

CONSERVATION OF BUMBLEBEES, *BOMBUS LATR. (APIDAE)* DEPICTED IN STAMPS AND OTHER PHILATELIC ITEMS

Wit Chmielewski
Apiculture Division, Research Institute of Pomology & Floriculture,
Kazimierska 2, 24-100 Pulawy
e-mail: wit.chmielewski@man.pulawy.pl



INTRODUCTION

Permanent pollution of the environment causes a gradual decrease in numbers of bumble bees in nature. Therefore all bumblebee species are present in the list of lawful protected entomofauna and some of them are in the "Red Book".

The aim of ecological education in many countries is to spread knowledge on these useful insects and to promote ideas for their conservation.

The objective of this presentation was a review of edited philatelic items, mainly stamps, popularizing the conservation of bumblebees, the number of which is over 70 at present and significantly more with First Day of Issue Envelopes (FDC), occasional postcards etc. on this topic.

MATERIAL AND METHODS

Author's own collection of postage stamps and other philatelic items, collected for many years, were basic material for this study.

Identification of particular single exhibits or sets of stamps was made with help of sufficient philatelic world catalogues (i.e. Michel, Scott and Yvert & Tellier). All these data were confronted with earlier author's publications and similar pieces of information in other references (Chmielewski 2004, 2007ab, 2008, Devos 1968, Fisk et al. 1962, Moulton 1971, Pruess 1973, Shaw, Stuart Ching 1994, Wright 1967).

Guides to identification of hymenopterans with special reference to bumble bees were also very helpful in this study, especially for identification of the *Bombus* species; some material was identified as a genus only.

Some stamps are showing bumble bees as pollinators of various wild and cultivated plants, living in the field, meadow, forest and other habitats.

Melliferous flora depicted usually as a background of these insects visiting flowers, presented in these pictures, were also the subject of analysis.

RESULTS

Analyses of collected material show that total number of "bumble-bee stamps" were issued since now in 30 countries and they amount over 70 items (PL I-XI). Of them the oldest are the stamps showing buff and white tailed bumble bees, *Bombus terrestris* L. and *Bombus lucorum* (L.) issued in Switzerland, Finland (1954), Poland and former Czechoslovakia (1961).

Total number of these issues includes majority of pictures showing identified species and some undetermined *Bombus* specimens. They show bumble bees as pollinators visiting agricultural cultivars (e.g. clover, sunflower), various ornamental plants, weeds, orchard-, park- and forest-trees and bushes. Pollination of cultivated and wild living plant species, especially so called "difficult flowers" plants, (e.g. red clover, alfalfa) by them is necessary condition of optimal fruit and seed crops, and ecological balance in nature.

Presentation of these useful insects by means of philately is worthy of recommendation as an attractive and effective method of popularization of their biocenotical and economic importance and idea of nature conservation.

Among the bumblebees (*Bombus* Latr.) depicted on stamps, majority of them were identified as the following species (country, year of edition):

B. americanorum F. (Vietnam 1986); *B. bimaculatus* Cresson (Bulgaria 2002(?)); *B. hortorum* (L.) (Hungary 1980); *B. lucorum* (L.) (Belarus 2004, Czechoslovakia 1961, Finland 1954, Island 2004, Isle of Man 2001, Poland 1961, Switzerland 1954); *B. modestus* Eversmann (Russia 2000);

B. muscorum (L.) (Russia 2000); *B. pascuorum* (Scop.) (= *B. agrorum* (F.)) (Angola 2000, Russia 2000); *B. pomorum* (Panz.) (Lithuania 1999);

B. pratorum (L.) (UK - Alderney 2009), *B. proteus* Gerstaecker (Russia 2000); *B. (Megabombus) ruderatus* (F.); (Guinea Equatorial 1974, Portugal - Azores 1984, Russia 2000); *B. sporadicus* Nylander (Russia 2000);

B. subterraneus (L.) (Angola 2000, Russia 2000); *B. terrestris* (L.) (Belgium 1996, Yugoslavia 1978, Mongolia 1979, Germany - Berlin 1982, Niger 1977, Norway 1997, Sharjah 1972, Great Britain 1985); *Bombus* sp. (Brasilia 1979, Finland 1993, Guinea-Bissau 2001, Monaco 1988, 1989, Colombia 1967, Mozambik 1989, Nikaragua 1979, Germany - Berlin 1985, (former) DDR 1980, 1982; Paraguay (?), Russia 1994, St Vincent 1976, Umm-AL-Qiwaïn 1973).

DISCUSSION AND CONCLUSIONS

Conservation of bumble bees (*Bombus* Latr.) is special topic of numerous stamps edited occasionally by post of various countries, e.g. „Pro Juventute" (Switzerland 1954), „I Exposicion Nacional de Orquideas" (Colombia 1967), „Maurice Maeterlinck Prix Nobel De Literature 1911" (Niger 1977), „Für die Jugend" (Niemyu 1984), „Красная Книга" (Russia 1994), „Европейскi Rok Ochrany Prirody" (Czechia 1995), „Шлеги занесенные в Красную книгу Российской Федерации" (Russia 2005), „Insect des Jahres 2005 *Bombus lapidarius* (Germany 2005), „National Pollinator Week" (USA 2007) etc.

Bumble bees belong to very effective plant pollinating insects of economic and ecological importance. Review of flora accompanied with bumble bees presented on stamps includes representatives of various groups of plants cultivated in the field and greenhouses and also first of all wild plant species living in nature (meadow, forest).

Popularization of knowledge on bumble bees, their biology and significance as pollinators of plants in agricultural and horticultural cultivars and living in natural conditions, and on conservation of these useful insects is very important.

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Bombus lucorum (L.) (Apidae, Bombinae)



Bombus terrestris L. (Apidae, Bombinae)



Bombus spp. (Apidae, Bombinae)

