

Bi-NyhetsBrev

nr. 34e1 - april 2007



Bee Research Institute at Dol

BULLETIN

of the Press Exchange
and Documentation Centre

of APIMONDIA

*Selection of news from and for
beekeeping practice*

No: **II/2007**

editor in Chief Ing. V.Veselý, CSc.

638.1(485)

Gierchatowski, P: **Österlund, chiefeditor of Bitidningen about Swedish beekeeping.** *Pszczelarstwo*, 2006, 10, 7-9. - 1 fig.

Editor in Chief, E. Österlund corrected data of the author given in the Polish bee journal and accepted following version: Item 1: Average honey crop in Sweden is not 100 kg, but 30-40 kg. This amount is a statistical number for many years and for whole Sweden. The 2006 was an exceptionally good year with averages even over 100 kg on some areas, for example the Elgon beekeeper we visited (with normal strength stationary bee colonies). Item 2: Predominant bees in Sweden are Buckfasts including Elgons (which is a combination bee like Buckfast), but many beekeepers keep also Italians 25 %, many have mogrels 30 %, 5-10 % Black bees and 5-10 % Carnicas.

638.124.84A

Hayes, J: **AHB... A Farce??!** *American Bee Journal*, 2007, 1, 29-30.

A beekeeper from Arizona stresses that Africanized honeybees are not a killing machine. He is surprised by measures which Florida takes against them. But the author explains the measures taken by Florida. He tells horrible stories about AHB. So e.g. a lady lost 900 pound horse to AHB. The veterinarian found to four pounds of bees in its lungs and stomach. Eight dogs have died, other animals were attacked, dozen people sent to the hospital. These are the results of the occurrence of AHB. Florida has not deserts like Arizona, but on the contrary a growing population. Beekeepers in Florida should establish Best Management Practices. Bees should be docile. Beekeepers are to maintain manageable colonies.

547.56

Hayes, J: **Phenols in Honey.** *American Bee Journal*, 2007, 1, 31.

Phenols are plant materials and here is the answer what value do they have. They have some degree of antibacterial action and are found in high concentrations in propolis. It is strictly forbidden to apply carbolic acid for supers clearing, phenols are here contaminants. Gas chromatography detects them.

638.1.001.5

Trainor, K: **German Beekeeping Institute open house a glance into German beekeeping.** *American Bee Journal*, 2007, 1, 37-40. - 12 relevant fig.

The author has received one year scholarship and is based at the described institute in Celle. This largest Beekeeping Institute in Germany opens its doors once in a year and numerous lectures are given on the latest research finding. It is demonstrated how the pollen in honey is analyzed to determine the floral nectar source. A pollen analyst must look at 500 - 1000 grains to identify the variety. A varietal honey requires also other tests: analysis of the sugar spectrum of the honey, water content, electro conductivity, enzyme activity, sensory test for taste and smell. One section of the Institute is a museum. Staff of the Institute are 32 individuals. The Institute educates eight apprentices every year. Modern beekeeping includes "Celler Rotation" method . The method relies on making young splits on the early spring after rapeseed flow to diminish swarm tendencies and to create strong young colonies that will become the over wintering stock.

547.915

Hayes, J: **Helpful or Harmful.** *American Bee Journal*, 2007, 1, 32.

Vegetable oils may have some effect on the tracheal mites. But as to varroa mite their effect is a problem. The varroa mite is too large to be significantly affected by vegetable oils. Oils may be detrimental to honey bees.

638.16

Rettinger, A: **Honey label.** *Bienenaktuell*, 2007, 1, 29.

The honey label should include following data: bee honey or e.g. flower honey - name and address of the producer or of the first who puts the product on the market, usually the name of the beekeeper - weight in g or in kg, number should be 4 mm high - day, month and year of the date "best before" - recommended storage conditions for honey: in cold, dry environment, protected against light.

6S8.1(458.2)

Kavcic, A: **Slovenian beekeeper visits Malta's beekeepers.** *Slovenski cebelar*, 2006, 2, 49-50. - 6 fig.

The island Malta indicates about 150 beekeepers and the neighbouring island Gozo about 130. Only 4 % of beekeepers are younger than 30 years. Varroa mite arrived on Malta in 1992. Up to that time bees were mostly kept in traditional hives. Malta has an autochthon honey bee *Apis mellifera ruttnerii* which is smaller and more aggressive than Carnica bee. Control of Varroa is based on the application of Bayvarol, Apilife, formic acid. Oxalic acid has not offered the desired effects. 1 kg honey costs 4,2 MTL (about 10 USD). The visit was in December and the air temperature was about 16° C. Near to the bee yard of the visited beekeeper is the oldest bee house in the world, about 2000 years old.

Geng: **Buyers have special behaviour.** *Bienenaktuell*, 2007, 1, 28-29. - 3 fig.

Observations of honey buyers in self service shops. They choose glasses standing always in the second row as they know that the shop owner puts the older products in the front. Forest honey is always taken from the back row. Its dark colour in the second row seems to be darker. The buyer takes the glass with honey bottom up and observes the consistency as the honey flows. Buyers do not mostly want crystallized honey. They suppose that it may be adulterated with sugar.

595.42A

Wattam, A: **Organic acids for Varroa treatment.** *BKA Newsletter*, 2007, 1/2, 2

Organic acids (oxalic, lactic, formic) are now in England legal for Varroa control. The condition is that the beekeeper obtains a veterinary prescription from his local vet. Veterinary prescriptions are free by law but one may be charged an administration fee about 10 GBP. Standard UK approved Varroa treatments include Apistan, Bayvarol and Apiguard. These medicines remain within the Animal Veterinary Medicine General Sales List.

638.14,015.A

Otten, Ch: **Chance for good wintering.** *Die neue Bienenzucht*, 2007, 1, 7-8.

A list of winterlosses of bee colonies in Germany in the winter 2005/2006. The author received 2847 answered questionnaires from the whole country. The site climate influenced in a considerable manner. The highest losses were found on shadow sites, they were by 4 % higher than on sunny and half shadow sites. Maximal losses were found on the territory of the eastern Germany. Bad pollen availability resulted in losses 28 %, better pollen conditions reduced losses to 22 %. 8,6 % beekeepers

feeded candy, 80,8 % only liquid feeds. 7,8 % beekeepers combined liquid feed and candy. The combination leads to the lower losses which were only 4 %. Mid-August applied control of Varroa mite indicated hive losses by 20,5 % , The maximal losses were after mite treatment in the second part of September. The chance for good wintering are sunny and half shadow sites with good pollen disposal after the summer solstice, early feeding, early Varroa treatment, combination of summer and winter treatment.

638.132

Samsonova, LD: **Nectar release of late flowering bee plants.** *Pchelovodstvo*, 2006, 9, 23-24.

Minimal temperature for nectar release is about 10°C - 12°C. Favourable conditions are from 16°C to 25°C. The increasing temperature enhances the release up to a certain limit. Plants of interest are those ones which release nectar also after the solstice and notably after night frosts. After the flower period of sunflowers bees collect nectar from *Symphoricarpos*, *Statice gmelini* (flowering to 1.5 month). Other late flowering and nectar yielding plants are *Centaurea*, *Cirsium*, *Leonores*, *Melilotus albus*, *Lamium album*, *Linaria* (honey production is to 150 kg per 1 ha).

638.178.8

Peiren, N - de Graaf-Evans, JD et al. **Genomic and transcriptional analysis of protein heterogeneity of the honeybee venom allergen Api m 6.** *Insect Molecular Biology*, 2006, 5, 577-581. - 2 fig.

Apim 6 is minor allergen in bee venom. It causes allergenic responses in humans and other vertebrates. Api m 6 is derived from a single locus, it sits near a misassembled section of the honeybee genome sequence . The genomic basis for protein level heterogeneity for Api m 6 is described.

546.212

Hajduskova, J: **"Bee" water is an aid to the therapy.** *Vcelarstvi*, 2006, 12, 320.

A physician writes about her use of the bee water and how it is made. Water in a glass is placed on the hive or among hives or in an empty super in summer for a day, in winter for a longer time. Water freezing or short boiling are without negative effects. Regular consumption of this water reduces considerably sugar content in the blood of the diabetics. Bee water helps at metabolic and psychic diseases. Bees in the same way influence also alcohol, wine and other products containing water. Positive health experiences approve the healing power of the bee water.

632.95

Organizations of beekeepers, of environment and of consumers require in Europe the protection of honeybees against certain pesticides. *Vida Apícola*, 2006, 140, 2-3.

These organizations require the effective protection of honeybees. The action is based in Belgium and in Spain. Their demands to treat the problems of pesticides, mainly imidacloprid, fipronil, as well as thiametoxam, clotidianid were given to the EU General direction of health and protection of consumers. The chemicals are systemic persistent substances in the environment, and are very toxic. They damage bees, brood and the function of the bee colony. Fipronil and imidacloprid are included in the annex I of the directive 91/414/EEC but independent and evaluated samples do not confirm that the products are harmless to bees, on the contrary they are really a danger to the environment and to bees.

368.5

COAG and UP declare the inefficacy of the satellite assessment of the drought risk in the apiculture. *Vida Apícola, 2006, 140, 9.*

The present system of the risk evaluation does not describe the actual situation. At the present time the assessment indicated only three regions with the drought damage but the reduction of the country production achieved 50 % and 75 % in comparison with the normal campaign. A change of the assessment system is necessary. The sum paid for a lost hive because of flood or other accidents is between 31 and 62 EURO for a normal hive and between 35 and 70 EURO for hives used in migratory beekeeping.

638.121.1

Moylon,E: Finding the queen. *Australian Bee Journal, 2006, 12, 14 and 16.*

Finding the queen becomes necessary during inspections and it is also necessary to carry out a requeening program. Darker coloured bees that have not been requeened for a long time can be very aggressive. They leave the combs taking the queen with them and run around the walls and across the bottom board. Alternatives are to divide them into more boxes or filter all the bees through a queen excluder. The optimum time to search for queens is between 10 am and 3 pm. The author has found the queen in the top box in the morning and in the bottom box in the afternoon. If all the brood is sealed, it is unlikely that the queen will be up there. It is necessary to think only the finding of queen, otherwise the queen is hidden for the beekeeper. The rule for queen finding includes minimum use of smoke, gentle slow movements, no jarring of frames or bumping of boxes and operating in suitable climatic conditions. If the queen is not readily found and the bees are restless it is better to move on and later repeat the inspection.

638.142

Love, M: Double queen hives. *Australian Bee Journal, 2006, 12, 28 and 30.*

The brood is divided into two boxes with the queen left in the lower box. In the upper box one comb of unsealed broods is placed, further one comb of brood with good pollen storage, 2 stickies of drawn combs, 2 foundations and two combs honey or honey and pollen. The boxes are first separated by a queen excluder. Later the boxes are separated by a division board with a honey super placed onto the lower box above the queen excluder. A queen cell or a caged queen is then introduced into

the upper box. If the upper box is established with a laying queen both boxes can be rejoined using newspaper and a queen excluder. One colony is made with two brood boxes, each with a queen, separated by a honey super with a queen excluder either side, top and bottom. The second brood maintains its own entrance, a 25 mm hole, below the hand grip at all times. It is covered by a metal baffle reducing draughts and sunlight. If the honey season is shorter double queen hives may well be applied.

665.14

Beekeeping Practice. *Bulletin des Apiculteurs Picards*, 2006,3/4, 6.

Candy is prepared as a simple cold mixture of the powder sugar and little honey or sugar may be cooked till the required consistence of the paste is obtained. The cold preparation of candy is a rapid method of kneading as to obtain small quantities of the product to maximum 220 to 300 g. It is usually made for the suite bees of the queen in the posted cage.

633.32

Caron, DM: **Front Lawn...add clover for bees.** *American Bee Journal*, 2007, 1, 71-72. - 2 fig.

Grass monoculture lawns offer nothing to bees, but they are most frequent suburban landscape feature. The average American homeowner devotes much time and money to such lawns. In the US there are about 24 million acres lawn. Though lawns do important things in the environment a weedy front lawn can be beneficial with the additional benefit to honey bees. The best weed for bees has to be white clover *Trifolium repens*. Its contribution besides a flower with nectar is a forage legume, a fixer of atmospheric nitrogen, a cover crop promoting soil stabilization, natural fertilizer. The lawns, grass desert should be changed to better bee forage with lawn weeds like white clover, the best suitable clover for lawns. Sweet clovers, though excellent honey source is not suitable for lawns because they grow too tall.

547.29

Oliver, R: **Oxalic acid: questions, answers and more questions. Part 1 of 2 parts.** *American Bee Journal*, 2006, 12, 1043-1048. - 6 fig., 8 ref.

Oxalic acid is not approved for use in the US. Nevertheless this article informs of its effects and application for *Varroa* control. Winter dribble is very effective. But more than one winter treatment hurts the bees. It appears as a cheap, safe, effective ecological miticide. But it is recommended only one time application 3-5 ml of 2,8 % oxalic acid in 50 % sugar syrup per seam as soon as the colony goes broodless. Acid solutions should be stored in glass or plastic containers, not metal. Plenty of rinse water must be at hand for washing off spills and acid blots.

547.29

Oliver, R: **Oxalic acid: heat vaporization and other methods. Part 2 of two parts.** *American Bee Journal*, 2007, 1, 59-61. - + fig., 7 ref.

The dribbling of oxalic acid requires opening for the fall/winter treatment. The danger is that bee toxicity appears and brood rearing is depressed. Vaporized oxalic acid by electric vaporizer can disperse throughout the colony and then recrystallize into fog. Bees do not ingest it as in the case of dribbling. The fog of crystals is condensed inside the sealed hive. The dribble method is first of all legal in many countries and is to be registered in the US in near future. Heat vaporization is effective notably in winter but the safety of the operator may be at risk. The author may prefer the dribbling.

634.73B

Hicks, C: **Cranberries, bogs and bees.** *American Bee Journal*, 2007, 1, 62-65. - 9 fig.

The Washington State cranberry industry and the beekeeper Olson have a close co-operation. The beekeeper sets about 1500 beehives in the bogs and fields to pollinate cranberries. Otherwise he owns 11 000 hives and a fleet of vehicles to transport the bees. He took over the cranberry pollination after his friend in 1999. He sends bees to several regions, e.g. to the Dakota grasslands. In the fall he is able to send around 10 000 hives to winter in almond orchards in California.

638.16

Statistics Canada: **Canadian Honey Production.** *American Bee Journal*, 2007, 1, 19.

The number of Canadian beekeepers in 2005 was 7971, in the year 2006 5963. The number of bee colonies in 2005 amounted 615 541 and in the year 2006 582 872. The production of honey in 2005 was 36 119 metric tons and in 2006 increased to 43 045 metric tons. The highest honey production was recorded 2006 in Alberta and was 17 015 metric tons. The lowest honey production was 223 tons in New Brunswick in the year 2005.

638.16 38

Parker J: **U.S. honey trade imports increased in early 2006.**

American Bee Journal, 2007, 1, 25-26.

US imports of honey from China increased in the 8 months 26 601 tons. Argentine honey is appreciated by the honey processing and packaging industry. In 2005 Argentina deliveries were 39 % higher than the value for shipments from China. Canada ranks in third place of imports to the U.S. Vietnam imports rebounded in the year 2005. The fourth place in the imports to the U.S. is held by India. U.S. Imports of Brazilian honey were rising. Imports of honey from Uruguay declined. Honey deliveries from Mexico rebounded in early 2006. Shipments from Russia rose by 98 % in the recent time. Bad weather is the reason for hampering honey harvest in Australia. Imports from Indonesia in the recent period increased. A new supplier of honey is Mongolia. Imports from Germany declined. U.S. imports from New Zealand and Japan increased in the recent period.

638.15

Club Consultorio tecnico: **Bee diseases and prevention measures.** *Vida Apícola, 2006, 140, 55.*

Prevention belongs to the correct beekeeping. Program of hygiene and management practice may maintain strong and healthy colonies. The program includes disinfection of material, disinfection of hives and frames, suspicious hives are inspected as the last ones, renovation of old combs, introduction of queens, feeding, equilibrium in bee colony, selective reproduction and Varroa mite control.

638.16

Ponomarev, AS: **Honey in comparison with other sweet substances.** *Pcelovodstvo, 2006, 9,7-9. - 2 tab.*

The advantage of honey in comparison with other sweet substances is the experience of its utility for the health of consumers. A drawback is its high price. Honey in the past was cheap. In the 13. century it was 50 times cheaper than imported sugar. In the mid-19. century the prices were nearly equal, in the 80ies of the last century the honey price was 6 to 7 times higher than the price of sugar. In the year 2005 sugar production achieved 140 mill. t and honey production 1,4 mill. t. The same year indicated the highest honey price in the last 25 years. Each inhabitant of the Earth could get 200 g honey in a year. Statistics show the honey production, consumption etc in some countries. China produces 225 thousand t honey, but the honey consumption per an inhabitant is only 0,1 kg. The highest honey consumption is in Germany, 1,1 kg per a person in a year. Gastronomic experts recommend the maximal sugar consumption 38 kg in a year. The plant cultivation is useful not only for bees. The growing of lucerne and clover, main forage plants in Canada, binds nitrogen in the soil and reduces the nitrogen fertilizers' application.

38

Silvia Canas: **Trends in the international honey trade.** *Vida Apícola, 2006, 140, 51-54.*

China is the largest honey producer in the world, and recently also the first honey exporter. China has about 6 mill. bee colonies and the honey production amounts 275 000 t. Honey replaces sugar that China is not able to produce and this in quantity of 110 000 t. Home consumption of sugar increases by 5% in a year. In the year 2004 China delivered to EU 37 054 t honey, but 2005 by 5700 t less than previous year. Argentina produces 90 - 100 000 t honey and 90 % of the production is exported. Main partners are USA, EU (mainly Germany, Italy, UK, Spain, France and Belgium). The lowest prices of honey were in the year 2005. The honey market is influenced by the concentration of enterprises and the honey market is in hands of a limited number of entrepreneurs. The approach to honey trade in southeast Asia is changed. More attention is now given to the quality.

638.138

Pajuelo, AG: **Pollen production.** *Vida Apícola, 2006, 140, 11-12.*

Plants produce much more pollen than they need for the reproduction. A part of this spare pollen is collected by honey bees. They deliver to their diet fats, proteins and vitamins. Some beekeepers harvest pollen at their hives. They apply pollen traps. The pollen production is in Spain between 1000 t and 1500 t. There are large deviations because of weather. The pollen is collected from pollen traps once in a day, if the weather is humid. In a dry weather pollen traps are emptied once in two days. The shorter time the pollen is humid, the higher biological value inlays found. Commercial pollen in Spain is from plants represented by Boraginaceae, Cistaceae and Fagaceae. The commercial pollen composition is as follows: water 8 %, proteins 15 %, sugars 53 %, fats 3 %, fibre 5 %, mineral salts 2 %. Plant species differ in the composition of their pollen. Pollen is rich in vitamins, mainly of the group B. The first known pollen consumer is Otzy, mummy 5000 years old. Pollen was found in his viscera.

638.138.1

Crespo, J: **Collection and processing of pollen.** *Vida Apícola*, 2006, 140, 44-45.

Bees collecting pollen work to the distance of 400 m, nectar-collecting bees work on larger distances. Only strong colonies are applied for the pollen collection with minimally 4 - 5 brood combs. For the harvest 150 g pollen there are necessary 10 000 bees. The honey production is reduced by 25 % if pollen traps are applied. Pollen is dried up to the temperature 40°C. 4 to 5% humidity enables to preserve pollen for 12 to 14 months. The drier of professional beekeepers dries 150 kg pollen in 2 to 4 hours.

634.653

Afik, O - Dag, A - Shafir, S: **The effect of avocado (*Persea americana*) nectar composition on its attractiveness to honey bees (*Apis mellifera*).** *Apidologie*, 2006, 3, 317-325. - 3 fig., many ref.

Honey bees are able to discriminate between honey from different botanical sources. They prefer non-avocado honey to avocado honey. The experiment included twelve colonies. The response of avocado honey was compared with their response to honey from competing flowers. Honey bees prefer honey whose floral origin is of a competing flora over that of avocado. There may be repelling components in the nectar. The avocado nectar composition may contribute to the low attractiveness of avocado flowers.

595.42

Hintermeier, H: **Mites, no danger for bumblebees.** *Schweizerische Bienen-Zeitung*, 2007, 1, 19. - 2 fig.

Mites occurring on bumblebees consume also stores of this bee. But their main feeding is in debris, also bumblebee excrements. Often they are not parasites and are in this way only transported on bees to other places. *Parasitus fucorum* and *Tyrophagus laevis* live with the bumblebee in a symbiosis. *Varroa* mite has not been found on bumblebees up to now. It is interesting that when some mites are removed from the bumblebees the bumblebee is even disturbed in its body growth.

638.132

Samsonova, LD: **Nectar yield of late flowering plants.** *Pcelovodstvo*, 2006, 9. 23-24.

Minimal temperature for the release start of nectar is about 10 - 12°C. The best release conditions are from 16 to 25° C . The increased temperature makes the nectar release more possible. Plants releasing nectar after night frosts are of special importance. After sunflower foraging bees can collect nectar from snowberry flowering also in unfavourable conditions. Late flowering plants may be Centaurea, thistle Cirsium, common chicory Cicoria intybus, white deadnettle Lamium album, motherwort Leonorus, white sweetclover Melilotus alba, toadflax Linaria (honey production per 1 ha even 150 kg).

638.14.015.A

Otten, Ch: **Chance for good wintering.** *Die neue Bienenzucht*, 2007, 1, 7-8.

Losses of honeybee colonies in Germany 2005/2006. The questionnaire was answered by 2847 respondents. The greatest losses were recorded in the eastern part of the country. Climate of the site influenced the condition of colonies. Sunny sites and half shadow sites indicated losses 22,3 %, shadow sites losses were by about 4 % higher. Bad pollen supply resulted in 28% losses, better pollen supply lost 22 to 23 %. 8,6 % beekeepers use candy feeding, 80,8 % liquid feeding, 7,80 % beekeepers combined feeding. The feeding combination resulted in lower loss by 4 %. Where varroa control was done in the first half of August winter losses were with 20,5 % under the average. The highest losses 30 % occurred if varroa control was carried out in the second part of September. Good chance for successful wintering are sunny and half shadow sites with good pollen delivery after the solstice, early feeding start, early varroa control, combination of summer and winter treatment.

638.1(678)

Rüegg, H - Benglen - Thomas, HU: **Beekeeping in Tanzania.** *Schweizerische Bienen-Zeitung*, 2007, 1, 30-33, - 12 fig.

The local bee is *Apis mellifera scutellata*, is more aggressive, at negligible disturbances is swarming. Modern beekeepers keep their bees in top bar hives, traditional beekeepers keep them in hives from hollow trunks. There are no brood diseases, but bee colonies may be destroyed by ants *Dorylus* spp. and *Aenictus* spp. Other great enemy of bees is the badger *Mellivora capensis*. A simple way for foundation production useful for African circumstances is described. Honey of stingless bees is considered as a medicament and costs about 50 Swiss Franks per 1 kg.

638.123

Soland, R: **Swiss delegation took part in the 7th Dark Honey Bee Conference in Versailles/Paris.** *Schweizerische Bienen-Zeitung*, 2007, 1, 22-25. - 7 fig.

The Conference was organized by the Societas Internationalis pro Conservatione *Apis melliferae melliferae*. There are three aspects in the rearing of the dark bee:

cultural, economic and species conservation aspect. Genetic properties of the dark bee are a part of biodiversity and should be maintained. The mellifera dark bee share is in France 73 %, Carnica and Ligustica include 26 %, 1 % African bees. Mother lines of 5904 dark honey bee colonies were determined. Mellifera is genetically variable and is divided in Pyreen, west France and East France group. In the UK Mellifera occurs in Central and North England, in Scotland. Ireland is the country where mellifera mostly occurs like in France and German Switzerland. In Sweden the target 2000 is mellifera hives among the total 80 000 bee colonies. In Norway since 1996 there are done morphometric measurements of 450 honeybee colonies on the average. Analyses indicated the reduction of hybridisation from 20 % down to 3 %. DNA analyses gave 100% pure mellifera in 2004. Norwegian conditions are very near to Swiss experiences.

547.96

Günther, O: **Protein supply not always secured.** *Deutsches BienenJournal*, 2007, 1, 30-31. - 2 fig.

Pollen may be contaminated in the autumn and the injuries in the bee colony appear in the spring. Such phenomenon occurred in the past, and it must not be forgotten. The brood needs sufficient pollen. Pollen cannot be collected in combination flight, but only in the direct flight on flowers. 2006 the drought caused pollen deficiency. The author has good experience when he applied soya as pollen substitute. Its protein content is about 40 %, fat content about 3 %. Nothing is better than genuine pollen, but if bees have coniferous protein poor loads the protein deficiency is considerable. Interesting is that bees liked soya forage more than alder pollen. Soya is to be taken only in emergency cases.

582.475.A

Höhn, R: **Pine.** *Deutsches BienenJournal*, 2007, 1,41.- 1 fig.

Scots pine was one of the first forest trees which settled Central Europe. The tree is of multiple use. The blooming time is in May. Honey bee collects pollen, but the pine plays considerably larger role as honeydew producer.

577.4

Innovative solutions for urban environments. *Euroabstracts*, 2006, 6, 19.

The EU initiative has funded more than 150 projects to improve the life quality in urban surrounding. A review of the book LIFE in the city informs about 24 projects in detail. The better life quality is to be more comfortable, because 4 of 5 Europeans live in the cities with more than 10 000 inhabitants. The urban environment replaces successively the countryside. A code of good environmental practice is declared. The wildlife and the Nature in the urban area is to be promoted.

638.124.428.D

Myskja, LS: **Bee cell size experiment in Norway 2006.** *Biroekteren*, 2007, 1, 24.

At the first stage only one bee yard was included into this experiment. There were 12 hives with normal size of cells 5,4 - 5,5 mm as a control and 12 hives with small cells 4,9 mm. No difference was found in the bee colony population and in the mite fall between these two groups. The attack intensity was slightly less at combs with small cells. The experiment is to continue in the year 2007.

547.466

Iglesias, MT - Martinez Alvares, P - Polo, MC: **Changes in the free amino acid contents of honeys during storage at ambient temperature**, *Journal of Agricultural and Food Chemistry*, 2006, 54, 9099-9104. - 4 fig., 2 tab., 25 ref.

The contents of most of the free amino acids were found to decrease with storage time, with the greatest reduction observed in the first 9 months. The contents of the amino acids aspartic acid, beta alnine, and proline increased in the first few months after storage and reach maximum values at 6 months suggesting the possible existence of enzymatic activities. The research in honeys is to determine the changes in the free amino acid content in honeys during storage.

638.124.58

Evans, JD - Aronstein. K - Chen,YP et al.: **Immune pathways and defence mechanisms in honey bees *Apis mellifera***. *Insect Molecular Biology*, 2006, 5, 645-656.

Honey bee models for each of four signalling pathways associated with immunity. Honey bees when compared to the sequenced *Drosophila* and *Anopheles* genomes, possess about one-third as many genes in 17 gene families implicated in insect immunity. An implied reduction in immune flexibility in bees reflects the strength of social barriers to disease, or a tendency for bees to be attacked.

638.167 615

Hajduskova, J: **Bee products in eyes of a physician**. *Prague, Czech Beekeepers Union*, 2006, 50 pages.

Czech physician writes in Czech language about medicinal properties of honey, pollen, propolis, royal jelly, beeswax and other bee products. Flower honeys are rich in proteins and are most suitable for patients after accidents and operations. Honeydew honey is useful for those who suffer from respiratory diseases and kidney diseases. Regular consumption of honey and vitamins preparations are guaranty for blood health. It is recommended to consume one spoon of honey every day. On the other side a kidney diseased or tumour suffering man should not consume pollen. Propolis should be applied only externally. Royal jelly may be applied only spasmodically, once or twice cures in a year. Future mothers should use only honey, at least 5 kg in in the gravidity. Water or beer left in a hive for one day or longer is considerably reducing increased sugar level in the blood of those who suffer from diabetes. Experiences and folk medicine data complete the possible application of bee products for better health of humans.

595.42A

Serrano, JMF - Ruíz, JA - Pires, SMA: **Assessment of the population of Varroa destructor based on its collection from boards at the bottoms of hives of Apis mellifera iberica.** *Revista Portuguesa de Ciências veterinarias*, 2002, 544, 193-196.- 2 fig., 1 tab., 13 ref.

Collecting and counting mites from the board of bottom of the hive predicts the infestation level and growth rate of mites. It is possible to assess the natural fall of mites in shorter periods of time. It reduces the counting periods and the necessary work. A high correlation was found between the levels of natural mortality of mites and the colonies' infestation rates.

638.139.2

Skareas, S: **Honeydew.** *The Beekeepers Quarterly*, 2006, 86, 12-14. - 7 fig.

The main producer of honeydew in Greece is *Marchalina hellenica* (Genadius) feeding on pines, *Pinus halepensis* and *Pinus brutia*. The main area of pine honeydew are Chalkidiki, the islands of Thassos and Evia and Ierapetra in Crete. The pine forests of Greece cover 154 000 square kms and in 1996 because of the importance of honeydew production the Ministry of Agriculture funded 2 millions EURO for promoting the spread of *Marchalina hellenica* in all pine forests. Eggs of this little insect were collected and moved from forest to forest. Pine honeydew honey makes at the present time 65 % of total honey production in Greece. But in the last 5 years pine trees in towns and their surrounding died. Town authorities see the reason of the death of trees in the spread of *Marchalina hellenica* and decided to control the pest by 4 chemical means. Beekeepers and entomologists do not see *Marchalina* as the pest that should be controlled. No scientific proof confirms that the death of pine trees is caused directly by this honeydew producing insect.

638.153.3

Paxton, RJ: **Nosema ceranae spreads rapidly around the world.** *The Beekeepers Quarterly*, 2006, 86, 11.

Nosema disease is one of the most prevalent and economically damaging honey bee diseases. At the beginning of the 20 th century Zander first described *Nosema apis* as the microsporidium responsible for nosemosis. Fries when visiting China described a new microsporidium *Nosema ceranae* in 1995. Julia Klee and Andrea Besana developed an accurate molecular generic detection system to differentiate *N. apis* from *N. ceranae*. In Sardinia, Greece and Spain some of colony losses were associated with *Nosema ceranae*. Both noseamas can exist in the same individual bee and in high numbers. The pest in EU countries where Fumidil B is not licensed must be kept in a routine colony hygiene and the effective nosema control is a problem.

595.42A

Dewhurst, RD: **Biting Back.** *The Beekeepers Quarterly*, 2006, 86, 15-18. - 13 fig.

The behavioural adaptations of dark European honeybees to *Varroa* are centred upon hygienic cleansing, grooming behaviour and biting behaviour. Typical damage

found to the mites carapace: single and twin indent, multiple indents. The mites on the tray tell us the specific damage like neat and clean cut to legs, split carapace. The bees cannot sting Varroa mites but use their mandibles. The biting of the Varroa is clear. Serious research and bee improvement are to lead to Varroa tolerant bees.

638.171 (541.35)

Suwai, B: **Collecting, marketing and using beeswax in Nepal.** *The Beekeepers Quarterly*, 2006, 86, 22-24.

Wax is secreted from four pairs of wax glands on the underside of the abdomen of worker bees in the age between 13 to 17 days. The beeswax in Nepal may be from various sources, from managed bees, wild nests and imports from India. Modern beekeeping does not see the beeswax production as a premier hive product. Most wax comes from the cappings of honey, old and damaged combs and brace and burr combs. One quintile (100 kg) of honey harvest gives about one kilogram of wax. The total honey production in Nepal between October 2004 and May 2005 was 750 000 kg and beeswax production 7500 kg. The largest share of beeswax is being used by handicraft industries. Beeswax is used for lost wax casting and for foundations. The last 5 years *Apis mellifera* bees are becoming more and more popular. Comb foundations for beekeeping with modern hives are used for *Apis mellifera* colonies, but only occasionally for *Apis cerana* stocks.

638.1 (94)

Manning, G: **Two hundred years of beekeeping down under.** *The Beekeepers Quarterly*, 2006, 86, 20-21.- 5 fig.

In Australia attempts were made to introduce bees almost from the beginning of settlement. But first 1822 European bees were successfully established. The Langstroth hive became a standard. Eight, ten and even twelve frames are used. Full depth honey supers are the most common. After the First World War motor vehicles became avail and large scale migratory beekeeping was able to develop. Mobile extracting vans entered the industry. Shaking and brushing bees off the combs was replaced by the repellents, carbolic acid or sometimes benzaldehyde. The original commercial beekeepers may have had only a hundred hives, now one thousand. Australia was from the beginning an agricultural country and apiculture was included. The apiary officers were individual help in disease control. The government offers now only reduced help to the apiculture. Many of the remaining forests were turned to national parks and beekeepers want that they may be open for beekeeping.

638.121.2

Dietemann, V - Pflugfelder, J - Härtel, S et al.: **Social parasitism by honeybee workers (*Apis mellifera capensis* Esch.): evidence for pheromonal resistance to host queen's signals.** *Behav Ecol Sociobiol*, 2006. 60, 785-793. - 3 fig., many ref.

The ability of *Apis mellifera capensis* parasitic workers to imitate reproduction even in the presence of *Apis mellifera scutellata* host queen is a consequence of their unrestrained production of queen-like pheromonal semiochemicals. The production

of queen like pheromonal blends by the parasite despite the presence of the host queen could originate from an incompatibility in the mechanisms of regulation of reproduction between the two breeds. The quantity of mandibular pheromones produced by the queen is not important in this mechanism and high threshold responses are not involved in the host'queen ability to prevent the parasites to reproduce.

638.178.2A

Roman, A: **Effect of pollen load size on the weight of pollen harvested from honeybee colonies.** *Journal of Apicultural Science*, 2006, 2, 47-57. - 6 tab., 23 ref.

The experiments included 19 bee colonies and was carried out since May to the end of August in 2004 and 2005. Pollen was collected as pollen loads using a pollen trap. Pollen yield per colony was from 4,50g/day to 68,19g/day . In the second study year lower values were recorded from 4,30g/day to 38,25 g/day. The largest pollen loads recovered weighed 7,44 mg/load in the year 2004 and 8,33mg/load in the year 2005. Average amount of pollen loads harvested in Poland's apiary is 3 kg per colony per season. The pollen efficiency of honeybee colonies may rise to 8 kg per colony.

638.171

Buchwald, R - Breed, MD - Greenberg, AR et al.: **Interspecific variation in beeswax as a biological construction material.** *Journal of Experimental Biology*, 2006, 209, 3984-3989. - 4 fig.

Mechanical properties of waxes from four honeybee species *Apis mellifera*, *Apis andreniformis*, *Apis dorsata* and two subspecies of *Apis cerana*. Raw wax was formed in to right circular cylindrical samples and were compressed in an electromechanical tensometer. The resulting stress-strain curves indicate values for yield stress, yield strain, stress and strain at the proportional limit, stiffness, and resilience. *Apis dorsata* wax was stiffer and had a higher yield stress and stress at the proportional limit than all other waxes. The waxes of *Apis cerana* and *Apis mellifera* had intermediate strength and stiffness and *Apis andreniformis* wax was the least strong, stiff and resilient. All of the waxes had similar strain values at the proportional limit and yield point. The observed differences in wax mechanical properties correlate with the nesting ecology of these species. *Apis mellifera* and *Apis cerana* nest in cavities that protect the nest from environmental stresses. The strongest and stiffest was found at *Apis dorsata*, This species constructs heavy nests attached to the branches of tall trees and expose them to greater mechanical forces. The least strong, the least stiff and resilient wax was the wax of *Apis andreniformis*.

668.52

Ruffinengo, SR - Maggi, M - Fuselli, S et al.: **Laboratory evaluation of *Heterothalamus alienus* essential oil against different pests of *Apis mellifera*.** *J. Essent. Oil Res.*, 2006,704-707.- 2 fig., 2 tab., 22 ref.

The main components of the oil were beta pinen (44,4 %) and trans-muurolo-4(14)

dien (9,2 %).The oil shows in vitro miticidal, germicidal and fungicidal activity. It is possible that this oil can be used in combination with others in a handling strategy integrated for the plagues of honeybee colonies. The evaluation indicates that the use of this oil alone may not be recommended because it only acts moderately against some of the investigated plagues.

591.481.1

Bunce, J: **Bee brain researcher wins science prize.** *Beekeeping*, 2007, 3, 68-69. Professor Srinivasan has won 300 000 AUD Prize for Science.

He is working with the U.S. Army and NASA to design tiny craft based on his research of bees brains that could be used to explore Mars and reduce danger for soldiers on the battlefield. Insects have their eyes to close together and cannot use the human stereovision system. Insects observe how rapidly objects appear to move on the retinas in their eyes. If they move quickly the objects are close, if slowly they are fare away. Professor Srinivasan has revealed the working of bee brain and helped redefine robotics.

638.157

Spiewok, S - Neumann, P: **The impact of recent queenloss and colony phenotype on the removal of small hive beetle (*Aethina tumida* Murray) eggs and larvae by African honeybee colonies (*Apis mellifera capensis* Esch.)** *Journal of insect Behavior*,2006, 5, 601-611. - 2 fig., 2 tab., 19 ref.

The assay shows that the overall removal efficacy was not influenced by phenotypes or queen state. All introduced eggs and larvae were removed within 24 hours. Queen less colonies removed them merely slower than queen right ones. The latter ones rejected up to 300 larvae within one hour. Colonies undergoing preparation for absconding did not completely remove small hive beetle offspring. The defence behavior is well developed in African honeybees.

638.121.246.3A

Sanbugossa Madeira, B - Abreu, I - Ribeiro, H et al: **A scientific note on honey bee foraging activity and airborne pollen flow.** *Apidologie*, 2007, 1, 122-123. - 1 fig. , 12 ref.

Airborne pollen flow and bee collected pollen was studied in 2003 and 2004 on three localities in Portugal. On two localities the airborne pollen content was sampled using two Cour type samplers at 12 and 7 m above ground level. The relationship between total airborne pollen and the total weight of pollen collected in pollen traps was evaluated separately for each location and year. Significant correlations were found in each case.

638.121.3

de Olivera Tozeto, S - Bitondi, MM - Dallacqua, RP et al: **Protein profiles of testes,**

seminal vesicles and accessory glands of honey bee pupae and their relation to the ecdysteroid titer. *Apidologie*, 2007, 1, 1-11.- 4 fig., many ref.

The reproductive system has received little attention. Authors found that in testes of young pupae the protein titer increases in parallel with increasing ecdysteroid levels. Maximal protein titers are reached in late pupae, after the hormone titer has dropped. Protein titer then decreases at the end of pupal stage, coinciding with the time reported for spermatozoa migration to seminal vesicles and onset of testes degeneration. In seminal vesicles and accessory glands, the protein titer increases continuously during pupal stages, the maximal titer coinciding with low ecdysteroid levels in the late pupae. Two new polypeptides appeared in accessory glands of late pupa when the ecdysteroid level was low. Some of the final steps of differentiation of the drone reproductive system are negatively regulated by ecdysteroids.

638.121.1

Bienefeld, K - Ehrhardt, K - Reinhardt, F: **Genetic evaluation in the honey bee considering queen and worker effects - A BLUP-animal model approach.** *Apidologie*, 2007, 1, 77-85. - 1 fig., many ref.

The assessment of breeding value for the honeybee is more difficult because colony traits in honeybees are the expression of the combined activities of the queen and workers. There are negative genetic correlations between the contributions of both queen and workers to important traits, e.g. honey production. The most advantageous evaluating method for breeding in other animals is the Best Linear Unbiased Prediction BLUP-Animal model and this model has been adapted to the peculiarities of honey bee genetics and reproduction. The advantages of the new concept of genetic evaluation in the honeybee are based on the consideration on the contribution from both castes on colony expression and on genetic relatedness among colonies in order to facilitate genetic comparisons within the whole population.

66.047

Norway's best drying runner. *Biroekteren*, 2007, 3, 73. - 1 fig.

Equipment for drying honey is made of a runner 2,5 m long and 40 cm, made from stainless steel. It is mounted on the ceiling with a slight slope that the honey may run slowly. At the one end where honey comes in the runner, there is fixed a ventilation heater which blows warm air over the honey which runs slowly and is effectively dried. After the drying honey is filled into 1000 l container and water percentage is equalized. Then the honey is bottled into the buckets.

638.167 615

Kirkevold, RR: **Old medical advices.** *Biroekteren*, 2007, 3, 78. - 1 fig.

Sleep problem is cured with tea drink. 2-3 slices of ginger (2 mm thick) are put in a tea pot. Hot water is poured over them, and under the lid you let the slices to simmer for 20 minutes. Other such medicament is camomile tea with a spoon of honey. If you have nervous excitement about the journey you cure it with a drop of peppermint oil a teaspoon honey in a cup of warm water. You drink the mixture slowly a half hour before the departure.

638.121.2

Malka, O - Shnicor, S - Hefetz, A et al: **Reversible royalty in worker honeybees (*Apis mellifera*) under the queen influence.** *Behav Ecol Sociobiol*, 2007, 61, 465-473. - 4 fig.,

Investigation whether worker fertility and royal pheromone production are reversible under the queen influence. Authors induced ovary activation and queen pheromone production in workers by rearing them as queen less groups. These workers were subsequently reintroduced into queen right micro colonies for one week and their ovary status and queen pheromone levels were monitored. Workers reintroduced into queen right, but not queen less colonies showed a clear regression in ovary development and levels of the queen pheromones. This phenomenon demonstrates that worker sterility and (or) fertility is reversible and is influenced by the queen. The coupling between ovary activation and royal pheromone production is obvious. The evolution of worker sterility is apparently under the influence of the queen (queen control hypothesis). The dynamics of queen pheromone production in queen less workers supports the role of Dufour's gland pheromone as a fertility signal and that of the mandible gland pheromone in dominance hierarchies.

595.42A

Dillier, FX - Fluri, P - Imdorf, A: **Review of the orientation behaviour in the bee parasitic mite *Varroa destructor* : Sensory equipment and cell invasion behaviour.** *Revue Suisse de Zoologie*, 2006, 4, 857-877. - 2 fig., many ref.

Most attractive for *Varroa* females are nurse bee and drone larvae just before the cappings by the nurse bees. *Varroa* is equipped with a machinery to detect a broad range of chemicals. The phoretic mites spend most of the time in a protected position under the sternites of the host bee before invading host cells where they hide behind the larvae. *Varroa* mites may only invade worker or drone brood cells when worker bees bring them close to suitable brood cells. The mites move from the bees to the rim of cell, walk quickly inside, crawl between the larva and the cell wall and then move on to the bottom of the cell, hiding in the food juice. *Varroa destructor* mites stay longer on bees if there are few brood cells available in the colony. A complex of mixture of chemical compounds from the brood and physical parameters of the comb is responsible for the host recognition. Presently there is no solution for a biological *Varroa* treatment control regime based on interference with *Varroa* orientation during the brood invasion.

638.178.B

Practical beekeeping. Propolis. *Bees for Development Journal*, 2007, 82, 3. - 1 fig.

The bees bite off scraps of plant resin with their mandibles and pack them into the corbiculae (pollen baskets) on her hind legs. Each corbicula can carry about 10 mg of propolis. Propolis is collected at the temperature above 18° C. Sometimes bees collect drying paints, road tar or varnish. *Apis mellifera* use propolis, *Apis mellifera caucasica* collects propolis more than other bees. *Apis cerana* does not use propolis. Propolis kills bacteria and there are other medicinal properties of propolis. World price is about 38 EURO per 1 kg. Bees use propolis to keep the hives dry, cosy and hygienic, as building material, a varnish inside brood cells before the queen lays

eggs into them, to embalm predators too large for bees to eject from the nest. *Apis florea* use rings of propolis (like grease bands) to deter enemies by coating the branch from which its single comb nest is suspended.

I lokala tidsskrifter av gratis karaktär får man fritt förfoga över materialet från BNB, man måste dock ange källan:

Bi-NyhetsBrev - <http://www.quicknet.se/home/q-119076/>

I andra skrifter först efter överenskommelse.

Länkningen till <http://www.quicknet.se/home/q-119076/> är OK. Att lägga ut nyhetsbrev på egen hemsida eller enstaka artiklar ur BNB är däremot INTE OK. Nyhetsbrev skall betraktas som ©.