

medicinal properties/honey/1973-83

Uccusic, P. **Doctor Bee: bee products, their curative power and application in medicine.** [Doktor Biene: Bienenprodukte--ihre Heilkraft und Anwendung in der Heilkunst.]. Genf, Switzerland; Ariston Verlag. (1983) (Ed. 2) 198 pp. ISBN 3-7205-1251-7 [De, B]

This book (first published in 1982) describes benefits from a very wide range of bee products, including the air rising from an opened colony of bees as a cure for hay fever. The book deals with the subject in a general way, with rather little detailed reference to the scientific basis on which the different statements are made. There is a bibliography of 133 items, and a detailed index. E. Crane.

Williams, M. R. **The honey isle.** [Y fel ynys.]. Pontypridd and Liverpool, UK; Cyhoeddiadau Modern Cymreig. (1972) 136 pp. [Welsh, B] Biology Dept., Gader School, Dolgellau, UK.

This general book on beekeeping contains chapters on the life cycle of the honeybee, hives and other equipment, swarming, honey extraction, bee anatomy, pests and diseases, and dances. The first section of the book is a history of bees and beekeeping with particular reference to Wales and Welsh literature. It is thought that honey was produced in Britain well before the Roman conquest since Britain was called "The island of honey" at this time. Honey was certainly known to the Druids of Anglesey, who made special goblets for drinking mead. Honey and mead have been mentioned in Welsh literature since the sixth century and the author cites several examples. Reference to the medicinal properties of honey date back to the thirteenth century, and at about this time many customs and beliefs grew up in Wales about bees; most differed only slightly from their English counterparts. Wicker baskets were used as hives for centuries in Wales and, in the sixteenth century, beekeepers began placing them in bee boles for protection. (The word bole is derived from the Welsh and Breton word bwlch, meaning hole). The first practical handbook on beekeeping to be published in Wales was by M.D. Jones and M.P. Jones in 1888. This present book is well illustrated with numerous diagrams and photographs. There is one page of technical terms in Welsh and English, a short reading list and a brief index. J. M. Gedye.

medicinal properties/honey/1983-99

Cuba, Estacion Experimental Apicola. **4th Symposium on propolis and 3rd on apitherapy, 21-24 August 1996, Instituto de Farmacia y Alimentos, La Habana, Cuba.** [IV Simposio de propoleos y III de Apiterapia, 21-24 Agosto 1996, Instituto de Farmacia y Alimentos, La Habana, Cuba.]. Ciudad de La Habana, Cuba; Estacion Experimental Apicola. (1996) 72 pp. [Es, Bdo]

Most (48) of these summaries of papers presented at this combined symposium concern the composition, antimicrobial properties and medical and therapeutic properties of propolis. Properties and uses of honey, pollen, royal jelly and honey bee venom in the treatment of various conditions, are described in a

further 21 summaries. There is also a list of participants in the symposium.

International Symposium on Apitherapy, 6th, Portoroz. **Abstracts of scientific papers, 6th International Symposium on Apitherapy, September 22-25, 1988, Portoroz, Yugoslavia.** Bucharest, Romania, Apimondia Publishing House. (1988) iv + 60 pp. [En, Bd]

Of the 61 abstracts of papers presented at the symposium, 17 deal specifically with propolis, 9 with honey, 5 with pollen, 4 with honeybee venom, and 3 with royal jelly. The other 23 abstracts deal with more than one hive product, or brand-name products without details of composition, or apitherapy in general. D.G. Lowe.

International Symposium on Apitherapy, 5th, Cracow. **Abstracts, Vth International Symposium on Apitherapy, Cracow, 23-26 May 1985.** Cracow, Poland ; Apimondia. (1985) 74 pp. [En, Ba]

Of the 59 abstracts of papers presented at the symposium, 32 deal specifically with propolis, 10 with bee-collected pollen, 6 with honey, and 4 with venom. The other abstracts deal with more than one hive product, or hive products in general. D.G. Lowe.

Ape Nostra Amica. **Apipuncture: a little-known practice.** [L'apipuntura una pratica poco conosciuta.]. *Ape Nostra Amica* (1991) 13 (5) 15-27 [It, Bj]

The medical uses of bee stings are reviewed, with 29 references.

Lithuania, Ukrainian Institute of Apiculture and Lithuanian Apitherapists' Association. **Apitherapy and apiculture.** Vilnius, Lithuania; Ukrainian Institute of Apiculture and Lithuanian Apitherapists Association. (1993) 238 pp. [Ru, en, Bd]

This book contains the proceedings of a conference held in Palanga, Lithuania, in 1992. All the articles include short English summaries.

Revue Francaise d'Apiculture. **Apitherapy today.** [Aujourd'hui l'apitherapie.]. *Revue Francaise d'Apiculture* (1987) (No. 465, Supplement) 86 pp. [Fr, Bj]

This supplement to *Revue Francaise d'Apiculture* has 8 main sections: honey, pollen and royal jelly as dietetic foods; honey; pollen; propolis; royal jelly; bee venom; beeswax; associated products. Each section has 3 or 4 short articles, by various authors, describing composition, properties, analysis, uses, etc., and a number of contributions from research workers worldwide, grouped under the heading "Communications". There is also an article on the Apitherapy Commission of Apimondia. D.G. Lowe.

Soutra Hospital Archaeoethnopharmacological Research Project. **SHARP Practice 1. The first report on researches into the medieval hospital at Soutra, Lothian region.** Edinburgh, Scotland, UK; SHARP. (1986) 130 pp. ISBN 0-9511888-0-1 [En, Bdo]

SHARP has started an excavation in the Lothian region of Scotland at the site of a medieval hospital which was run by Augustinians. A geophysical survey has been made and the contents of one trench are being examined and evaluated

against contemporary documents. It is hoped to obtain information on medieval medical treatments, which often included honey and parts of plants. P. Walker.

Abed, L., Abed, M., and Louveaux, J. **Some honeys from Kashmir used in traditional medicine in India.** [A propos de quelques miels du Cachemire utilises en medecine traditionnelle aux Indes.]. *Annales Pharmaceutiques Francaises* (1983) **41** (3) 287-291 [Fr, en, B]

In India, certain honeys from Kashmir, particularly lotus and saffron honeys, are valued for their medicinal properties. Five retail samples labelled as lotus and/or saffron honey from Kashmir were examined. No samples contained pollen grains from lotus, *Nelumbium speciosum*, or saffron, *Crocus sativus*; the main pollens in 4 samples were from *Artemisia*, *Salvia* and *Rumex* species and the honeys were thus incorrectly labelled. The fifth honey was apparently not even from Kashmir. P. Walker.

Lab. Matiere Medicale et Pharmacologie, Inst. Pharmacie, Univ. d'Alger-Centre, Alger, Algeria.
India, Jammu and Kashmir.

Ali, A. F. M., El-Banby, M. A., and Sammour, M. B. **Honey treatment of pregnancy induced hypertension. Proceedings of the XXXth International Congress of Apiculture, Nagoya, 1985.** Nagoya, Japan; Apimondia. (1986) 425-428 [En, Bd]

Twenty patients with hypertension were prescribed 9 teaspoonfuls of honey per day (in water) for 10-21 days (mean 15.5 days). Blood pressure before treatment ranged from 140/90 to 160/100 mm Hg, with a mean of 147.75 mm Hg systolic and 98.50 mm Hg diastolic. After treatment, it ranged from 120 to 140 mm Hg systolic and from 70 to 90 mm Hg diastolic, with means of 126.25 and 84.5 mm Hg respectively. Before treatment, serum uric acid ranged from 5 to 9 mg/100 ml; after treatment it was from 4.0 to 6.25 mg/100 ml (mean 5.25 mg). Proteinuria and oedema were reduced, but did not disappear. D.G. Lowe.

Ali, A. T. M. M. **The pharmacological characterization and the scientific basis of the hidden miracles of honey.** *Saudi Medical Journal* (1989) **10** (3) 177-179 [En, ar, Ba]

Armstrong, S. and Otis, G. W. **The antibacterial properties of honey.** *Bee Culture* (1995) **123** (9) 500-502 [En, B]

O.B.P. Walker.

Although honey has been widely used in traditional remedies, there have been rather few clinical trials of its effectiveness. Honey is being used in a few hospitals, especially in the clinical treatment of ulcers, bedsores, burns, injuries and surgical wounds. Promising results in treating other conditions, e.g. bacterial corneal ulcers, have also been reported. The antibacterial properties of honey may be particularly useful against bacteria which have developed resistance to many antibiotics, e.g. *Staphylococcus aureus*, which is a major cause of wound sepsis in hospitals. The mechanisms of honey's antibacterial action are not yet fully understood, but the following seem to be involved: high sugar content, acidity, and (on dilution) release of hydrogen peroxide. In addition, certain organic

compounds may play an important part, as indicated by recent research on Apis cerana honey [not yet published].

Asis, M. **Propolis: the purple gold of honeybees.** [Propoleo: el oro purpura de las abejas.]. Havana, Cuba; Centro de Informacion y Documentacion Agropecuario. (1989) 255 pp. [Es, en\ ru, Bd]

Chapter 1 of this book deals briefly with hive products other than propolis <dash> honey, beeswax, pollen, royal jelly and bee venom. Chapter 2 describes the composition of propolis, the collection and use of propolis by honeybees, and the harvesting, storage and use of propolis by man. Chapter 3 gives a more detailed account of the biological characteristics of propolis and deals with the quality control of propolis extracts and propolis products. Russian, Hungarian, Bulgarian and Cuban standards on propolis are set out. The final chapter describes uses of propolis in medicine, agriculture and industry. Each chapter concludes with a bibliography, and in total there are 33 pages of references.

OBD. G. Lowe.

Centro de Informacion y Documentacion Agropecuario, Calle 13, Havana 12300, Cuba.

Attar, Z. **Honey <dash> an effective dental remedy.** *Indian Bee Journal* (1982) **44** (2) 48-50 [En, B]

Bankova, V., Popov, S., Bocari, G., and Haxhialushi, E. **Phenolics in Albanian poplar buds and their relationship to propolis.** *Fitoterapia* (1994) **65** (4) 326-330 [En, 19 ref.] Institute of Organic Chemistry with Centre of Phytochemistry, Bulgarian Academy of Sciences, Sofia 1113, Bulgaria.

Phenolic compounds in bud exudates of *Populus nigra* and *P. canadensis* <dash> collected in July from trees near Tirana <dash> was investigated, and compared with two samples of Albanian propolis, and with Bulgarian *P. nigra* bud exudates. Although the phenolic composition of poplar buds growing in Albania was different from that of propolis, the concentrations and structures of exudate phenols suggests that they may find useful application in medicinal products.

Bianchi, E. M. **The preparation of the tincture, the soft extract, the ointment, the soap and other propolis-based products.** *Apiacta* (1995) **30** (2; 3/4) 56-62;121-127 [En, B] Centro de Investigaciones Apicolas, Universidad Nacional de Santiago del Estero, Avda. Moreno (S) 577, 4200 Santiago del Estero, Argentina.

OBP. Walker.

The subjects covered include: origin, collection and use of propolis by bees, collection (by man) from the hive and storage, chemical composition, biological properties, medical uses and formulations, recipes for making propolis-based products, quality tests and possible contraindications (e.g. allergy).

Bodnarchuk, L. I., Kozhura, I. M., Kubaichuk, V. P., Yakimenko, D. M., and Peresichnii, M. I. **The effects of honey, pollen and some plant products on the health of people in areas of chronic radioactive pollution.** *Bdzhil'nitstvo* (1994) **21** 66-69 [Uk, ru, B] Institut Bdzhilnitstva im P. I. Prokolovicha UAAN, Kiev, Ukraine.

Bogachik, L. I., Vasil'eva, N. A., and Donich, N. S. **Correction of carbohydrate assimilation in patients with viral hepatitis.** *Vrachebnoe Delo* (1981) (No. 4) 121-122 [Ru,

Fifty patients with viral hepatitis were studied by means of bisubstrate loads which revealed the stimulating effect of curds on the assimilation of lactose, sucrose, glucose and fructose. Curd inhibited the assimilation of maltose. Combinations of curds with lactose (milk), sucrose (sugar), fructose (honey, fruit juices) and glucose are recommended for treating viral hepatitis.

Ternopol Med. Inst., Ternopol, USSR.

Borgia, M., Sepe, N., Brancato, V., Simone, P., Costa, G., and Borgia, R. **Efficacy and tolerability of a dietary preparation containing honey, royal jelly and ginseng in a group of patients with chronic tuberculosis.** [Efficacia e tollerabilita di un preparato a base di miele, pappa reale e ginseng in un gruppo di pazienti affette da tubercolosi cronica.]. *Clinica Dietologica* (1984) **11** 443-447 [It, en, Bb]

Fourteen patients who were being treated by normal methods were also given (2<minus>3 times daily) 10 ml of a preparation containing 2.58 g honey, 0.35 g royal jelly and 0.58 g alcoholic extract of ginseng. After 30 days' treatment there was a significant increase in patients' body weights and an improvement in their psychophysical condition, but there was no significant change in 13 chemical characteristics of blood samples taken from them.P. Walker.

Ospedale Specializzato Provinciale, 'M.O. Locatelli' Groppino, 24020 Piario (BG), Italy.

Borum, T. **Management of decubital ulcers with the topical application of raw honey.** *Wisconsin Badger Bee* (1986) (November) 2 [En, Bj]

Cheng, P. C. and Wong, G. **Honey bee propolis: prospects in medicine.** *Bee World* (1996) **77** (1) 8-15 [En, Bj] Department of Entomology, University of California, Davis, CA 95616, USA.

0BD. G. Lowe.

The antibacterial, antifungal, antiviral and anti-tumour effects of propolis and its components, especially flavonoids and caffeic acid phenethyl ester (CAPE), are reviewed, with 22 references. It is emphasized that the composition of propolis varies depending on the season and the botanical sources from which the bees have collected resins, and that only by identifying individual components and their mode of action can progress be made in the use of propolis in scientific medicine.

Cherbuliez, T. **Bee venom in treatment of chronic diseases. Bee products: properties, applications, and apitherapy [edited by Mizrahi, A.; Lensky, Y.].** New York, USA; Plenum Publishing Corporation. (1997) 213-220 ISBN 0-306-45502-1 [En, Bd] 1209 Post Road, Scarsdale, NY 10583, USA.

Croft, L. **Honey and health.** Wellingborough, UK; Thorsons Publishing. (1987) 111 pp. ISBN 0-7225-1389-5 [En, Bd]

Popular account of the composition, varieties, antibiotic properties and

medicinal uses of honey.

Croft, L. R. **Honey and hay fever: a report on the treatment of hay fever with honey.** Salford, UK; L. R. Croft. (1990) 35 pp. ISBN 0-9515499-0-1 [En, Bd] Dept. Biological Sci., Univ. Salford, Salford M5 4WT, UK.

The belief that certain types of honey may protect against and even cure hay fever is discussed, and the causes of hay fever and conventional methods of its treatment are described. A number of anecdotal findings are presented. Finally, an account of a small clinical trial involving 21 patients known to suffer from hay fever is given. The patients were advised to eat 10<minus>20 g of honey each day for a period lasting from autumn 1987 up to and through the following hay fever season. In some instances honey comb cappings were also eaten. The patients filled in detailed reports on any symptoms experienced during the trial and these are summarized in a table. The mean age of the 16 patients who reported beneficial effects was 42.6 years, compared with 33.2 years for those who reported no benefit. The patients who reported benefit had suffered from hay fever for longer (average 24.8 years) than the other 5 patients (17 years). The results of the trial and possible faults in procedure are discussed.

OBD. G. Lowe.

Cueto, D. J. del. **'Apitoxin' [bee venom]: a defence weapon for the honey bee and for human health.** [Apitoxina. Un arma defensiva para la abeja y la salud del hombre.]. *Vida Apicola* (1995) (No. 69) 54-60 [Es, Bj]

OBP. Walker.

The composition of honey bee venom is given, and the pharmacological properties of various fractions are described. Studies on the effects of venom and its fractions on animals are reported. Finally, applications in human medicine are discussed.

Descottes. **On the hive in the hospital: or the use of honey in the care unit.** [De la ruche a l'hopital: ou l'utilisation du miel dans l'unite de soins.]. *Abeille de France et l'Apiculteur* (1990) (No. 754) 459-460 [Fr, Bj]

Describes a case history in which an abdominal wound healed more rapidly when treated with honey.

Donadieu, Y. **Honey in natural therapeutics.** Paris, France; Maloine Editeur S.A. (1983) (Ed. 2) 48 pp. ISBN 2-224-00902-7 [En, B]

Dumronglert, E. **A follow-up study of chronic wound healing dressing with pure natural honey.** *Journal of the National Research Council of Thailand* (1983) **15** (2) 39-66 [En, th, Bc]

At a hospital in Thailand, chronic or infected wounds on 20 patients were dressed twice daily with honey and were then assessed every 7 days. In 1 patient healing was complete in 7 days; in 4 patients healing took up to 14 days; in 3 patients up to 21 days; in 4 patients up to 28 days; in 1 patient 38 days. The remaining 7 patients were discharged with unhealed wounds after 21<minus>38 days. The microorganism most commonly found in the wounds was

Staphylococcus (coagulase positive). The number of microorganisms and the number of species decreased during treatment; some had gone after 14 days and all had decreased by 50<minus>100% after 35 days.P. Walker.

Fac. Medicine, Mahidol Univ., Bangkok 10700, Thailand.

Dustmann, J. H. **Honey, quality and its control.** *American Bee Journal* (1993) **133** (9) 648-651 [En, Bj] Nieders. Landesinstitut fur Bienenkunde, Celle, Germany.
OBP. Walker.

The criteria that have to be fulfilled by a good quality honey are listed, and possible ways of evaluating these are discussed. References are given to some beneficial effects of honey in human nutrition and medicine that have been scientifically proved. The use of pollen analysis in establishing the botanical source(s) of a honey is discussed.

Ebel, G. **Health from the bee pharmacy. Bee products <dash> their natural 'vital power' and curative effect.** [Gesundheit aus der Bienen-Apotheke: Bienenprodukte <dash> ihre naturolische Vitalkraft und Heilwirkung.]. Geneva, Switzerland; Ariston Verlag. (1994) (Ed. 2) 222 pp. ISBN 3-7205-1796-9 [De, Bd]

OBP. Walker.

This book gives much practical information on the use of hive products in apitherapy, including detailed instructions for making and using various formulations. An earlier edition was published in 1988 as part of a book entitled Bienensegen. The book includes a short reading list, a list of useful addresses and a subject index.

Efem, S. E. E. **Clinical observations on the wound healing properties of honey.** *British Journal of Surgery* (1988) **75** 679-681 [En, Bc]

Fifty-nine patients with wounds and ulcers, most of which (80%) had failed to respond to conventional treatments, were treated with daily applications of 15<minus>30 ml of fresh honey taken from hives. One case, diagnosed as a Buruli ulcer, failed to respond but the other 58 cases showed remarkable improvement. Wounds that were sterile at the outset remained sterile until healed, whilst infected wounds and ulcers became sterile within 1 week of applications of honey. The 8 types of bacteria isolated from these wounds were all susceptible to honey in laboratory tests, but Mycobacterium ulcerans, isolated from the Buruli ulcer, was not. Necrotic tissues were gradually replaced by healthy granulation tissue, and honey also promoted rapid epithelialization and absorption of oedema. Foul-smelling wounds were rendered odourless within 1 week of treatment with honey and early burn wounds healed quickly and were not colonized by bacteria. No allergies or other adverse reactions were observed. It is concluded that honey is an ideal dressing agent for almost every type of wound or ulcer except those infected by mycobacteria.

0BD. G. Lowe.

Dept. Surgery, Univ. Teaching Hospital, Calabar, Nigeria.

Efem, S. E. E. **Recent advances in the management of Fournier's gangrene;**

preliminary observations. *Surgery* (1993) **113** (2) 200-204 [En, Bb] University Department of Surgery, University Teaching Hospital, Calabar, Nigeria.

OB Author.

Twenty cases of Fournier's gangrene managed conservatively with systemic antibiotics and topical application of unprocessed honey (group A) were compared with 21 similar cases managed by the orthodox method (group B) during the same period. Group A received oral amoxicillin/clavulanic acid and metronidazole in addition to daily topical application of honey to the gangrenous scrotum, whereas group B underwent wound debridement, wound excision, secondary suturing, and in some cases scrotal plastic reconstruction in addition to receiving a mixture of systemic antibiotics dictated by culture and sensitivity results. The organisms cultured in both groups were similar. Even though the average duration of hospitalization was slightly longer in group A (4.5 weeks) as opposed to group B (4 weeks), topical application of honey showed distinct advantages over the orthodox method. Three deaths occurred in group B, whereas no deaths occurred in group A. The need for anaesthesia and expensive surgical operation was obviated. Response to treatment and alleviation of morbidity were faster in group A. Honey may therefore revolutionize the treatment of this disease.

Efem, S. E. E., Udoh, K. T., and Iwara, C. I. **The antimicrobial spectrum of honey and its clinical significance.** *Infection* (1992) **20** (4) 227-229 [En, de, Bc] University Department of Surgery, University Teaching Hospital, Calabar, Nigeria.

OB Author.

The antimicrobial spectrum of honey was investigated by placing two drops into each of the wells made on culture media on which pure cultures of various organisms obtained from surgical specimens were grown. The organisms were grown under both aerobic and anaerobic environments. Fungal cultures of common fungi causing surgical infections or wound contaminations were mixed with 100, 50 and 20% unprocessed honey. Growth inhibition was complete in the media containing 100%, partial in media containing 50% and no inhibition was produced by 20% honey. Unprocessed honey inhibited most of the fungi and bacteria causing wound infection and surgical infection except *Pseudomonas aeruginosa* and *Clostridium oedematiens*. Apart from *Streptococcus pyogenes*, which is only moderately inhibited, golden syrup, a sugar syrup with similar physical properties as honey, did not inhibit any of the bacteria or fungi tested, demonstrating that honey is superior to any hypertonic sugar solution in antimicrobial activity. Honey is thus an ideal topical wound dressing agent in surgical infections, burns and wound infections.

El-Banby, M. A. **Honeybees in the Koran and in medicine.** Cairo, Egypt; Al-Ahram Centre for Translation & Publishing. (1987) (Ed. 2) 205 pp. ISBN 977-157-019-6 [Ar, Bd]

Medicinal properties of honey and other hive products.

Erhard, M., Kellner, J., Wild, J., Losch, U., and Hatiboglu, F. S. **Effect of Echinacea, Aconitum, Lachesis and Apis extracts, and their combinations on phagocytosis of human granulocytes.** *Phytotherapy Research* (1994) **8** (1) 14-17

[En, 11 ref.] Institut für Physiologie, Physiologische Chemie und Ernährungsphysiologie, Tierärztliche Fakultät, Universität München, Munich, Germany.

The effect of extracts of *E. angustifolia*, *Aconitum napellus*, *Lachesis muta*, *Apis mellifica* [*A. mellifera*], and their combination product, Influx (Steigerwald, Germany), on human granulocyte phagocytosis was investigated and compared with that of the known immunostimulators, vitamin C [ascorbic acid] and lipopolysaccharide. Vitamin C, lipopolysaccharide, and the extract of *E. angustifolia* enhanced phagocytosis rate. The remaining extracts, alone, were not able to stimulate phagocytosis, but showed an enhancement effect when combined with one another or with *E. angustifolia*.

Farouk, A., Hassan, T., Kashif, H., Khalid, S. A., Mutawali, I., and Wadi, M. **Studies on Sudanese bee honey: laboratory and clinical evaluation.** *International Journal of Crude Drug Research* (1988) **26** (3) 161-168 [En, Ba]

Fifteen samples of unprocessed honey were obtained from several localities in Sudan. In vitro tests, all honeys showed strong inhibitory effects on 2 Gram-positive and 3 Gram-negative strains of microorganisms, and also on 12 clinical isolates of *Pseudomonas* and *Staphylococcus*. In clinical tests, daily application of honey to septic wounds, chronic ulcers and pyogenic abscesses gave favourable results, including cleanliness of wounds, growth of healthy granulation tissue and prompt graft-taking. Advantages of using honey instead of conventional antibiotics are outlined.

OBP. Walker.

Department of Microbiology, Faculty of Pharmacy, University of Khartoum, Khartoum, Sudan.

Feraboli, F. **Apitherapy in orthopaedic diseases. Bee products: properties, applications, and apitherapy [edited by Mizrahi, A.; Lensky, Y.]**. New York, USA; Plenum Publishing Corporation. (1997) 221-225 ISBN 0-306-45502-1 [En, Bd] Orthopaedic and Traumatologic Department, Ospedale Civile di Cremona, Cremona, Italy.

Fichtl, R. and Adi, A. **Honeybee flora of Ethiopia.** Weikersheim, Germany; Margraf Verlag. (1994) 510 pp. ISBN 3-8236-1234-4 [En, 80 ref., many col. pl., 1 map] Bohmerbrunnenstrasse 2, 92345 Dietfurt, Germany.

Following a section on beekeeping in Ethiopia, this book is divided into 2 main parts: 400 herbs and shrubs for bees; and 100 trees for bees. Each of these sections is arranged in alphabetical family, genus and species order. The 500 species (the complete flora of Ethiopia has 6000-7000 species) have been chosen to show the wide range of plants in Ethiopia which are important to bees. Some of the herbs and shrubs might be considered weeds, but this book shows that many of these species are important, not just for honey bees but also for their other uses. For each species there is a brief description (slightly longer for the tree species) which includes information on flower colour, fragrance, honey bee associations and any economic or local uses of the plant, such as medicinal properties, timber, fencing, edible fruits, forage, etc. Each species is illustrated by a colour

photograph (2 per species in the tree section). Common names in English and German, as well as local names (there are more than 70 languages and 200 dialects in Ethiopia), are included. The rest of the book consists of short sections on honeydew and tej (a local honey beer), general descriptions of each of the plant families which occur in the book, a glossary of some botanical and Ethiopian terms, a bibliography and an index of Ethiopian names.

Haffejee, I. E. and Moosa, A. **Honey in the treatment of infantile gastroenteritis.** *British Medical Journal* (1985) **290** 1866-1867 [En, B]

Infants and children with gastroenteritis were treated with an oral rehydration solution containing 50 ml honey per litre, plus electrolytes. The standard recommended oral rehydration solution used for a control group contained 20 g glucose/litre instead of honey. In the test group, bacterial diarrhoea did not last as long and non-bacterial diarrhoea was not prolonged. It was concluded that honey could be used as a substitute for glucose in oral rehydration solutions, as long as the correct concentration is used, and the solution contains electrolytes. P. Walker.

Dept. Paediatrics and Child Health, Fac. Medicine, Univ. Natal, Durban, South Africa.

Hamdy, M. H., El-Banby, M. A., Khakifa, K. I., Gad, E. M., and Hassanein, E. M. **The antimicrobial effect of honey in the management of septic wounds.** *Proceedings of the Fourth International Conference on Apiculture in Tropical Climates, Cairo, Egypt, 6-10 November 1988.* London, UK; International Bee Research Association. (1989) 61-67 ISBN 0-86098-196-7 [En, Bdo]

Fifty patients with superficial septic wounds were divided into 2 groups to be treated with either honey or Savlon antiseptic (cetrimide 15%, chlorhexidine gluconate 1.5%). The average time for the wounds to be cleared of infection was 5.8 \pm 1.35 days using honey, and 7.1 \pm 1.61 days using Savlon. Honey cleared 60% of treated wounds in 6 days, whereas Savlon cleared only 36% of wounds within the same period. The bacteria isolated from the wounds were Proteus, staphylococci, coliform bacteria, enterococci, Escherichia coli, Haemophilus, Pseudomonas and Klebsiella. Proteus spp. formed 52% of bacteria isolated. After dressing with honey, 60% of wounds infected with Proteus were cleared of infection after 3-6 days, but only 44% of wounds treated with Savlon.

OBD. G. Lowe.

Fac. Medicine, Suez Canal Univ., Ismaeleya, Egypt.

Herold, E. **Healing substances from bees.** [Heilwerte aus dem Bienenvolk.]. Munich, German Federal Republic; Ehrenwirth Verlag. (1985) (Ed. 10) 224 pp. ISBN 3-431-02287-1 [De, B]

First edition was AA 1042/71.

Jeanne, F. **Propolis. Source, characteristics and composition [technical leaflet 3 5 10].** [La propolis. Origine, nature et composition [fiche technique 3 5 10].]. *Bulletin*

Technique Apicole (1996) **23** (1) 39-42 [Fr, Bj] Centre Apicole, F-61370 Echauffour, France.

Jeffrey, A. E. and Echazarreta, C. M. **Medical uses of honey.** *Revista Biomedica* (1996) **7** (1) 43-49 [En, es, Bc] Facultad de Medicina Veterinaria y Zootecnia, Universidad Autonoma de Yucatan, Merida, Yucatan, Mexico.

OBAuthor.

This review, with 46 references, deals with uses of honey in the treatment of human disorders which have been supported by clinical tests and reported in medical journals. The aspects discussed include: composition of honey; antibacterial properties of honey; the effects of honey on gastroenteritis, gastric ulcers, wound healing and diabetes.

Kaal, J. **Natural medicine from honey bees (apitherapy).** Amsterdam, Netherlands; Kaal's Printing House. (1991) 93 pp. ISBN 90-9004522-8 [En, Bd]

This book was first published in the Netherlands under the title *Apitherapie* (1987). It contains separate chapters on propolis, bee venom, royal jelly, pollen and honey, giving for each details of their composition and applications. Each chapter also has summaries of selected research investigations on that particular substance. There is also a chapter on Apilarnil and Apilarnilprop, which are patented products of Romanian origin. Apilarnil is produced from drone honey bee larvae and the food provided for them, processed, lyophilized and made into tablets. When supplemented with propolis powder the product is called Apilarnilprop. There is a list of publications cited, a bibliography, a general subject index and indexes of chemical names, pathogens, and authors.

OBD. G. Lowe.

Kaegi, C. **Honey for healing.** [Heilmittel Honig.]. *Schweizerische Bienen-Zeitung* (1995) **118** (10) 590-592 [De, Bj] Redaktion Treffpunkt, Burgerspital, 4500 Solothurn, Switzerland.

OBP. Walker.

At this hospital in Solothurn, Switzerland, honey has been successfully used in the treatment of leg ulcers, decubitus sores (pressure wounds), furuncles, abscesses, fistulas, etc. Some examples, including treatment of chronic wounds, are described, with photographs. Honeydew honey was used in the treatments because its low pollen content reduces the risk of pollen-allergic reactions.

Kim, C. M. **Bee venom therapy for arthritis.** *Rhumatologie* (1989) **41** (3) 67-72 [En, fr, Bc]

A total of 108 patients with a long-standing history of arthritis who had failed to respond to conventional medical treatment were used as subjects. All subjects were tested for possible allergic reaction before the initial treatment. At the start of treatment a dose of 0.1 ml honey bee venom (equivalent to one bee sting) was injected intradermally twice a week. The number of injections was increased gradually with each subsequent treatment until clinical evaluation showed the arthritic condition to be markedly improved or completely resolved.

Pain was initially the most common problem in subjects, followed by swelling and reduced joint mobility. Most subjects showed slight improvements of these symptoms after the third treatment and a marked improvement, on average, after the twelfth treatment. No clinical complications or serious side effects were observed in any of the subjects. It is concluded that bee venom therapy is safe and effective as long as the patient is not allergic to bee venom.

OBD. G. Lowe.

Monmouth Pain Inst. Inc., Red Bank, NJ 07701, USA.

0B04901031\1C06001159 Komolafe, K. **Medicinal value of honey in Nigeria. Perspectives for honey production in the tropics: proceedings of the NECTAR symposium held in Utrecht, 18 December 1995** [edited by Sommeijer, M. J.; Beetsma, J.; Boot, W.-J.; Robberts, E.-J.; Vries, R. de]. Bennekom, Netherlands; Netherlands Expertise Centre for Tropical Apicultural Resources. (1997) 139-148 ISBN 90-801204-3-X [En, Bd]

0B04901068 Kuthan, F. **Bee venom treatment of rheumatic disorders.** *Bee Informed* (1996/1997) **3;4** (4;1) 4-5, 14-15;4-5 [En, Bj]

OBP. Walker.

Patients received, at 5-7-day intervals, 2-18 intradermal injections of Virapin, a preparation containing 2 mg/ml of 'apitoxin' [defined as a product of "2 glands connected with the poison sac of the bee"]. Effects were assessed on a scale of 4, of which grade 1 was 'disappearance of symptoms' and grade 2 was 'marked improvement' for at least 2 months. These grades were obtained for 19 of 71 patients with rheumatoid arthritis, and for about half the patients with osteoarthritis (total, 58 treated), peri-arthritis of the shoulder (40), or sciatica etc. (25). In 50 patients with para-articular or extra-articular rheumatism, 41 achieved grade 1 or 2. Results are compared with those obtained by injection with hydrocortisone acetate, or with this plus Virapin. In many cases the combined treatment gave the best results.

Lakin, A. **Royal jelly and its efficacy.** *International Journal of Alternative and Complementary Medicine* (1993) **11** (10) 19-22 [En, Bc] Department of Food Science and Technology, University of Reading, Reading, UK.

OBD. G. Lowe.

This review, with 66 references, collates and interprets published information relating to the properties and therapeutic uses of royal jelly. It describes the secretion of royal jelly by nurse honey bees (*Apis* spp.), its chemical composition, specific biological effects (such as antibacterial activity, anti-tumour effects), physiological and pharmacological effects on experimental animals, and therapeutic uses. The value of royal jelly as a health food is discussed and it is pointed out that many of the accounts of the effects of royal jelly on humans relate to 'one-off' case histories and not to clinical trials. Further evidence from carefully monitored trials is needed before the efficacy of royal jelly as a therapeutic agent can be properly evaluated.

Lavingia, B. **Honey-dextran medium in preservation of cornea.** *Indian Bee Journal*

(1982) **44** (1) 7-8 [En, B]

Human corneas remained usable for 5<minus>6 days when kept at <minus> 76<degrees>C in a 3:1 mixture of 90% honey and 5% dextran.

Loubet de l'Hoste, E. and Crivelli, A. **The bee in the service of health.** [L'ape al servizio della salute.]. Parma, Italy; Casa Editrice Maccari. (1982) (Ed.2) 175 pp. [It, B]

Translation of second part of La biruche (Ed. 4), the first edition of which was AA 419/59; corrected, revised and enlarged by the second author.

Mizrahi, A. and Lensky, Y. Editors. **Bee products: properties, applications, and apitherapy.** New York, USA; Plenum Publishing Corporation. (1997) xi + 269 pp. ISBN 0-306-45502-1 [En, Bd]

0BIndividual chapters are abstracted separately in this issue of Apicultural Abstracts.\0BD. G. Lowe.

This book contains 31 chapters based on selected contributions presented at a conference held in Tel-Aviv, Israel, on 26-30 May 1996. They cover a wide variety of aspects of hive products (honey, beeswax, pollen, propolis, royal jelly, venom) including production, composition, quality, uses in medicine, uses in food processing and analytical methods. The book, which includes a subject index, will be of interest to beekeepers, entomologists, physicians and food producers.

Mladenov, S. **Bee products and medicine.** [Pchelnite produktikhрана i lekarstvo.]. Sofia, Bulgaria; Meditzina i Fizkultura. (1989) (Ed. 2) 151 pp. [Bg, Bd]

Mladenov, S. and Mladenova, D. **New apitherapeutic methods for the treatment of certain non-specific acute and chronic diseases of the respiratory organs. Proceedings of the XXXth International Congress of Apiculture, Nagoya, 1985.** Nagoya, Japan; Apimondia. (1986) 453-454 [En, Bd]

Various methods of applying honey.

Molan, P. **The antibacterial activity of honey.** Cardiff, UK; IBRA. *Reprint, International Bee Research Association* (1992) (No. M124) 42 pp. ISBN 0-86098-207-6 [En, Ba] Department of Biological Sciences, University of Waikato, Private Bag 3105, Hamilton, New Zealand.

0BSee AA 999, 1001/92.\0BD. G. Lowe.

This is a reprint of a 2-part review which was published in *Bee World* (1992).

Molan, P. C. **The antibacterial activity of honey. 1. The nature of the antibacterial activity.** *Bee World* (1992) **73** (1) 5-28 [En, Bj]

The first part of this 2-part review deals with historical aspects of the medicinal uses of honey, published reports of the antimicrobial activity of honey, microorganisms that have been found susceptible (summarized in a table), and explanations of the antibacterial activity of honey (osmotic effect, acidity, hydrogen peroxide, other factors).

0BD. G. Lowe.

Department of Biological Sciences, University of Waikato, Private Bag 3105,

Hamilton, New Zealand.

Molan, P. C. **The antibacterial activity of honey. 2. Variation in the potency of the antibacterial activity.** *Bee World* (1992) **73** (2) 59-76 [En, Bj]

This is the concluding part of a 2-part review, the first part of which was published in *Bee World* (1992) **73** (1) 5-28. This part discusses the variation in the antibacterial activity of honey that has been reported, particularly its association with floral source and the level of hydrogen peroxide produced by glucose oxidase in honey. The question of whether honey is bactericidal or bacteriostatic is also discussed. Factors which affect the stability of honey's antibacterial activity include its exposure to heat and light, which can inactivate the glucose oxidase. Some honeys contain substances which destroy the hydrogen peroxide produced by this enzyme. Some non-peroxide antibacterial factors are also light-sensitive. It is concluded that the number of variable factors involved make it impossible to predict with any certainty that any particular honey will have a high antibacterial activity. Honey intended for medical use should be assayed for antibacterial activity and consideration should be given to the way that it is processed. Exposure to heat and light should be avoided. The use of certain filtration aids may also decrease the level of glucose oxidase. The review ends with a list of 135 references.

OBD. G. Lowe.

Department of Biological Sciences, University of Waikato, Private Bag 3105, Hamilton, New Zealand.

Molan, P. C. **Honey as an antimicrobial agent. Bee products: properties, applications, and apitherapy [edited by Mizrahi, A.; Lensky, Y.].** New York, USA; Plenum Publishing Corporation. (1997) 27-37 ISBN 0-306-45502-1 [En, Bd] Honey Research Unit, Department of Biological Sciences, University of Waikato, Hamilton, New Zealand.

OBP. Walker.

The mechanisms involved in the antibacterial effects of honey are explained, and possible reasons for differences in the activities of different honeys are discussed. Reported and potential uses of honey as an antimicrobial agent are considered in turn: as antiseptic dressing; in the treatment of mastitis (in dairy animals); in the treatment of peptic ulcers, gastroenteritis and tinea in humans.

Molan, P. C. **Selection of honey for medical use.** *New Zealand Beekeeper* (1985) (No. 188) 29-30 [En, B]

Munstedt, K. and Lang, U. **Honey's wound healing properties.** *American Bee Journal* (1997) **137** (4) 296-297 [En, Bj] Department of Obstetrics and Gynecology, University of Giessen, Klinikstr. 32, 35392 Giessen, Germany.

OBP. Walker.

This literature survey cites 19 references which have reported the effectiveness of honey in healing wounds. The encouraging results of some clinical trials suggest that more work should be done on this medicinal property of honey.

Nardi, U. **Apitherapy**. [Apiterapia.]. Rome, Italy; Aporie Edizioni. (1992) 191 pp. ISBN 88-85192-11-4 [It, Bd]

OBD. G. Lowe.

The uses of honey, bee-collected pollen, propolis, royal jelly, beeswax and honey bee venom in the treatment of a variety of diseases and disorders are described.

Nowottnick, K. **Propolis: production, use, recipes**. [Propolis: gewinnung <dash> anwendung <dash> rezepte.]. Graz, Austria; Leopold Stocker Verlag. (1993) 100 pp. ISBN 3-7020-0653-2 [De, Bd]

OBP. Walker.

The introductory sections of this book include information on the history of propolis, the collection of propolis by bees and its composition. Part 3 describes several methods for producing propolis. Part 4 discusses its use in the treatment of various disorders and Part 5 gives formulas. The book is illustrated with clear colour photographs and line drawings, and there is a bibliography of 57 items.

Pecchiai, L. **Honey for health today**. [Il miele per la salute di oggi.]. Milan, Italy; Studio Edizioni. (1982) 80 pp. [It, B]

Pereira, P. C. M., Barraviera, B., Burini, R. C., Soares, A. M. V. C., and Bertani, M. A. **Use of honey as nutritional and therapeutic supplement in the treatment of infectious diseases**. *Journal of Venomous Animals and Toxins* (1995) **1** (2) 87-88 [En, 8 ref.] Department of Tropical Diseases of the School of Medicine of Botucatu <dash> UNESP, State of Sao Paulo, Brazil.

Preliminary results of a trial of the use of honey as a nutritional and therapeutic supplement for patients with lung conditions are presented. 5 individuals with paracoccidiomycosis and 2 with tuberculosis each received 1 g of honey per kg body wt for 20 days, after which they had gained an average of 3.3 kg.

Postmes, T. **Honey dressings for burns <dash> a two-way approach**. Maastricht, Netherlands; T. Postmes. (1995) (Ed. 2) 81 pp. [En, nl, Bdo] Department of Internal Medicine, Academic Hospital Maastricht, NL-6200 MD Maastricht, Netherlands.

OBP. Walker.

This is a literature survey with almost 200 references. The physiological process of wound healing is examined and various honey and sugar treatments are assessed. It is recommended that pure honey is applied for the first 10 days, followed by a preparation of honey mixed with plant extracts, such as those which have been used in China. Three papers by the author are reprinted here.

Postmes, T. J., Bosch, M. M. C., Dutrieux, R., Baare, J. van, and Hoekstra, M. J. **Speeding up the healing of burns with honey: an experimental study with histological assessment of wound biopsies. Bee products: properties, applications, and apitherapy** [edited by Mizrahi, A.; Lensky, Y.]. New York,

USA; Plenum Publishing Corporation. (1997) 57-63 ISBN 0-306-45502-1 [En, Bd] Department of Internal Medicine, Academic Hospital, Maastricht, Netherlands.

OBP. Walker.

Deep dermal burns made experimentally on pigs' flanks were treated with (A) silver sulfadiazine, (B) honey of known antibacterial activity, or (C) sugar paste. Wounds treated with A were fully epithelialized after 28-35 days whereas those treated with B or C were closed within 21 days. In 5 out of 6 wounds, C caused a thicker neodermis than B did. At day 21, honey-treated wounds were characterized microscopically by a quiet granulation tissue, inconspicuous inflammation and a decrease of active staining of myofibroblasts. It is concluded that honey gave the best results.

Postmes, T., Bogaard, A. E. van den, and Hazen, M. **Honey for wounds, ulcers, and skin graft preservation.** *Lancet (British edition)* (1993) **341** (8847) 756-757 [En, Bc] Department of Internal Medicine, Academic Hospital Maastricht, 6200 MD Maastricht, Netherlands.

OBJ. M. Gedye.

The bactericidal qualities of honeys at different concentrations from 20% to 4% wt/wt were tested by an agar dilution method. A lime honey concentration of 8% was bactericidal for *Staphylococcus aureus*, *Pseudomonas aeruginosa* and *Escherichia coli*; 12% was effective against *Streptococcus faecalis*. Similar results (8% and 12%, respectively) were obtained with *Clostridium botulinum* and *C. perfringens*. Fruit tree and acacia honey were less effective and a commercial clover-lime honey had no effect. Lime honey was found to be contaminated with *C. perfringens* and *Bacillus* spp. Irradiation rendered the samples sterile without affecting the antibacterial activity.

Potschinkova, P. **Bee products in medicine.** [Bienenprodukte in der Medizin.]. Munich, Germany; Ehrenwirth Verlag. (1992) 176 pp. ISBN 3-431-03247-8 [De, Bd]

OBSee AA 996/92.

This is a translation into German of a book titled *Pchelnite produkti v meditsinata*, published in Bulgaria in 1986.

Quddus, A. S. M. R. **Natural honey prevents indomethacin- and ethanol-induced lesions in rats.** [[Correspondence.]. *Saudi Medical Journal* (1992) **13** (5) 464 [En, 6 ref.] Hospital Izeh, PO Box 177, Khujistan, Iran.

Following the paper by A.T.M. Mobarok Ali et al. (*Saudi Medical Journal*, 11: 275 (1990)) on the effect of honey on experimental gastric ulceration, it is stated that honey has been used for its healing properties, on the Indian subcontinent, for very many years. The sucrose of honey contains sucralfate which has the same efficacy as cimetidine for healing duodenal ulcers. Dr Mobarok Ali replies stating that he cannot agree with the comment that the anti-ulcerogenic action of honey is due to sucralfate unless and until this is proven.

Riches, H. R. C. **Honey and hay fever.** *Bee Craft* (1987) **69** (8) 12 [En, Bj]

It has been claimed that regular consumption of 'natural' honey alleviates

the effects of hay fever and pollen asthma because the pollen grains in the honey cause the body to develop an immunity. However, prolonged and careful monitoring of many patients would be necessary to provide scientific evidence. It is pointed out that although hay fever can be prevented by a course of injections of pollen extract, the same immunological response cannot be achieved by taking pollen by mouth. P. Walker.

Rieder, K. **Wound treatment with honey.** [Wundbehandlung mit Honig.]. *Schweizerische Bienen-Zeitung* (1995) **118** (10) 579 [De, Bj] 4712 Laupersdorf, Switzerland.

This short letter, with 3 photographs, describes how honey promoted healing when applied to various types of wounds, ulcers and abscesses.

Sabatier, S., Amiot, M.-J., Aubert, S., Tacchini, M., and Gonnet, M. **Importance of flavonoids in sunflower honeys.** [Importance des flavonoides dans les miels de tournesol.]. *Bulletin Technique Apicole* (1988) **15** (3) 171-178 [Fr, Bj]

Large quantities of sunflower (*Helianthus annuus*) honey are produced in France, and its high content of flavonoids makes it a useful material for the food and pharmaceutical industries. Phenolic compounds were extracted from 44 samples of French sunflower honey with ethyl acetate and HPLC was used to analyse the extracts for flavonoids. The compounds identified were mainly flavanones with characteristics close to those of naringenin. They are comparable to certain substances with medicinal properties that have been isolated from propolis. Some flavones, flavonols and isoflavones were also detected. Author.

Inst. Technique de l'Apiculture, "La Guyonnerie" , 91440 Bures-sur-Yvette, France.

Sala-Llinares, A. **Beekeeping and phytotherapy: use of beekeeping products in various phytotherapeutic formations.** [Apicultura y fitoterapia. Utilizacion de los productos apicolos en diversas formulas fitoterapeuticas.]. *Vida Apicola* (1995) (No. 70) 12-16 [Es, Bj] Departamento de Productos Naturales, Biologia Vegetale Sanitaria y Edafologia, Universidad de Barcelona, Barcelona, Spain. OBP. Walker.

Some unifloral honeys are thought to have the same therapeutic or medicinal properties as the plants from which they come. Examples are the honeys from citrus trees, heather, eucalyptus, rosemary and holm oak. Several commercial formulations are given which include 10-50% of honey. Therapeutic properties of pollen, royal jelly and propolis are also discussed, and formulations are given.

Salem, S. N. **Honey regimen in gastrointestinal disorders.** *Bulletin of Islamic Medicine* (1981) **1** 358-362 [En, B]

Forty-five patients suffering from upper gastrointestinal dyspepsia, including peptic ulceration, were placed on a bland diet and given 30 ml of honey 3 times a day before meals. Clinically, two-thirds of the patients recovered and another 7 were relieved. Anaemia was corrected in more than half the patients and none showed haemoglobin percentages below 50%. J.M. Gedye.

Shkeir, S. D. **New beekeeping and the importance of honey in diet and therapy.** Damascus, Syrian Arab Republic; Sharika Mutahida Liltawzi. (1985) 500 pp. [Ar, B]

Syria.

Simics, M. **Bee venom collection for medical use.** *Canadian Beekeeping* (1995) **18** (6) 140 [En, B]

OBP. Walker.

A modern collector frame is described, which is placed on top of the frames in a hive. When collectors have been put in each hive, 20-40 are connected together and electric impulses are passed through for 30 min. The venom, which is scraped from the device in dried form, is claimed to be uncontaminated. Colonies are relatively unaffected by the procedure; an observation during the collection period showed that, on average, 68 bees died per colony.

Simics, M. **A review of bee venom collecting and more.** Calgary, Canada; Apitronic Services. (1994) (Ed. 2) 44 pp. [En, Bd] Apitronic Services, 1331-15th Ave. SW., Calgary, Alberta T3C 0X8, Canada.

OBD. G. Lowe.

Part 1 of this booklet briefly describes the characteristics of honey bee (*Apis mellifera*) venom and the various electrical collecting devices which have been developed to collect it. Advice is given on the technique of venom collection and the effects on the bees are discussed. Part 2 is concerned with the quality and composition of bee venom, its use in medicine and venom-containing products, including homeopathic medicines, which are available commercially. The final part describes devices and publications available from the publisher, and publications by other authors. A literature list of 28 references is included.

OB04900998 Sommeijer, M. J., Beetsma, J., Boot, W.-J., Robberts, E.-J., and Vries, R. de Editors. **Perspectives for honey production in the tropics: proceedings of the NECTAR symposium held in Utrecht, 18 December 1995.** Bennekom, Netherlands; Netherlands Expertise Centre for Tropical Apicultural Resources. (1997) 214 pp. ISBN 90-801204-3-X [En, Bd]

OBIndividual articles are abstracted separately in this issue of Apicultural Abstracts.\OBD. G. Lowe.

The aim of this symposium was to bring together existing information on the main aspects of honey production, processing, quality and marketing in the tropics. The proceedings contain an introductory chapter by M. J. Sommeijer, followed by 14 chapters based on presentations at the symposium. After an article by E. Crane, which describes the outstanding problems with tropical honeys not present with temperate-zone honeys, the first part of the book contains 5 articles about harvesting techniques in relation to honey quality in different tropical countries. The composition and quality control of tropical honey is the subject of 5 following articles. In some of these attention is also given to the medicinal properties that are commonly assigned to honey in tropical countries and to cultural traditions in this respect. The final section of this book contains 3 articles about the marketing of tropical honey. This is followed by a summary of the

discussions and general conclusions by J. Beetsma and W.-J. Boot. The book should be of interest to all people working in the fields of tropical beekeeping and rural development.

Subrahmanyam, M. **Honey dressing versus boiled potato peel in the treatment of burns: a prospective randomized study.** *Burns* (1996) **22** (6) 491-493 [En, Bc] Department of Surgery, Dr Vaishampayan Memorial Medical College, Solapur, Maharashtra, India.

OBD. G. Lowe.

This study involved 100 patients with burns involving less than 40% of the body surface treated within 6 h of the burn. In one group, unprocessed honey was applied to the surface of the burn after it had been washed in normal saline; in the other group, autoclaved potato peel was used to cover the burn after it had been washed. All the burns were covered, after dressing, with dry sterile gauze and bandages. The burns were inspected, and the dressings changed, every 2 days. In patients treated with honey, 90% of wounds became sterile within 7 days and they all healed within 15 days (mean 10.4 days). In patients treated with potato peel, all wounds showed persistent infection after 7 days, 80% healed within 15 days and the others within 21 days (mean 16.2 days).

Subrahmanyam, M. **Honey-impregnated gauze versus amniotic membrane in the treatment of burns.** *Burns* (1994) **20** (4) 331-333 [En, Bc] Department of Surgery, Dr V. M. Medical College, Solapur 413003, Maharashtra, India.

OBP. Walker.

Forty of 64 patients with partial skin thickness burns (average 20% of body surface) were treated with honey-impregnated gauze; 24 were treated with amniotic membrane dressing. The burns treated with honey healed in 9.4 days on average (maximum 25 days) compared with 17.5 days (maximum 30 days) in the other group. Residual scars occurred in 8% and 16.6% of patients, respectively. Over 80% of honey-treated patients reported mild or no pain, compared with 54% in the other group.

Subrahmanyam, M. **Honey impregnated gauze versus polyurethane film (OpSite) in the treatment of burns <dash> a prospective randomised study.** *British Journal of Plastic Surgery* (1993) **46** 322-323 [En, Bc] Department of Surgery, Dr V.M. Medical College, Solapur, Maharashtra, India.

OBP. Walker.

A group (A) of 46 patients with partial skin thickness burns (average 23% of body surface) was treated with honey-impregnated gauze; a second group (B) of 46 was treated with OpSite, a polyurethane film. Healing was quicker in group A (average 10.8 days, maximum 16 days) than in B (average 15.3 days, maximum 24 days). Eight days after the start of treatment, 8 patients in A and 17 patients in B had infections in their wounds; the bacteria found were *Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Klebsiella* and *Escherichia coli*.

Subrahmanyam, M. **Honey impregnated gauze versus polyurethane film (OpSite) in the treatment of burns <dash> a prospective randomised study.** *Bee Informed*

(1997) **4** (2) 12-13, 17 [En, B] Department of Surgery, Dr. V. M. Medical College, Solapur 413 003, Maharashtra, India.

OBP. Walker.

In a group of 46 patients with fresh, partial thickness burns treated with honey-impregnated gauze, healing took 8-16 days (mean 10.8 days); in a similar group treated with OpSite, it took 12-24 days (mean 15.3 days). The difference was significant. In the first group, 10 wounds were infected on day 1 but only 8 on day 8; in the second group, corresponding numbers of infected wounds were 9 and 17, respectively.

Subrahmanyam, M. **Topical application of honey in treatment of burns.** *British Journal of Surgery* (1991) **78** (4) 497-498 [En, Bc] Department of Surgery, Dr V. M. Medical College, Solapur 413<thin>003, Maharashtra, India.

OB Author.

A total of 104 cases of superficial burn injury were studied to assess the efficiency of honey as a dressing in comparison with silver sulfadiazine gauze dressing. In the 52 patients treated with honey, 91% of wounds were rendered sterile within 7 days. In the 52 patients treated with silver sulfadiazine, 7% showed control of infection within 7 days. Healthy granulation tissue was observed earlier in patients treated with honey (mean 7.4 versus 13.4 days). Of the wounds treated with honey 87% healed within 15 days as against 10% in the control group. Relief of pain, a lower incidence of hypertrophic scar and postburn contracture, low cost and easy availability make honey an ideal dressing in the treatment of burns.

Toth, G. **The characteristics of honey composition, its microbiological evaluation and its importance in pharmacy.** [A mez osszetelenek jellemzoi, mikrobiologiai erkelese es jelentosege a gyogyszereszetben.]. Doctoral Dissertation, Semmelweis Medical University, Hungary. (1986) 120 pp. [Hu,

Four Hungarian unifloral honeys <dash> from Robinia pseudoacacia, Tilia sp., Castanea sativa and Solidago spp. <dash> and a multifloral honey were analysed for enzyme activities and contents of reducing and total sugars. All the honeys met the required international and Hungarian standards for quality. Steam distillation and organic solvents were used to analyse the contents of organic volatiles; Tilia honey contained the most (0.24%) and Solidago honey the least (0.12%). A total of 41 volatile components were detected in the honeys by gas chromatography. Honey volatiles displayed significant inhibitory effects against some Gram-negative bacteria e.g. Klebsiella pneumoniae and Escherichia coli, and against Candida albicans. It is suggested that there may be a connection between the aromatic content of honey and the beneficial effects of its consumption in some cases of diseases of the upper respiratory tract. A pharmaceutical preparation, "Mel cacao.

Dept. Pharmacognosy, Semmelweis Medical Univ., Budapest, Hungary.

Uccusic, P. **The healing power of bees: bee products and their uses.** [De geneeskraft van bijen: bijenprodukten en hun toepassingen.]. Haarlem, Netherlands; J.H.

Gottmer. (1983) 176 pp. ISBN 90-257-1657-1 [Nl, B]
Dutch translation of Doktor Biene (AA 1328/83).

Wadi, M., Al-Amin, H., Farouq, A., Kashef, H., and Khaled, S. A. **Sudanese bee honey in the treatment of suppurated wounds.** *Arab Medico* (1987) (No. 3) 16, 18 [Ar, en, Bc]

Watanabe, T. **Constituents of honey and their medical efficacy as seen from the standpoint of oriental medicine. Proceedings of the XXXth International Congress of Apiculture, Nagoya, 1985.** Nagoya, Japan; Apimondia. (1986) 481-486 [En, Bd]
Japan.

Weheida, S. M., Naguib, H. H., El-Banna, H. M., and Marzouk, S. **Comparing the effects of two dressing techniques on healing of low grade pressure ulcers.** *Journal of the Medical Research Institute* (1991) **12** (2) 259-278 [En, Department of Medical Surgical Nursing, Higher Institute of Nursing, University of Alexandria, Alexandria, Egypt.

A pressure ulcer observation sheet was developed and utilized with 40 orthopaedic patients with pressure ulcers. Twenty patients were treated with normal saline dressing and the remaining 20 were treated with honey dressing. Special laboratory parameters were estimated twice, before instituting the therapy and on the tenth day of dressing. Results indicated that honey enhanced ulcer healing as was determined by significant changes in ulcers' grade, long axis, width, duration of healing and serum hydroxyproline levels. Significant changes in measures of ulcers' healing were also demonstrated within the saline-treated group.

Willix, D. J. **The marketing of honey as a medicine. A report for the Beekeepers' Association [of New Zealand].** (1991) iii + 48 pp. [En, Bdo]

OBD. G. Lowe.

This report [a case study for an industrial technology course] covers a wide range of aspects of the New Zealand honey industry. The first part describes the industry structure <dash> producers, packers, National Beekeepers' Association, Ministry of Agriculture and Fisheries, and others <dash> and the marketing of honey. Part 2 gives official regulations on the advertising of medicines, and part 3 is a survey of health food manufacturers. Part 4 reviews the literature on medicinal uses of honey, particularly the treatment of wounds, eye ailments, stomach and bladder ulcers, and gastroenteritis. Laboratory studies on animals are also covered. The niche marketing of honey as a health food is discussed and recommendations are made. There is a bibliography of 128 references.

Willix, D. J., Molan, P. C., and Harfoot, C. G. **A comparison of the sensitivity of wound-infecting species of bacteria to the antibacterial activity of manuka honey and other honey.** *Journal of Applied Bacteriology* (1992) **73** (5) 388-394 [En, Bc] Department of Biological Sciences, University of Waikato, Hamilton,

New Zealand.

OBAuthor.

Both honey and sugar are used with good effect as dressings for wounds and ulcers. The good control of infection is attributed to the high osmolarity, but honey can have additional antibacterial activity because of its content of hydrogen peroxide and unidentified substances from certain floral sources. Manuka (*Leptospermum scoparium*) honey is known to have a high level of the latter. Seven major wound-infecting species of bacteria were studied to compare their sensitivity to the non-peroxide antibacterial activity of manuka honey and to a honey in which the antibacterial activity was primarily due to hydrogen peroxide. honeys with activity in the middle of the normal range were used. A comparison of the median response of the various species of bacteria showed no significant difference between the two types of activity overall, but marked differences between the two types of activity in the rank order of sensitivity of the 7 bacterial species. The non-peroxide antibacterial activity of manuka honey at a honey concentration of 1.8% (v/v) completely inhibited the growth of *Staphylococcus aureus* during incubation for 8 h. For both types of honey, the concentrations required to completely inhibit the growth of all 7 species were <less than>11% (v/v).

Wood, B., Rademaker, M., and Molan, P. **Manuka honey, a low cost leg ulcer dressing.** *New Zealand Medical Journal* (1997) **110** (1040) 107 [En, Bc] Waikato Hospital and University of Waikato, Hamilton, New Zealand.

OBD. G. Lowe.

In a pilot study involving 10 patients, a total of 11 leg ulcers were treated for 8 weeks with a daily application of a thin smear of manuka [*Leptospermum*] honey covered by a gauze dressing. There was significant healing in 4 of the ulcers, but there was little change in the bacterial flora over the study period. The honey dressings were inexpensive and uncomplicated and it is considered that further studies are warranted.

Wright, B. **Bee venom therapy.** *European Journal of Oriental Medicine* (1996) **2** (1) 16-18 [En, Bc]

Yaniv, Z. and Rudich, M. **Medicinal herbs as a potential source of high-quality honeys. Bee products: properties, applications, and apitherapy [edited by Mizrahi, A.; Lensky, Y.].** New York, USA; Plenum Publishing Corporation. (1997) 77-81 ISBN 0-306-45502-1 [En, Bd] ARO, The Volcani Center, Bet Dagan, Israel.

Zumla, A. and Lulat, A. **Honey <dash> a remedy rediscovered.** *Journal of the Royal Society of Medicine* (1989) **82** 384-385 [En, Bc]

The medicinal properties of honey are briefly reviewed, with 25 references. The author suggests that, although many of its properties need further investigation, honey is grossly under-utilized in conventional medicine.

OBD. G. Lowe.

Dept. Medicine, Royal Postgraduate Medical School, Hammersmith Hospital,

London W12 0HS, UK.

Zylka, L. **Propolis, a powerful product of the honeybee colony.** [Die Propolis, wundersame Kraft aus dem Bienenvolk.]. Bad Segeberg, German Federal Republic; Verlag Landesverband Schleswig-Holsteinischer und Hamburger Imker e. V. (1987) 22 pp. [De, Bb]

This booklet describes the medicinal properties of propolis. It includes the author's experiences of the effective action of propolis or 'propolis honey' on various disorders, and gives methods for making propolis preparations. [Reprinted from *Neue Bienenzucht* (1986) 13: 285-287, 313-318; (1987) 14: 48-51, 88-92, 144-148.] P. Walker.

medicinal properties/honey/1999-

1166/99 Bogdanov, S. Nature and origin of the antibacterial substances in honey. *Lebensmittel-Wissenschaft und -Technologie* (1997) 30 748-753 [En, Bc] Federal Dairy Research Institute, Bee Department, 3003 Bern, Liebefeld, Switzerland.

The non-peroxide antibacterial activity of honey and honey fractions was tested with *Staphylococcus aureus* and *Micrococcus luteus* bacterial species. Antibacterial activity correlated significantly with honey acidity but did not correlate with honey pH. There were small differences between the antibacterial activities of different honey types: rhododendron, eucalyptus and orange honeys had a relatively low activity, whereas dandelion, honeydew and rape honeys had a relatively higher activity. These results suggest that a part of the antibacterial activity might be of plant origin. However, the antibacterial activity of sugar-adulterated honeys was the same as that of control honeydew honeys produced in the same apiary suggesting that the major part of the antibacterial activity of honeydew honey is of bee origin. Ten different honeys were fractionated into four fractions using column chromatography or vacuum distillation: acidic; basic; nonvolatile, nonpolar; and volatile. The antibacterial activity of the different fractions tested was: acids > bases = nonpolar, nonvolatiles > volatiles. This order was the same using either *S. aureus* or *M. luteus* as test strains. An exception was manuka honey from New Zealand where almost the entire activity was found in the acidic fraction.

[Author]

611/99L Broadman, J. Bee venom therapy. Silver Spring, MD, USA; Health Resources Press Inc. (1997) 220 pp. ISBN 1-890708-01-1 [En, Bd]

1193/99 Burdock, G. A. Review of the biological properties and toxicity of bee propolis (propolis). *Food and Chemical Toxicology* (1998) 36 347-363 [En, Bc] Burdock and Associates, 662 Beachland Boulevard, Suit B, Vero Beach, FL 32963, USA.

Propolis is a multifunctional material used by bees in the construction and maintenance of their hives. Use of propolis by humans has a long history, pre-

dated only by the discovery of honey. Use of products containing propolis have resulted in extensive dermal contact and it is now increasingly being used as a dietary supplement. Unlike many 'natural' remedies, there is substantive data on the biological activity and toxicity of propolis, indicating it may have many antibiotic, antifungal, antiviral and antitumour properties, among other attributes. Although reports of allergic reactions are not uncommon, propolis is relatively non-toxic, with a no-effect level (NOEL) in a 90-mouse study of 1400 mg/kg body weight/day.

[Author]

- 902/99 Christensen, H. A.; Vasquez, A. M. de; Petersen, J. L. Epidemiologic studies on cutaneous leishmaniasis in eastern Panama. *American Journal of Tropical Medicine and Hygiene* (1999) 60 (1) 54-57 [En, X] Gorgas Memorial Laboratory, Panama City, Panama.

A study in eastern Panama (1984-85) found that some people with leishmaniasis had successfully treated their skin lesions with honey or other remedies that had been thought to be ineffective.

- 904/99 Cooper, R.; Molan, P. The use of honey as an antiseptic in managing *Pseudomonas* infection. *Journal of Wound Care* (1999) 8 (4) 161-164 [En, Bc] School of Biomedical Sciences, Univ. of Wales Inst., Llandaff Campus, Western Ave, Cardiff CF5 2YB, UK.

The sensitivity of pure cultures of *Pseudomonas* species, isolated from swabs from 20 infected wounds, to a pasture honey and a manuka honey was studied. The honeys were selected to have antibacterial activity close to the median for each type. Range of minimum inhibitory concentration (v/v) was 5.5-8.7 % (mean 6.9%) for the manuka honey and 5.8-9.0% (mean 7.1%) for the pasture honey. It is concluded that honeys with an average level of antibacterial activity could be expected to be effective in preventing the growth of pseudomonads on the surface of a wound, even if the honey were diluted more than 10-fold by exudation from the wound.

[P Walker]

- 600/99 Cruz, M. da [In the name of honey: history, gastronomy and health.] *Em nome do mel: história, gastronomia e saúde*. Sintra, Portugal; Colares Editora (1997) 244 pp. ISBN 972-8099-78-9 [Pt, Bdx]

Honey is included in many recipes for savory dishes, sweets, preserves and drinks. Instructions are also given for using honey in the treatment of some medical disorders.

[D G Lowe]

- 601/99 Descottes, P. [Use of honey in surgery: the healing of wounds and their treatment with honey.] *De l'utilisation du miel en chirurgie: la cicatrisation des plaies et leur traitement par le miel*. *L'Abeille de France* (1999) (844) 20 [Fr, Bj]

In a trial with 63 patients, two groups with wounds 5-6.9 cm across were treated conventionally, and patients in a third group (average wound size 13.1 cm) were treated with honey. Complete healing took 49-59 days in the first two groups

and 55-61 days in the third group.
[P Walker]

617/99 Kim, C. M.-H. Apitherapy (bee venom therapy). Literature review. In Mizrahi, A.; Fulder, S.; Sheinman, N. (Editors) Potentiating health and the crisis of the immune system. New York, USA; Plenum Press (1997) 243-270 pp. ISBN 0-306-45602-8 [En, Ba] International Pain Institute Inc, Red Bank, New Jersey 07701, USA.

This review, with 193 references, covers the following aspects: honey bees venom composition; pathophysiology and mechanism, including immune modulations, anti-inflammatory effects, cytolysis, neurotoxic effects, antimicrobial effects, and radiation protective effects.; clinical effectiveness, including results in animal models, difficulties in control studies and adverse effects.

310/99 Linskens, H. F.; Jorde, W. Pollen as food and medicine — a review. *Economic Botany* (1997) 51 (1) 78-86 [En, de, Bb] Dept. Exp. Plant Ecology, Univ. Nijmegen, NL-6225 Nijmegen, Netherlands.

This review, with 73 references, discusses the following aspects: chemical composition of pollen; pollen consumption, including historical aspects, and the incidental intake of pollen; pollen contained in honey; pollen as medicine; nutritive value, including use as a supplementary foodstuff; allergic reactions.

602/99 Lisle, J. The healing power of honey. Colchester, UK; Carnell Ltd (1998) 142 pp. [En, Bd]

Chapter 2 describes remedies containing honey (or other hive products) for over 100 illnesses and disorders. This is a 'popular' book and no scientific evidence is cited.

[P Walker]

603/99L Mizrahi, A. From the honey to the sting. Bee products - for health, medicine and pleasure. South Netanya, Israel; Hotan Hazahav Publications (1999) 191 pp. [He, Bd]

604/99 Molan, P. C. Establishing honey as a respectable medicine. *New Zealand Beekeeper* (1998) 5 (11) 16-18 [En, Bj] Honey Research Unit, Univ. Waikato, New Zealand.

It is important to establish a rational basis for the use of honey in medical and veterinary treatment, and then to carry out clinical trials. This procedure has not been followed, for example, with 'mei bao' ('moist burn ointment'), a Chinese herbal ointment containing honey. Although claimed to be very effective, evidence is only anecdotal, and in some tests it actually showed adverse effects.

[P Walker]

284/99 Vit, P. [Cataracts and honey therapy.] *Cataratas y mieles terapéuticas*. Mérida, Venezuela; Consejo de Desarrollo Científico, Humanístico y Tecnológico, Universidad de Los Andes (1997) viii + 79 pp. ISBN 980-11-0149-0 [Es, Bd]

Ancient folk medicine remedies, such as honey instillations to treat

cataracts, are popular in tropical America and eastern Europe. Cararacts are a major cause of blindness and their prevalence is considerably higher in the tropics. Surgical treatment, intraocular lens implantation, is not exempt from post-operative complications and justifies research on therapeutic agents to delay the progression of cataracts. The objectives of the present work were to investigate the authenticity of the putative anyi-cataract properties of stingless bee honeys. Three lens opacification models ('graded hypotonicity', 'hypocalcaemic regime', 'hyperglycaemic regime') were explored by digital image analysis for cultured ovine lenses. Flavonoids were extensively studied as aldose reductase inhibitors to control osmotic factors involved in cataracts. Twenty commercial flavonoids that might be present in stingless bee honey were tested and 4 luteolin derivatives reduced lens opacification caused by hypotonic stress. Future research to investigate possible anti-cataract properties of honey is discussed.