
	Dryness	Silicea, thuja occidentalis
	Exfoliation	Arsenicum album, graphites
	Overgrown, distorted	Calcarea carbonica, graphites, silicea, sulphur, thuja occidentalis
	Chronic liver disease	Argentum nitricum, carbo vegetabilis, chelidonium, calcarea carbonica, graphites, kali carbonicum, lycopodium clavatum, mercurius solubilis, natrum muriaticum, nux vomica, phosphorus, silicea, sulfur, thuja occidentalis
<b>Extremities</b>	Arthritis	Amazons - ruta graveolens
		Budgerigars - bryonia alba, kali iodatum, rhododendron chrysanthum, rhus toxicodendron, sulphur, urtica urens
		General - aconitum nepellus, arnica montana, belladonna, bryonia alba, ferrum phosphoricum, kali iodatum, ledum palustre, lithium carbonicum, lycopodium clavatum, mercurius solubilis, natrum muriaticum, rhododendron chrysanthum, rhus toxicodendron, ruta graveolens, silicea, sulphur, tuberculinum avium
	Cold ameliorates - kali sulphuricum, ledum palustre, pulsatilla pratensis, sulphur	
Broken bones	Symphytum	
	Bruising, associated with - arnica montana	
<b>Feet</b>	Red and ulcerated	Sulphur
	Paralysis	Argentum nitricum, cocculus indicus, gelsemium sempervirens, hypericum perforatum, kali carbonicum, plumbum metallicum
	Splay-legged	Calcarea carbonica, calcarea fluorica, calcarea phosphorica, fluoricum acidum, gelsemium sempervirens, phosphorus, silicea
<b>Feathers</b>	Beak and feather disease	Hypericum, sulphur
	Bronzing of	Arsenicum album, nux vomica, sulphur
	Growth, none	Arsenicum album, nux vomica, selenium
	Grooming disorders (plucking or chewing)	Arnica montana, arsenicum album, calcarea carbonica, folliculinum, ignatia amara, natrum muriaticum, nux vomica, phosphoricum acidum, sepia, silicea, sulphur, thallium, tuberculinum avium, veratrum album
		African Greys - arsenicum album, natrum muriaticum
		Separation anxiety, with - natrum muriaticum
		Amazon parrots, in - nux vomica, sepia, sulphur, veratrum album
		Females - aconitum napellus, apis mellifica, calcarea carbonica, chamomilla, lycopodium clavatum, pulsatilla pratensis, silicea, sulphur
		Males - apis mellifica, camphora officinarum, cantharis, conium maculatum, nux vomica, staphisagria, tuberculinum avium
	Aggression, general	Nux vomica, tuberculinum avium
		Cockatoos, in - arnica montana, arsenicum album, chamomilla, ignatia, natrum muriaticum, nux vomica, sepia
		Males, in - nux vomica
		Females, in - pulsatilla pratensis, silicea
Folliculitis, secondary to - hepar sulphuris, hypericum perforatum, kali bichromicum, mercurius solubilis, sarsaparilla, staphisagria, sulphur		
Frantic - belladonna, stramonium, veratrum album		
Macaws, in - nux vomica, tuberculinum avium		
Males, in - nux vomica		
Sexual - nux vomica, sepia		
<b>Female</b>	Binding, egg	Calcarea carbonica, kali carbonicum, pulsatilla pratensis
		Blood on eggs, with - pulsatilla pratensis
		Soft-shelled eggs - calcarea carbonica, kali carbonica
	Egg laying	Kali carbonica, lycopodium clavatum, pulsatilla pratensis, sepia
		Soft-shelled eggs - kali carbonica
		Stopping of - sepia
	Infertility	Natrum muriaticum, sepia, silicea
Ovarian cysts	Arsenicum album, belladonna	
Oviduct	Kali carbonica, pulsatilla pratensis, sepia	

**Table 10.3 | Avian Homeopathic Repertory (continued)**

Location	Description	Treatment	
<b>Generalities</b>	Abscesses, Granulomas	Tuberculinum avium	
	Anemia	Calcarea carbonicum, ferrum metallicum, plumbum metallicum, sulfur	
	Anesthesia, slow to recover	Acetic acid, carbo vegetabilis, phosphoric acid Ailments from - acetic acid, carbo vegetabilis, hepar sulphurous, phosphorus, phosphoric acid	
	Cancer		Calcarea carbonica, carcinosinum, graphites, lycopodium clavatum, nitricum acidum, phosphorus, silicea, sulphur, thuja occidentalis
			Budgerigars, in - calcarea carbonica, carcinosinum, graphites, lycopodium
			Familial history of - carcinosinum, lycopodium clavatum
	<i>Candida albicans</i> infection	Calcarea carbonica, calcarea phosphorica, china officinalis, helonias dioica, lycopodium clavatum, medor-rhinum, pulsatilla pratensis, natrum phosphoricum, nitricum acidum, sepia, thuja occidentalis	
	Emaciation		Arsenicum album, calcaria carbonica, calcaria phosphorica, iodum, natrum muriaticum, nux vomica, lycopodium clavatum, pulsatilla pratensis, phosphorus, sepia, silicea, sulphur, tuberculinum bovinum
			Appetite ravenous with - baryta carbonica, baryta iodata, calcaria carbonica, calcaria phosphorica, causticum hahnemanni, china officinalis, cina, iodum, lycopodium clavatum, natrum muriaticum, nux vomica, silicea, sulphur
	Exposure to tobacco smoke, ailments	Gelsemium sempervirens, nux vomica, tabacum	
	Lead poisoning	Alum, aurum metallicum, causticum, lycopodium clavatum, mercurius solubilis	
	Pyemia	Arsenicum album, calcaria carbonica, hipposaenium, lachesis, pyrogenium	
	Sepsis	Arsenicum album, arsenicum iodatum, baptisia tinctoria, china officinalis, crotalus horridus, echinacea angustifolia, lachesis	
	Trauma		Aconium napellus, arnica montana, hepar sulphuris calcareum, rhus toxocodendron, ruta graveolens, symphytum officinale
			Head, with seizures - belladonna
			Neurologic symptoms, with - hypericum perforatum
	Vaccinations, acute reactions		Aconitum napellus, apis mellifica, belladonna, thuja occidentalis
		Ailments after - aconitum napellus, apis mellifica, belladonna, mercurius solubilis, phosphorus, silicea, sulphur, thuja occidentalis	
Weakness, unable to rise due to severe illness	Carbo vegetabilis		
Zinc poisoning	Aurum metallicum, mercurius solubilis		
<b>Heart</b>	Cardiomyopathy	Crataegus oxyacantha et monogyna, digitalis purpurea	
	Cyanosis	Digitalis purpurea	
	Heart, general	Crataegus oxyacantha et monogyna, digitalis purpurea, rhus toxocodendron	
<b>Liver</b>	Liver disease, general	Nux vomica, lycopodium clavatum, phosphorus	
	Fatty liver disease	Calcaria carbonica, carbo vegetabilis, chelidonium majus, kali bichromica, kali carbonica, lyssinum (hydrophobinum), lycopodium clavatum, mercurius solubilis, nux vomica, phosphorus, picricum acidum, sulphur	
<b>Mind</b>	Agitated, overstimulated	Lachesis, stramonium, veratrum album	
		Outlet, without - ignatia amara, lachesis, nux vomica	
	Aggression	Nux vomica, pulsatilla pratensis	
	Anger		Arsenicum album, chamomilla, ignatia amara, lycopodium clavatum, nitricum acidum, nux vomica
			Underlying - nux vomica
			Violent - aconitum napellus, lycopodium clavatum, nitricum acidum, pulsatilla pratensis
	Anxiety	Aconitum napellus, argentum nitricum, arsenicum album, belladonna, calcaria carbonica, calcaria phosphorica, cannabis indica, carboneum vegetabilis, conium maculatum, euphasia officinalis, hyoscyamus niger, ignatia amara, kali carbonicum, kali nitricum, lachesis, lycopodium clavatum, mercurius solubilis, natrum muriaticum, nitricum acidum, phosphorus, pulsatilla pratensis, sepia, silicia, sulphur, thuja occidentalis, veratrum album	
	Cowardliness	Gelsemium sempervirens, lycopodium clavatum	
	Dependent on others	Baryta carbonica, pulsatilla pratensis	
	Fatigue, mental, from inability to adapt to new surroundings	Conium maculatum, kali phosphoricum, picricum acidum	
	Fear, violently throwing self around cage	Aconitum napellus, belladonna, lycopodium clavatum, nux vomica, stramonium, veratrum album	
	Grief	Causticum hahnemanni, natrum muriaticum	
	Irritability		Kali sulphuricum, natrum muriaticum, nitricum acidum, nux vomica, phosphorus, sepia
			Idle, while - calcarea carbonica
	Jealous, bites owner when others approach	Calcarea sulphuricum, hyoscyamus niger, lachesis, lycopodium clavatum, nux vomica, pulsatilla pratensis, stramonium	
	Rigid, unable to adapt to captivity	Calcarea carbonicum, kali carbonicum	
	Sensitivity	Gelsemium sempervirens, natrum muriaticum, pulsatilla pratensis, silicia	
Timid	Kali sulphuricum, pulsatilla pratensis		

**Table 10.3 | Avian Homeopathic Repertory (continued)**

Location	Description	Condition
Mouth	Pharynx	Inflamed, chronic - graphites, sulphur
		Choanae, elongated - phosphorus
		Choanal papillae, eroded - phosphorus
Nerves	Ataxia	Arsenicum album, calcaria carbonica, nux vomica, phosphorus, plumbum metallicum, silicea, stramonium, zinc
	Nerves, general	Rhus toxicodendron, hypericum perforatum
	Paralysis	Argentum nitricum, cocculus indicus, gelsemium sempervirens, hypericum perforatum, kali carbonicum, lachesis, phosphorus, plumbum metallicum, zinc
		Renal tumors, with - hypericum perforatum, lycopodium clavatum
	Seizures	Aconitum napellus, belladonna, calcaria carbonica, ignatia amara, lycopodium clavatum, silicia Status epilepticus - aconitum napellus, belladonna
Weakness	Iodium, nux vomica, plumbum metallicum, silicea, zinc, zinc phosphoricum	
Nose	Catarrh	Graphites
	Colds, get easily	Graphites
	Coryza	Graphites
		Dry, obstructed - phosphorus
	Pharyngitis	Nux vomica, phosphorus, sulphur
Sinusitis	Arsenicum album, bryonia alba, hepar sulphuris, calcareum, kali bichromicum, kali nitricum, lycopodium clavatum, mercurius solubilis, natrum muriaticum, nux vomica, phosphorus, pulsatilla pratensis, silicea	
Pediatrics	Infantile behavior	Baryta carbonica
	Separation anxiety	Nux vomica
	Slow development	Calcaria carbonica
	Stunted growth, in chicks	Baryta carbonica
Respiratory	Chronic colds	Graphites
	Chronic upper respiratory infection	Arsenicum album, graphites, sulphur

**Table 10.4 | Avian Homeopathic Materia Medica**

Materia	Indication	Usage Comments
<b>Acetic acid</b> (glacial)	Antidote for vaporized anesthetics.	It can liquefy catarrh, which causes desperate gasping for breath. Antidotes include aconite, ignatia and opium. It must be neutralized before use of other medications - aconite is the antidotes for it. Not compatible with Arnica, Lachesis, Mercuris and Causticum.
<b>Aconitum napellus</b> (monkshood)	For effects of shock from injury, with fear; physical and mental restlessness.	First aid for skin injuries from cat scratches and tears, inflammation. Diarrhea during very hot weather. Useful where there is redness of skin and bird is very restless and frightened. State of collapse, where heat and fear are present.
<b>Alumen</b> (common potash alum)	Useful in cases of diarrhea, especially when bird is eating well and will not cease eating to produce a dropping.	Antidote for lead poisoning and other mercurials.
<b>Apis Mellifica</b> (honey bee)	Most cases of swelling, especially from bee stings.	Useful in cases of reddened eyes with surrounding swelling.
<b>Argentum nitricum</b> (nitrate of silver)	Loss of balance and coordination of mind and body.	Trembling in affected parts. Legs are withered, bird agitated. Ocular ulcers and abundant discharge.
<b>Arnica</b> (leopard's bane)	First aid for any injuries from blows, with bruising or danger of concussion.	Use for concussion. Sprains or strains respond well. Useful before and after surgery. For broken skin with bruising, do not apply directly to wound, but dose internally. Okay to use as ointment to bruises if skin is intact. Causes of diarrhea caused by accident or shock from surgery respond well. Useful for problems caused by old injuries. Aconite is complementary.
<b>Arsenicum album</b> (arsenic trioxide)	Bird is restless and prepared to bite. Body temperature is normal and eyes bright.	Useful in cases of food poisoning, often caused by bad meat; usually with green-stained vent feathers. For red, swollen legs, but not as puffy as for Apis. Gradual weight loss from impaired nutrition. Ill effects from fright. Paralysis with atrophy of legs. Putrid odor from discharges. Ailments during varying weather conditions.
<b>Aurum metallum</b> (gold)	Cases where bird is quiet and ready to give up and die. Sometimes is glassy eyed.	Knees weak, worse in cold weather; usually remedy for winter complaints. Antidote for lead poisoning.

**Table 10.4 | Avian Homeopathic *Materia Medica* (continued)**

<b>Materia</b>	<b>Indication</b>	<b>Usage and Comments</b>
<b>Belladonna</b> (deadly nightshade)	Bird is restless, unnaturally glaring eyes; convulsive movements; aversion to water; changeable attitudes. It attacks one moment and hides the next.	Useful for swollen joints; tottering gait. Cold legs and feet with jerking limbs. Wants to stand up and will not lie down.
<b>Bellis perennis</b> (daisy)	Use for results of accidents with nerve injuries.	Lameness from strains and sprains; sore joints and muscular stiffness. First remedy in injuries to deeper tissues and after major surgery.
<b>Calcarea carbonica ostrearium</b> (carbonate of lime)	Useful for abscesses in deep muscles.	For relapses during convalescence. Helps blood to clot. Eyes sensitive to light. Bird hides head in corner. Swollen eyelids. Extreme difficulty in breathing.
<b>Calcarea Sulphurica</b> (plaster of paris)	Follows Ruta well in cases of leg stiffness.	Useful for inflammation with thick yellow discharge. Diarrhea with blood.
<b>Calendula officinalis</b> (marigold)	Great healer of wounds.	Stops bleeding and aids in formation of healthy tissue. Applied topically as tincture or cream or taken internally as tablet. Useful for lacerations.
<b>Carbo vegetabilis</b> (vegetable charcoal)	Bird is usually slow, quiet and cold. Eyes partially closed.	Used for food poisoning caused by fish.
<b>Dulcamara</b> (bittersweet)	Ailments caused by damp.	Recurrent rheumatism during wet weather. Birds that look ill during cold, wet weather, but no specific cause. Stiff legs; drooping wings; any weakness; chills - during wet weather.
<b>Euphrasia</b> (eyebright)	Use for red, sore eyes; ocular discharge.	
<b>Gelsemium</b> (yellow jasmine)	Bird is tired; weakness or paralysis; chilliness.	No fear of handling, and fatigued after slightest movement. Negative response to fear or fright.
<b>Hamamelis virginica</b> (witch hazel)	Stops bleeding.	Ideal after surgery - superior to morphine for pain. Great value in open, painful wounds. Bruised soreness of affected parts.
<b>Hepar sulphuris calcareum</b> (Hahnemann's calcium sulphide)	Use for suppuration with pain; unhealthy skin.	Use on sensitive ulcers and abscesses that bleed easily.
<b>Hypercal</b>	Useful for wounds.	Cleansing, healing and pain removing.
<b>Hypericum</b> (St. John's wort)	Useful for injuries involving nerves, especially toes and claws.	Injured nerves after predator attack. Relieves pain after surgery. Paralysis of legs due to mechanical spinal injury (higher potency).
<b>Ignatia</b> (St. Ignatius' bean)	For grief and loss of mate. For fear.	Very nervous birds; ideal for female birds that are quick, but submissive. Rapid characteristic change from quiet to panic. Fluctuating signs between appearing ill and healthy. Useful for injuries of the spine.
<b>Ipecacuanha</b> (ipecac root)	For upset stomach, where bird is hot.	Respiratory trouble; congestion in chest or throat; gasping for breath. General weakness of body, eyes partially closed.
<b>Lachesis</b> (bushmaster)	Dirty and infected wounds; sepsis; risk of gangrene.	Dark appearance of wounds.
<b>Lathyrus</b> (chick pea)	Paralysis without pain.	Legs dangle when picked up. Cold limbs. Slow recovery of nerve function. Cannot lift feet off ground, yet cannot lower hocks to ground.
<b>Ledum</b> (marsh tea)	Use for puncture wounds, especially if wound is cold.	Useful as antitetanus. Bottom of feet painful, reluctant to stand on them.
<b>Lycopodium</b> (club moss)	Ailments that develop slowly.	Functional powers weakening with failure of digestive function, with liver disturbance.
<b>Manganum aceticum</b> (manganese acetate)	Progressive paralysis with wasting of limbs.	Feeble and staggering gait; leans forward while walking, so falls onto beak. Swelling of joints; sore feet. Worse in cold weather.
<b>Mercurius hydrargyrum</b> (quick silver)	Indicated in weight loss; feather loss; tremors, great prostration; sensitivity to heat.	Ulceration of mouth and throat; abscesses; foul-smelling excretions; tendency for pus formation, usually greenish, thin and streaked with blood. Antidote for mercury poisoning.
<b>Natrum muriatum</b> (chloride of sodium)	Indicated for weakness and weariness.	Ill effects of fright. Easily irritable. Complements Ignatia.
<b>Opium-papaver somniferum</b> (dried latex of poppy)	Drowsy stupor. Painfulness. Lack of reaction to stimuli. Warm to hot bodied.	Does not respond to indicated remedies. Birds tuck their heads under their wings and refuse to wake up, poorly responsive.
<b>Oxalicum acidum</b> (sorrel acid - oxalic acid)	For short, jerky breathing, with constriction.	Paralysis due to spinal injury.
<b>Petrolrum</b> (crude rock oil)	Antidote for oil pollution, especially oiled birds that have digested oil off feathers.	
<b>Plumbum metallicum</b> (lead)	Lead poisoning, especially paralysis of wing.	Progressive muscle atrophy, excessive and rapid emaciation. Anemia. Do not give many doses of this remedy.

**Table 10.4 | Avian Homeopathic *Materia Medica* (continued)**

<b>Materia</b>	<b>Indication</b>	<b>Usage and Comments</b>
<b>Phosphoricum acidum</b> (phosphoric acid)	Loss of vital fluids, after diarrhea or blood loss.	Listlessness. Dyspnea. Effects of shock; gives up on life.
<b>Psorinum</b> (scabies vesicle)	Bird is cold and poor response to indicated remedy.	Foul odor to secretions. Single dose of 30C or 200C usually sufficient, followed by indicated remedy.
<b>Pulsatilla</b> (artificial sepsin - pyrogen)	Usually indicated in female changeable in characteristics.	Signs improve when outside; little to no thirst; worse from heat. Limbs are painful; stiffness in legs; swollen veins in wings; red, inflamed and swollen feet. Bird wants to sit or lie down.
<b>Pyrogenium</b> (artificial sepsin - pyrogen)	Food poisoning, with offensive brown-black diarrhea.	Offensive discharge; pain and burning in affected areas. Patient is restless. Great antiseptic.
<b>Rhus Toxicodendrom</b> (poison ivy)	Rheumatic pains are worse when limbs are kept still; bird stiff until it gets moving.	Ailments from strains; getting wet while hot. Rheumatism in cold weather. Limbs stiff, paralyzed; hot, painful swelling of joints. Worse in cold air.
<b>Ruta graveolens</b> (rue bitter wort)	Strained limbs, usually after Arnica stops working.	Ideal for stiff legs and/or wings.
<b>Silicea</b> (silica pure flint)	Promotes suppuration; brings abscesses to a "head."	Bird is cold and tired. Slow recovery after respiratory problems. Loss of strength in legs; bottom of feet are sore.
<b>Scirrhinum</b>	Specific for cancer.	Use with care.
<b>Sulphur</b> (sublimated sulphur)	Used with Aconite in cases of collapse where Aconite is indicated.	Used with Ipecac in cases of collapse. Complaints that relapse. Birds are lazy, but snappy; thin and weak; good appetite. Helps paralyzed legs after use of Rhus tox.
<b>Symphitum</b> (comfrey)	Healing of broken bones, tendons and sinews.	Increases strength and rate of healing. Helps heal injured eyes.
<b>Urtica urens</b> (stinging nettle)	For burns and scalds.	Used in tincture, cream or tablet.
<b>Zincum Metallicum</b> (zinc)	Lameness and weakness with twitching of various muscles.	Sensitive to noise; lethargic; cold feet. Works well with Manganese acetate.

Succession is carried out at each stage to release the curative energy of the substance to imprint on the memory of the water at the energetic level as well as remove the toxic and harmful effects of the substance.<sup>4</sup> The end result is a homeopathic substance that contains only the energetic signature of the toxic substance, but no physical amount of the substance itself.

## FLOWER ESSENCE THERAPY

Healing with flower essences proposes similar principles to homeopathy. Both forms of therapy are based on curing the patient by restoring the body's energy pattern and vibrational characteristics. The underlying premise is that all life forms possess an innate vibrational energy force that is disrupted by conditions and circumstances of our environment, leading to disease and illness.<sup>8</sup> These disruptions are further related to emotional and behavioral specifics, which can be characterized and treated with the vital energy or essence of certain flowers. The aroma or essence of a flower naturally elicits an emotional response, similar to the way music affects an individual's mood.

Dr. Edward Bach is credited for the development of the first 100-year-old therapeutic system of flower essence therapy.<sup>2</sup> Dr. Bach was a distinguished British physician in the early 1900s with a strong influence from Hahnemann

and the concepts of homeopathy. Dr. Bach developed various vaccines during his tenure in immunology, and then developed some of the first nosodes, oral homeopathic vaccines. In his clinical experience, Dr. Bach realized the importance of the mental and emotional states of mind in the recovery from illness. In 1930, he embarked on a quest to develop a treatment method that did not depend on the destruction or alteration of one living thing to benefit another, which ultimately led to the discovery of his first twelve healing herbs with a natural affinity to mental traits. In all, 38 healing remedies were identified, which he believed would remedy all the negative states of mind that afflict mankind.

A variety of other flower essences have been described in the past 30 years. In the 1970s, Richard Katz and Patricia Kaminski developed the California Flower Essences. Ian White described the Australian bush flower essences in the 1980s, influenced by the Australian Aborigines' traditional knowledge and experience with native plants. Other flower essence lines include the Alaskan (1980s), Bailey in Britain and Celestial Remedies (1990s), to name a few.<sup>8</sup> All of these flower essence lines are based on the same premises described by Dr. Bach.

Flower essences can be very effective in the treatment of clinical and behavioral issues of birds and other pets. The underlying premise in using flower essences to treat

conditions in birds is the presence of an emotional component to the problem. These formulations act on the energetic signature of different emotions that produce the outward behaviors. It is commonly accepted that emotional and psychological stress can lead to physical illness; therefore, the flower essences can be incorporated into a holistic treatment plan.

In general, birds are more emotional than most other animals.<sup>2</sup> The stress and anxiety experienced by birds during treatment may be more detrimental than the disease condition itself; therefore, the use of a flower essence prior to and during a veterinary exam and treatment may significantly improve the chances of survival. Birds also respond quickly to the remedies, probably due to their sensitive emotional natures. Most formulations of flower essence are based in brandy, which can be harmful to the patient if given directly. Therefore, these remedies should be diluted in spring water before they are administered to birds at the rate of 10 to 12 drops per ounce of water.

Birds present with a number of medical conditions that have an emotional or behavioral basis. Feather picking is by far the most common and frustrating of these conditions. A more progressive and intense manifestation is self-mutilation, as exhibited in Moluccan cockatoos chewing into the pectoral muscles of their chests. Biting and screaming are other undesirable behaviors that are merely displaced natural behaviors, which can be modified with flower essence remedies. Birds that suffer from a physical loss of a companion, physical injury or medical illness can be supported with these remedies as part of their therapy.

The choice of remedies is individualized for each patient. Oversimplification by using a single remedy for a particular problem is much less effective than thoroughly evaluating the patient and formulating a remedy of various flower essences. Of course, there are certain remedies<sup>a</sup> that are commonly effective for a particular condition such as the stress and anxiety of a veterinary visit or treatment. Rescue Remedy is a classical formulation of five flower remedies, consisting of star-of-Bethlehem, rock-rose, impatiens, cherry plum and clematis. This remedy can be sprayed in the exam room, sprayed directly onto the bird or given directly by mouth.<sup>15</sup> A list of the classic Bach Flower Essences and their basic uses is summarized in **Table 10.5**.<sup>2,8</sup> Extensive repertoires of other flower essences exist for man<sup>11</sup> and animals.<sup>5</sup>

## AROMATHERAPY

The therapeutic application of aromatic essential oils is known as aromatherapy. The administration of the oils by diffusion or aerosolization is most common, but topical and oral applications also are effective routes for some formulations. The essential oils act on the underlying

vibrational energy of the patient to restore the energetic imbalance causing the disease or condition. By increasing the vital force of the patient, aromatherapy strengthens the natural immune system and promotes self-healing.<sup>9</sup>

Birds are extremely susceptible to any aerosolized agents, including essential oils used in aromatherapy. Therefore, care must be taken not to overwhelm the bird's respiratory system with too strong a treatment. An electric aromatic diffuser can be used in a well-ventilated room for 5-minute intervals, several times daily for certain conditions. The scent of the essential oils should be barely detectable, or else it is too strong for the bird's respiratory system. Some aromatic agents may inherently be too strong or noxious for use around birds, therefore, these should be used with caution. This therapy is used less commonly in birds, except for cases of stress reduction, due to the potential respiratory risks.

Some conditions in pet birds respond well to aromatherapy, including certain respiratory ailments and stress and anxiety issues. A respiratory essential oil blend for diffusion consists of eucalyptus (50%), pine (25%), tea tree (10%), and niaouli or cajepout (15%).<sup>9</sup> This blend is diffused near the cage several times daily for 5-minute intervals. A 15-ml essential oil blend for stress and anxiety is composed of lavender (10 ml), marjoram (4 ml) and neroli (1 ml).<sup>9</sup> This is diffused for 5 minutes near the cage, repeated 4 to 5 times daily. A diffusion of lavender, bergamot or ylang ylang in the exam room provides a calming and relaxing effect on the patient, client and doctor.<sup>23</sup> The electric aromatic diffuser can be turned on in the waiting room or exam room for 5 to 10 minutes every 3 to 4 hours during the day.

## ENERGY THERAPY

Various forms of energy therapies have developed through the ages in many cultures. Some of the currently practiced energy therapies include Reiki, therapeutic touch and pranic healing. These healing practices involve directing the ability to consciously modulate the energies of a living being. These healing practices involve the healer or practitioner serving as a conduit for the universal energy to stabilize or balance the patient's innate energy field.

Therapeutic touch is an example of this type of therapy that is practiced throughout the world. Dolores Krieger and Dora Kunz developed this practice based on the following four basic scientific premises:<sup>12</sup> 1) Humans and animals are physically open energy systems. This implies that the transfer of energy between living things is a natural and continuous process; 2) Humans and animals are bilaterally symmetrical, implying a pattern to the underlying energy field; 3) Illness is an imbalance in an individual's

**Table 10.5 | Flower Essences**

Essence	Remedies	Restores
Agrimony	Concealed distress	Inner peace
Aspen	Fear of unknown, apprehension	Courage
Beech	Intolerance, bad temper	Tolerance, flexibility
Centauray	Submissiveness, compliance	Assertiveness, resistance
Cerato	Lack of confidence	Confidence
Cherry Plum	Uncontrolled behavior, compulsiveness	Control
Chestnut Bud	Learning difficulty, repetitive behavior	Ability to learn
Chicory	Possessiveness, attention seeking	Normal caring & protectiveness
Clematis	Absentmindedness	Alertness
Crab Apple	Uncleanliness, infection, poisoning	Cleanliness, dignity
Elm	Inadequacy, overwhelmed	Competence
Gentian	Discouragement, setback	Perseverance
Gorse	Hopelessness, despair	Endurance
Heather	Loneliness, inattentiveness	Quiet composure
Holly	Malice, intense dislike	Harmlessness
Honeysuckle	Homesick, inability to cope with present conditions	Adjust to present circumstances
Hornbeam	Weakness, unresponsiveness	Vitality
Impatiens	Impatient, irritability	Patience
Larch	Hesitancy, loss of confidence	Confidence
Mimulus	Fear of known things, nervousness	Courage
Mustard	Depression, gloominess	Serenity
Oak	Lack of resilience in normal strong bird	Resilience
Olive	Fatigue & exhaustion	Strength
Pine	Guilt & contriteness	Positive attitude
Red Chestnut	Overprotectiveness, overconcern	Confidence, trust
Rockrose	Terror, hysteria	Courage, calm
Rock Water	Rigidity, repression, inflexibility	Flexibility, spontaneity, gentleness
Scleranthus	Imbalance, uncertainty	Stability, balance
Star-of-Bethlehem	Mental, emotional & physical shock	Mental, emotional & physical calmness
Sweet Chestnut	Extreme mental & physical distress	Endurance
Vervain	Impulsiveness, hyperactivity	Restraint
Vine	Dominance, territoriality	Positive leadership abilities
Walnut	Difficulty coping with change	Adaptability
Water Violet	Indifference, aloofness, reserve	Social contact
White Chestnut	Restlessness, sleepiness, preoccupation	Ability to rest
Wild Oat	Lack of direction	Direction
Wild Rose	Resignation, apathy	Will to live
Willow	Maliciousness, spitefulness	Good temper

energy field, with healing being achieved by balancing this energy field; and 4) Humans have natural abilities to transform and transcend their conditions of living. Other forms of energy therapy and healing arts are based on similar assumptions and current scientific premises.

Therapeutic touch and other energy therapies produce certain consistent and reliable results.<sup>12</sup> The first response experienced within a few minutes of a treatment is relaxation. Clinically, there is a significant reduction or elimination of pain. Healing responses tend to be accelerated, presumably by boosting the patient's immune system. Psychosomatic illnesses are alleviated through the effects on the patient's autonomic nervous system.

The success of these therapies is based on the learned skills and techniques combined with intentionality. Proper centering and focus is critical in assessing the patient's energy field for subtle changes and asymmetry. With practice and deliberate intent, the healing practitioner can balance the patient's energy. This technique is very useful in calming and soothing nervous or distressed patients; it also helps ease the induction and recovery from anesthesia. The pain and discomfort from trauma or illness, as well as boosting the body's innate healing response, can be relieved through this energy modulation.

## Integrative Therapies for Common Avian Conditions

### FEATHER PICKING

Feather picking is a clinical sign of a multitude of potential diseases and disorders and not a diagnosis in itself. The underlying causes include systemic or metabolic disorders (see Chapter 4, Nutritional Considerations, Section II Nutritional Disorders), infectious diseases, allergies, parasites and psychogenic disturbances. Most cases are psychogenic in nature, but they should have a complete diagnostic analysis to rule out other contributing factors. Treatments for feather-picking disorders vary considerably but should be based on the individual assessment with an attempt to address the underlying factors as well as the psychogenic manifestations.

Many integrative therapies can be utilized to complement the conventional approach to treating a feather-picking bird. Some of these address the psychogenic component of the problem, including Bach flower essences, herbal therapy and aromatherapy.<sup>21</sup> Other modalities address the deeper energetic components, such as acupuncture and homeopathy. Some treatments are directed at stabilizing the nutritional or metabolic imbalances, such as nutraceuticals and antioxidant therapy.

Acupuncture is reported as a viable option for the treatment of feather picking in pet birds.<sup>1,7,16,24,28</sup> The conventional diagnosis of feather picking is often attributed to the social/emotional well-being, psychological status or stressful environmental conditions of the bird. This

determination relates to a TCVM diagnosis as a Shen disturbance (deficient Heart Blood), Phlegm and Heat disturbance of the Heart, Heat invading the Pericardium, or excess Liver Yang.<sup>28</sup> Certain acupuncture points are routinely used in birds with feather-picking issues, but the final selection of points should be based on a complete assessment of the patient and TCVM diagnosis. Some of the routine points include SP-6, ST-36, LI-4, LI-11, PC-6 and HT-7. SP-6 is used to tonify and strengthen Yin. ST-36 is the master point of the abdomen and used to treat deficiencies, dispel Cold and tonify Qi and Blood. LI-4 helps to expel Wind Heat and to release the Exterior, tonify defensive Qi and calm the spirit. LI-11 is used to clear Heat, resolve Dampness, and regulate Nutritive Qi and Blood. PC-6 can calm the mind, regulate Heart Qi and relieve irritability due to stagnation of Liver Qi. HT-7 is useful in calming the mind, quieting the spirit, improving thinking and regulating other emotional issues. Other potential points used for feather-picking cases include GV-20, LIV-3, GB-34, SP-10, SP-11, BL-12 and BL-15. **Table 10.1** lists the common avian acupuncture points and general indications for use. The treatment regimen is dependent on each case but is usually started at once to twice weekly for the first several weeks and gradually reduced, based on the patient's response. Each session should begin with an assessment of the patient's condition and response, with adjustment of the selected acupuncture points as indicated.

Homeopathy is useful at addressing the underlying energetics of the feather-grooming problem but must be individualized for each patient.<sup>19</sup> A homeopathic remedy is prescribed based on the full assessment of the patient; however, certain remedies commonly surface as primary choices. Some of these include *aconitum napellus*, *apis mellifica*, *arnica montana*, *arsenica album*, *belladonna*, *ignatia*, *natrum muriaticum*, *nux vomica*, *pulsatilla pratensis*, *psorinum*, *sepia*, *staphisagria*, *stramonium*, *tuberculinum avium* and *veratrum album*.<sup>19</sup> An avian homeopathic repertory has been summarized in **Table 10.3**. In general, the study of homeopathic remedies for mental problems will reveal the proper remedy. Each type of bird has general personality characteristics that can influence the choice of remedy. For instance, cockatoos are very social birds, thus requiring a remedy that addresses social issues when separated from the flock. Alternately, Amazon parrots and macaws are more likely to be suffering from internal systemic diseases, requiring a remedy to address those problems as well. The homeopathic remedy, potency or frequency may have to be adjusted based on the patient's response and discontinued upon resolution of the problem.

Western herbs are helpful in treating the psychological issues and calming the feather-picking patient.<sup>19</sup> Saint

John's wort has many properties that make it particularly useful in the treatment of feather picking. Numerous scientific studies have determined that Saint John's wort is an effective antidepressant.<sup>29</sup> In addition, it serves as a nerve tonic and speeds wound healing, which is useful in soothing and repairing the damaged feather follicles. Saint John's wort has good antibacterial and antiviral properties, beneficial in cases of infectious folliculitis or systemic diseases. Several other herbs are sedative and soothing in nature, including valerian root, passionflower and kava kava.<sup>29</sup> These may be effective individually or in combination for the management of very nervous and hyperactive patients.

Bach Flower Essence is excellent at addressing the underlying emotional and behavioral issues that often serve as the root of the feather-picking condition.<sup>8,19</sup> A combination of three to five different essences may be indicated for an individual case. Some essences address the underlying issue of fear or anxiety, such as aspen, agrimony, cherry plum, mimulus and rockrose. Others are useful when birds are picking at certain times or situations, such as red chestnut or heather for when the bird picks when left alone or scleranthus for when picking occurs during breeding season. Mustard or gorse may be indicated if the bird is feather picking out of depression. Walnut is helpful when feather picking begins after a move or other change in the environment. Wild oat can be given if the bird is simply over-preening, while agrimony is a better choice for self-mutilation. Chicory is a good choice when the picking is used to get attention, whereas cherry plum is used when the picking seems to be compulsive in nature. Most flower essence formulas also should contain a combination remedy<sup>b</sup> of *impatiens*, *clematis*, *rockrose*, *cherry plum* and *star-of-Bethlehem* for stress and anxiety. This formula also is used to calm patients for veterinary examinations, aid in recovery after surgery and treat shock and distress during severe illness or injury. **Table 10.5** contains a summary of the flower essences and general indications.

A variety of nutraceuticals can be added to balance the nutritional deficiencies and resolve underlying metabolic conditions leading to feather picking.<sup>1,19</sup> *Aloe vera* has anti-inflammatory and vulnerary effects, which assist healing of damaged and irritated skin and feather follicles in feather-picking cases. Aloe also provides a multitude of nutrients for healthy feather condition, including natural vitamins, minerals and amino acids. Antioxidants are often beneficial in treating chronic feather-picking cases by scavenging free radicals and supporting the healing process of damaged skin and feathers. Potent antioxidants, also called oligomeric proanthocyanidins, include grape seed extract, pycnogenol, bilberry and citrus bioflavonoids. These are available in various forms, either individually or

in combination, and can be added to the food or water as a general supplement. A potent amino acid supplement, 5-hydroxy L-tryptophan, has been suggested for feather-grooming problems.<sup>19</sup> Being very potent, only a few grains should be added to the food daily. Omega-3 fatty acids have been suggested for a variety of veterinary conditions including feather disorders. The benefits of omega-3 fatty acids pertinent to feather-picking disorders include treatment of seborrhea and pruritus as well as mood stabilization.<sup>1</sup> These fatty acid supplements also help reduce inflammation by modifying the arachidonic acid cascade.

## DIGESTIVE DISORDERS

The digestive tract of birds is often disrupted by infectious and metabolic conditions. This can include anything from sour crop caused by *Candida albicans* to cloacal papillomas. Whenever possible, the underlying cause of the gastrointestinal (GI) disorder also must be identified and rectified. Many of these disturbances, however, can be stabilized with the use of nutraceuticals and herbal formulations. Several aspects of the digestive process can be addressed with these supplements, including soothing and protecting the GI mucosa, balancing the microbial population and providing nutritive support.

The GI mucosa is easily inflamed and irritated by invading pathogens or foreign agents. As a result, the inflamed mucosa will be less effective in the absorption of nutrients and proper digestion. Several Western herbs are highly effective in soothing the inflamed GI mucosa.<sup>29</sup> Slippery elm bark has a soothing, protecting and lubricating effect on the GI tract. In addition, it serves as an astringent and nutritive. The tannin constituents tighten the digestive mucosa to relieve inflammation and prevent further fluid loss in the intestines. The mucilage constituents help lubricate the digestive tract and facilitate the removal of waste material. Slippery elm is effective in many digestive conditions on several levels. Marshmallow root provides a soothing, lubricating and protective barrier to mucosal surfaces through its mucilage component. This makes marshmallow beneficial in cases of GI ulceration or irritation. Marshmallow is best taken internally as a tea or low-alcohol tincture. Licorice root is an excellent anti-inflammatory and demulcent herb. It is good at healing GI ulcerations and reducing the gastric acid secretions while producing anti-inflammatory effects similar to corticosteroids.

Several nutraceutical products have beneficial nutritive and supportive effects on the digestive tract. *Aloe vera* is an excellent nutritive and anti-inflammatory agent. *Aloe vera* is effective in treating inflammatory bowel disorders and constipation. The active constituents of *Aloe vera* include barbaloin and isobarbaloin. Aloe has purga-

tive, cholagogue, anti-inflammatory, vulnerary and anthelmintic effects on the GI tract.<sup>14</sup> *Aloe vera* juice can be dosed orally at 1 to 2 drops per 100 g body weight or added to the drinking water at the rate of 2 ml per 4 ounces of drinking water. Apple cider vinegar is an excellent acidifier to the intestinal tract and general nutritive.<sup>19</sup> Indications for use include chronic diarrhea, dysbiosis, candidiasis and chronic bacterial enteritis. Apple cider vinegar can be added to the drinking water at the rate of 1 to 2 tablespoons per 8 ounces of water for up to 2 weeks. A line of rice-based intestinal support products<sup>c</sup> is commercially available. Rice is highly digestible and gluten free, thereby being a good hypoallergenic whole-grain product. Certain protein fractions of rice support gastrointestinal secretory function and repair of mucosal cells.<sup>14</sup> Therefore, these rice-based products are well suited for management of gastrointestinal inflammatory and allergy disorders, including chronic vomiting, chronic diarrhea, dysbiosis, food allergy and gram-negative enteritis. One rice-based product, Ultraclear<sup>c</sup>, is dosed at 1 g per kg body weight, given 3 times daily.

The digestive system of birds has evolved with plant enzymes for proper digestion.<sup>19</sup> As more cooked and processed foods are fed to pet birds, fewer digestive enzymes are found in the diet because cooking inactivates the plant enzymes. Animal source digestive enzymes, such as pancreatic enzymes, are less effective in birds, because they are inactive in acidic environments such as the bird's crop and proventriculus. Therefore, pet birds should be provided plant sources of digestive enzymes<sup>d</sup>, which are stable and active over a wide pH range. A source of natural enzymes produced by *Saccharomyces cerevisiae* in fermentation vats has empirically shown to have beneficial effects in birds (G.J. Harrison, personal communication, 2003).

A wide variety of digestive disorders in birds, including bulky stools, intestinal gas, undigested food in feces, slow crop emptying, chronic bacterial enteritis, weight loss and chronic immunosuppression, benefit from the addition of digestive enzymes.

Probiotics are microbial supplements given to reestablish a balanced gastrointestinal microflora. These products generally contain various species of *Lactobacillus* and *Bifidobacterium*, which are intended to repopulate the patient's intestinal tract with beneficial bacteria. Probiotics are indicated after chronic digestive disease or extended or excessive use of antibiotics, where the normal bacterial flora would be disrupted. Avian-specific products<sup>a</sup> are recommended; however, limited benefit may result from mammalian products or active yogurt culture.

## LIVER DISEASE

Liver disease is a common diagnosis in birds. Severe liver damage in birds is commonly seen in a variety of chronic conditions ranging from nutritional disorders to psittacosis. The usual presentation is elongation and bruising of the beak and toenails. Hepatic lipidosis is common in pet birds that become obese due to their sedentary life and malnutritive seed diets. Therefore, nutritional management is crucial in managing liver disorders in birds. Certain hepatic tumors are common in budgerigars, and bile duct carcinomas are found in Amazon parrots. Iron storage disease is seen in mynahs and toucans (see Chapter 15, Evaluating and Treating the Liver).

Several Western herbs have liver-protective and liver-supportive properties. Some of them actually stimulate the regeneration of the liver cells. Herbs often perform more effectively as a synergistic formula rather than as the individual herbs. Some of the more common hepatotonic herbs are listed below with their associated benefits and indications.<sup>23</sup>

Milk thistle seed (*Silybum marianum*) has been used for 2000 years to treat a wide variety of liver diseases. It is used for treatment of cirrhosis, hepatitis and various forms of hepatotoxicity. Milk thistle is indicated whenever the liver has been damaged or is at risk for damage. Studies have shown that the chemical component, silymarin, has hepatoprotective properties. It has been found to serve as an antioxidant, decrease free radicals and increase hepatocyte synthesis. Other studies have shown that silymarin inhibits cytochrome P-450 enzymes in liver microsomes. As a result, milk thistle should not be used with drugs metabolized by the P-450 enzyme. There are no other known drug or herbal interactions. Elevations in liver enzymes and bile acids are possible during the first few days of using milk thistle (G.J. Harrison, personal communication, 2003).

Dandelion root (*Taraxacum officinale*) acts by gently and safely stimulating the liver into an increased state of efficiency. The improved liver function resultantly improves digestion, increases the elimination of waste from the blood and body and reduces the burden on the kidneys and immune system. The root has been used for centuries to treat jaundice. This herb makes an excellent adjunctive therapy with gentle liver support and general nutritive properties.

Oregon grape (*Mabonia* spp.) is a stronger and faster acting hepatic stimulant than dandelion root. It is indicated in cases suggestive of a deficient liver, such as poor protein digestion, constipation, or poor skin and feather condition. Since this herb stimulates bile production, its use should be avoided in suspected cases of bile

duct occlusion. Because of its strong stimulatory effects, it should be used with caution in animals with preexisting liver damage.

Burdock root (*Arctium lappa*) has been used for thousands of years for a variety of ailments such as eczema, allergies, constipation and toxicity. Burdock root is very cleansing to the blood and stimulating to the liver. It possesses strong antioxidant and nutritive properties. The fresh root has broad antibacterial effects and anti-tumor action.

Licorice (*Glycyrrhiza glabra*) neutralizes liver toxins. Scientific articles credit a specific licorice derivative known as glycyrrhizin for successfully treating chronic hepatitis.<sup>29</sup> Licorice also has been shown to increase the production of interferon, which is commonly used to treat hepatitis B. Licorice also is used in combination with other herbs as a potentiator, to strengthen the effects of the herbal formula.

In addition, some Chinese herbal formulations have very beneficial effects on the liver. The herbal treatment should be based on a TCVM diagnosis. However, herbal formulations containing bupleurum and gardenia are particularly useful in treating most liver conditions in birds.<sup>14</sup> Coptis and Scute Combination (*Huang Lian Jie Du Tang*) is indicated in cases of viral or bacterial hepatitis with elevated white blood cell counts.<sup>15</sup> Another useful TCVM approach is acupuncture, with acupoints being selected by the TCVM diagnosis.

Liver detoxification is crucial in the management of many primary and secondary hepatic diseases. Certain treatments that are very effective in this detoxification process include herbal formulations and antioxidant therapy and/or rice-based intestinal products such as Ultraclear Plus<sup>®</sup>. These products are very useful in the management of gastrointestinal inflammation and allergy, as well as detoxification of the liver.<sup>14</sup> Oligomeric proanthocyanidins (OPC) are powerful antioxidants that scavenge free radicals, thus preventing further cellular degeneration. These products are very useful in chronic and degenerative diseases that involve cellular decay and degeneration. Examples of OPC antioxidants include pycnogenol, grape seed extract, bilberry and citrus bioflavonoids. Herbal formulations for liver detoxification include those described above as well as other herbs that address the individual patient needs.

Liver regeneration is often overlooked in the treatment of liver disease by conventional means. However, several holistic products are available to facilitate liver regeneration. Milk thistle is effective in regenerating hepatocytes in addition to the other benefits discussed previously. Specific products with liver-regenerative potential are

commercially available.<sup>14</sup> Livaplex<sup>f</sup> is a liver glandular combined with other liver-supportive nutrients. Lipogen<sup>g</sup> is indicated in cases of hepatic lipidosis.

## RENAL DISEASE

Kidney disease is frequently diagnosed in pet birds but seldom specifically treated. Conventional treatments often attempt to correct only the clinical signs, such as lowering the elevated uric acid level in gout cases or reducing urine output in cases of polyuria. Specific diagnosis of the renal disorder is important in developing an effective treatment plan. Certain natural supplements and holistic remedies can be generalized to support renal function and healing of the kidney (see Chapter 16, Evaluating and Treating the Kidneys).

Omega-3 fatty acids (*n*-3 FA) have several renal benefits.<sup>6</sup> The supplementation of *n*-3 FA can increase renal blood flow and nephron glomerular filtration rate, lower systemic arterial blood pressure and reduce hyperlipidemia. Specifically, the *n*-3 FA supplements reduce total triglycerides and very low-density lipoprotein concentrations; *n*-3 FA reduce inflammation by modulating the arachidonic acid cascade. In addition, *n*-3 FA decrease plasma viscosity. Sources of omega-3 and omega-6 fatty acids include fish oils, flax seed, borage and pumpkin oils. The specific dosing for *n*-3 FA has not been established, but it is suggested that the ratio of *n*-6 to *n*-3 FA may be of greater importance in the overall analysis. One recommendation for dosing suggests mixing flax seed oil with 4 parts corn oil and dosing at 0.10 to 0.20 ml per kg body weight.<sup>1</sup>

Various Western herbal remedies have positive effects on the kidneys.<sup>29</sup> Dandelion leaf is a potent natural diuretic and excellent nutritive herb. The leaves provide a wide range of vitamins and minerals including potassium, which is commonly lost with mainstream diuresis. Couch grass serves as an excellent tonic and disinfectant of the urinary tract. It is a soothing, anti-inflammatory demulcent and saponin-based diuretic with mild antimicrobial effects. Couch grass is a specific remedy for chronic or acute cases of cystitis and urethritis in mammals. Herbs with good antimicrobial effects and an affinity for the kidneys include echinacea, Oregon grape and thyme. Marshmallow root is a very safe and gentle mucilage, providing a soothing and protective barrier to mucosal surfaces, including the urinary tract.

Chinese herbal products formulated as Kidney Yin/Yang/Qi tonics are beneficial for certain renal diseases. Classic formulations include Six Flavor Tea, Eight Flavor Tea, Rehmannia 6 and Rehmannia 8. Other Chinese herbal formulations may be indicated, depending on the TCVM diagnosis and concurrent problems. Acupuncture also may be beneficial in managing the

patient, based on the TCVM diagnosis.

Specific nutraceutical products that are marketed for mammals may be useful in birds with similar conditions. These products often include kidney glandulars, vitamins, herbs and enzymes. Arginase is the enzyme necessary for the detoxification of arginine from the kidney.<sup>14</sup> Kidney-supportive products are commercially available.<sup>h,i,j</sup>

Recommended dietary changes include lower protein diets, but debate continues regarding the degree of protein restriction that is beneficial and safe.<sup>6</sup> Cases implicating protein as a contributing factor in renal diseases such as gout consistently have very high protein levels. Most importantly is a proper balancing of the diet with normal protein levels and natural, organic foods (see Chapter 4, Nutritional Considerations).

## EGG BINDING

Egg binding is failure of the oviduct to pass an egg into the cloaca. In a TCVM perspective, this would be failure of the Kidney Qi to warm the lower burner, thus weakening the oviduct.<sup>16</sup> If the egg is stuck due to lack of lubrication in the oviduct, the TCVM assessment would be failure of the Spleen to transport and move fluids where needed, and failure in production of Qi for egg laying. Egg binding is diagnosed as interior Cold deficiency with a build up of phlegm. Potential acupuncture points include SP-6, ST-36, GV-20 and PC-6. SP-6 is chosen to strengthen the Spleen, tonify the Kidneys and calm the mind. ST-36 is the Master point of the abdomen. In addition, ST-36 tonifies the Spleen, strengthens the body and tonifies Qi. GV-20 is used to lift the spirit, clear the mind and tonify Yang. PC-6 calms the mind and tonifies the uterus. Other acupoints are selected on an individual basis, depending on the overall condition of the patient.

Chiropractic adjustment of the pelvis and synsacrum of the hen may be necessary for the proper passage of an egg. Improper nerve innervation of the oviduct can result in poor oviduct contractions with slowing or blockage of the egg-laying process. In addition, the pelvis may not widen properly due to erratic nerve innervation or hormonal imbalances. Relief of the fixations and subluxations will aid in proper nerve innervation of the reproductive tract and ease the egg-laying process.

Proper vitamin and calcium levels are critical in the laying of eggs. Low blood calcium can affect various aspects of egg laying. Calcium is necessary for the production of the eggshell, resulting in soft-shelled eggs when deficient. Calcium also is required for the normal contraction of muscles, including the smooth muscle in the wall of the oviduct. In addition, calcium must be balanced

with phosphorus and vitamin D<sub>3</sub> for optimal utilization and absorption. An excellent source of calcium is calcium lactate, which can be powdered onto soft foods.<sup>19</sup> Commercial broad-spectrum vitamin and mineral supplements formulated for birds may also be appropriate sources of calcium and related minerals (see Chapter 4, Nutritional Considerations: Section I, Nutrition and Dietary Supplementation, Chapter 5, Calcium Metabolism and Chapter 19, Endocrine Considerations).

## IMMUNE DEFICIENCY AND CHRONIC INFECTIONS

Many diseases in birds, as in any other species, begin with a suppressed immune system. The weakened immune system can be the result of physical or psychological conditions. The physical causes include poor genetic constitution, malnutrition, toxic agents or infectious debilitation. Psychological sources may be environmental stress, lack of socialization, sexual frustration and abuse or neglect. The course of disease when exposed to an infectious agent is dependent on the stability of the immune system.

Nutriceutical supplements can boost the immune system by providing proper nutritional support and immune-strengthening components. Apple cider vinegar and *Aloe vera* are two examples of nutritional supplements.

Antioxidants boost the immune system by clearing free radicals that otherwise would cause tissue degradation and immune suppression. These products can simply be added to the drinking water or food on a daily basis.

*Aloe vera* and most antioxidants can be given as continuous daily supplements, whereas apple cider vinegar is best administered for up to 2 weeks or as needed.

Several Western herbs are effective immune boosters. Certain herbs specifically boost the patient's immune system, such as *Spirulina* sp. and pau d arco. Other herbs support the immune system through their antimicrobial properties. Herbs with antimicrobial effects include *echinacea* spp, goldenseal, Oregon grape and olive leaf.<sup>29</sup> These are often used in combination with other herbs as formulations. Certain Chinese herbs possess immune-stimulating properties and antimicrobial effects, including *Huang Lian Jie Du Tang* (Coptis and Scute) and *Yin Qiao San* (Lonicera and Forsythia Formula).<sup>15</sup>

The energetic modalities such as acupuncture and homeopathy have strong immune-modulating effects. These therapies treat at the deep energetic level of the patient to boost its innate immune response. As a result, the immune-stabilizing effects are stronger and longer lasting (see Table 10.1 for specific acupuncture points and Table 10.4 for homeopathic remedies in birds).

## NEOPLASIA

Tumors and various cancers are prevalent in certain species of pet birds. Budgerigars have the highest incidence of neoplasia in pet psittacines. Various types of tumors and cancers have been reported in many avian species. Therapeutic options are often very limited when approached conventionally. However, many of these cancers can be managed with nutraceuticals, herbal remedies and other integrative therapies.

The general life-style and environment play a vital role in the risk of developing cancer in pets as well as people.<sup>25</sup> A well-balanced and positive emotional environment helps set the tone for health. Toxic conditions, such as smoke, chemical products, strong aerosolized sprays and odors, should be avoided. Exposure to cooking in coated cookware or plastics should be minimized. Provide fresh, clean air in a well-ventilated room and natural unfiltered sunlight. Encourage the bird to fly and/or otherwise exercise.

Good nutrition with a wide variety of healthy foods and a basis of an organic formulated diet should be provided. A variety of organic foods should be offered, including whole grains, raw fruits and vegetables. Foods high in essential vitamins and minerals are often the same as those with good antioxidant and anticancer properties. These include certain vegetables such as asparagus, tomatoes, bell pepper, turnips, kale, cauliflower and broccoli. Certain fruits also provide excellent nutrients, including apples, cranberries, pomegranate, cherry, fig, grapes and mango. Foods rich in fiber and antioxidants are recommended to fight off cancer and support the body's immune system.<sup>29</sup> Excellent foods to include in a diet for cancer patients include *Spirulina* spp, kelp, garlic, onions, tumeric and parsley.<sup>25</sup> Foods to avoid include white flour, sugar, meats, fats and dairy products. The diet also should minimize salt intake and excessive vitamin and mineral supplementation.

Herbs assist the body in fighting cancer by providing tonic support of organs and systems. Herbal formulations that support the liver, kidneys and lymphatics help strengthen the immune system by cleansing the body of toxins and metabolic waste products.<sup>29</sup> The classic Essiac and Hoxsey formulas were designed for this purpose. These formulations likely have changed over the years, but still contain an array of alterative and cholagogue herbs primed to cleanse the body, improve digestion and eliminate waste products.

Some notable individual herbs with strong anticancer effects include red clover, burdock root and dandelion root. Red clover is an effective anticancer herb; it inhibits the activity of carcinogenic compounds, improves blood

structure and strengthens lymphatic functions.<sup>29</sup> Liver-supportive herbs useful in fighting cancers include yellow dock and milk thistle. Yellow dock serves as a strong liver stimulant, while milk thistle protects the liver from harmful by-products of the cancer or cancer therapy. Diuretic herbs like dandelion leaf and nettle aid in removal of systemic waste through the kidneys and urinary tract. Herbs that assist toxic waste removal by soothing and protecting the mucus membranes of the urinary and digestive tracts include slippery elm, marshmallow, flaxseed, psyllium and plantain. Finally, immunostimulant herbs that strengthen the cancer patient's immune response include astragalus and garlic.

Anticancer herbal formulations should be individualized for each cancer patient, based on their specific cancer and the debilitating effects on the body. A typical herbal formulation usually contains three to five herbs. An example of a general tonic anticancer support formulation consists of 2 parts red clover, 1 part astragalus, 1 part dandelion root and 1 part garlic.<sup>29</sup> This formula, which can easily be adjusted for the particular patient or condition, provides good systemic support, immunostimulation and cleansing properties.

Nutriceuticals are common among the anticancer remedies on the market for pets and people. Inositol with IP-6<sup>k</sup> is a classic example of a nutriceutical product shown

**Table 10.6 | Holistic Resources and Organizations**

**Professional Holistic Organizations**

Academy of Veterinary Homeopathy (AVH)  
751 NE 168th Street  
North Miami, FL 33162-2427  
Phone: 1-305-652-5372  
Fax: 1-305-653-7244  
E-mail: [webmaster@acadvethom.org](mailto:webmaster@acadvethom.org)

The American Academy of Veterinary Acupuncture (AAVA)  
PO Box 419  
Hygiene, CO 80533-0419  
Phone: 1-303-772-6726  
E-mail: [AAVAoffice@aol.com](mailto:AAVAoffice@aol.com)

American Holistic Veterinary Medical Association (AHVMA)  
2218 Old Emmorton Road  
Bel Air, MD 21014  
Phone: 1-410-569-0795  
Fax: 1-410-569-2346  
E-mail: [Office@AHVMA.org](mailto:Office@AHVMA.org)

American Veterinary Chiropractic Association (AVCA)  
623 Main Street  
Hillsdale, IL 61257  
Phone: 1-309-658-2920  
Fax: 1-309-658-2622  
E-mail: [AmVetChiro@aol.com](mailto:AmVetChiro@aol.com)

International Veterinary Acupuncture Society (IVAS)  
PO Box 271395  
Fort Collins, CO 80527  
Phone: 1-970-266-0666  
Fax: 1-970-266-0777  
E-mail: [IVASOffice@aol.com](mailto:IVASOffice@aol.com)

**Certification Programs**

Veterinary Acupuncture  
IVAS  
PO Box 271395  
Fort Collins, CO 80527  
Phone: 1-970-266-0666  
Fax: 1-970-266-0777  
E-mail: [IVASOffice@aol.com](mailto:IVASOffice@aol.com)

Chi-Institute  
9708 West Hwy 318  
Reddick, FL 32686  
Phone: 1-352-591-5385  
Fax: 1-352-591-2854  
E-mail: [admin@chi-institute.com](mailto:admin@chi-institute.com)

Colorado State University  
College of Veterinary Medicine & Biomedical Sciences  
1601 Campus Delivery  
Fort Collins, CO 80523-1601  
Phone: 1-970-491-7051  
Fax: 1-970-491-2250  
E-mail: [cvmsweb@colostate.edu](mailto:cvmsweb@colostate.edu)  
Web site: [www.cvms.colostate.edu](http://www.cvms.colostate.edu)

Animal Chiropractic  
Options for Animals  
Animal Chiropractic Center  
623 Main St.  
Hillsdale, Illinois 61257  
Phone: 1-309-658-2920  
Fax: 1-309-658-2622  
Web site: [www.animalchiro.com](http://www.animalchiro.com)

Healing Oasis Wellness Center  
2555 Wisconsin St.  
Sturtevant, WI 53177  
Phone: 1-262-878-9549  
Fax: 1-262-886-6460  
Web site: [www.thehealingoasis.com](http://www.thehealingoasis.com)

**Internet Resources**

Complementary and Alternative Veterinary Medicine  
[www.AltVetMed.com](http://www.AltVetMed.com)

Veterinary Medicine Internet Resources  
[www.holisticmed.com/www/veterinary.html](http://www.holisticmed.com/www/veterinary.html)

Bach Flower Remedies Internet Resources  
[www.holisticmed.com/www/bach.html](http://www.holisticmed.com/www/bach.html)

Botanical/Herbal Medicine Resources  
[www.rosenthal.hs.columbia.edu/Botanicals.html](http://www.rosenthal.hs.columbia.edu/Botanicals.html)

Herbal Database  
[www.herbmed.org](http://www.herbmed.org)

to fight cancer by stimulation of the body's natural killer cell activity.<sup>30</sup> Antioxidants are popular additions to holistic cancer therapies because of the stabilizing effects on the patient's tissues produced through the scavenging of free radicals. Antioxidants can be in the gentle form of vitamin C or the very potent form of proanthocyanidins such as grape seed extract or pycnogenol. Certain mushrooms also have shown potential in the treatment of cancer, including Reishi, Maitake and Shiitake.<sup>25</sup> Coenzyme Q10 and N,N Dimethylglycine (DMG) are examples of immune-stimulating nutraceuticals with potential use in cancer therapy.<sup>14</sup> These products also are effective in the treatment of chronic diseases, which debilitate the body's innate healing process.

## Products Mentioned in the Text

- a. Parrot-specific Lactobacillus (Munich), [www.janezek.de](http://www.janezek.de)
- b. Rescue Remedy, Bach Flower Remedies Ltd, Nelson Bach USA Ltd, Wilmington, MA 01887, USA
- c. Ultraclear, Metagenics, 1152 Ensell Rd, Lake Zurich, IL 60047, USA, [www.metagenics.com](http://www.metagenics.com)
- d. Avian Enzyme, HBD International Inc, Brentwood, TN, USA, [www.harrisonsbirdfoods.com](http://www.harrisonsbirdfoods.com)
- e. Ultraclear Plus, Metagenics, 1152 Ensell Rd, Lake Zurich, IL 60047, USA, [www.metagenics.com](http://www.metagenics.com)
- f. Livaplex, Standard Process, PO Box 904, Palmyra, WI 53156, USA, [www.standardprocess.com](http://www.standardprocess.com)
- g. Lipogen, Metagenics, 1152 Ensell Rd, Lake Zurich, IL 60047, USA, [www.metagenics.com](http://www.metagenics.com)
- h. Arginex, Standard Process, PO Box 904, Palmyra, WI 53156, USA, [www.standardprocess.com](http://www.standardprocess.com)
- i. Renatrophin, Standard Process, PO Box 904, Palmyra, WI 53156, USA, [www.standardprocess.com](http://www.standardprocess.com)
- j. Renagen, Metagenics, 1152 Ensell Rd, Lake Zurich, IL 60047, USA, [www.metagenics.com](http://www.metagenics.com)
- k. Cellular Forte, Phytopharmica, Integrative Therapeutics, 9775 SW Commerce Circle, Suite A-6, Wilsonville, OR 97070, USA, [www.phytopharmica.com](http://www.phytopharmica.com)

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