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When a method of laboratory rearing of Bombus terrestris L. was applied as the standard in B. lapidarius, the rearing conditions were fully acceptable for B. lapidarius queens. Ways of starting colonies, their development, numbers of individuals, were similar in both species. The outstanding feature of most lapidarius queens was their willingness to accept the cocoon(s) of B. terrestris and even the very young terrestris worker as a helper in the care of brood at the very beginning of colonies. On the contrary from B. terrestris, lapidarius colonies did not produce young queens after they were made orphan, what in terrestris is the rule.

Lapidarius colonies did produce young queens regularly. Those freshly emerged, fed pollen first to develop their fat body, and from the 6th day onward they were ready to mate. They did mate in comparative small copulation rooms (40 litter aquarium covered with mesh) at the window (light). Males produced in laboratory copulated regularly, whereas those from outside did not.

Unlike in B. terrrestris, where currently 70-80 % of queens survived the period of 3-6 months of cold storage, in B. lapidarius 75–87 % of queens died under the same conditions. Moreover those, which survived were hardly able to start colonies. The process of entering the diapauses remains to be solved.

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Rearing *Bombus lapidarius* L. (Hymenoptera, Apoidea) in laboratory

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The laboratory conditions known for rearing of *Bombus terrestris* L. were acceptable for *B. lapidarius*, both queens and workers.

1: Ways of starting colonies, their development, numbers of individuals, were similar in both species:
Darkness, 28 – 30°C of temperature and 70 % of air humidity enable queens to lay eggs and incubate her first progeny. Stronger colonies can be inspected under the red illumination and kept under a bit lower temperature (27 - 25°C). Colonies were started in simple plastic kitchen containers equipped with ventilation holes and with a sheet of cardboard at the bottom to absorb faeces. Those having workers continue to develop in laboratory hives

2: Pollen pellets collected by honey bees (served ad lib) cover the need in proteins. For single queens, just starting colonies, fresh or deeply frozen fresh pollen is advisable, whereas colonies having workers can consume the commercially available good quality dry pollen (which naturally must be moistened before use). Pollen can be served pressed into plastic containers according to the needed amount.
3: Sugar can bee fed as 60 % water solution of dry matted of 90 % of sucrose and 10 % of fructose, stabilized by Na benzoate

4: Laboratory hives (15 litters of volume) should have two screened ventilation openings. Other holes are desirable to allow connection of two hives if colony is populous and produces queens. Inner plastic cover keeps apart workers by colony inspection, the outer telescopic cover prevents hives from rain if placed outside.

5: There are several possibilities of sstarting colonies by queens ready to lay eggs.
- Queens can be kept in couples, which must be divided after one of them has laid eggs.
- Queens accept *lapidarius* male cocoon(s) for incubation and later egg cell construction.
- If the queen has her own brood, already, she can be given a young *lapidarius* worker as a helper.
- Most of the broody queens accept also *terrestris* cocoons for oviposition and a even a very young *terrestris* worker as a helper.

6. Colonies having first generation of workers continue to develop in hives. Matured colonies regularly produced queens, those deliberately made orphan produced only workers and later on males from the workers' eggs.

7: To control queen rearing, queen cocoons ripen out of the hive. Young queens feed first on pollen, and later on they are allowed to mate with selected males in a copulation room. The mated ones, and full of honey, are stored in cold. Data concerning the preparation of queens to diapauses have to be clarified, for we observed considerable mortality during the cold storage in *lapidarius* as compared to the *terrestris* ones.

8: Colonies of *B. lapidarius* can be used for pollination in enclosure. As the laboratory rearing is possible, the strength of a given colony can be adopted to the bed of plants under the cage. The strength in bees of a developed colony is comparable to a *terrestris* one.

9: *B. lapidarius* can pollinate a broad range of plant species from which the clovers are the most favourable.

10: By means of the laboratory rearing the natural population of the species can be supported in localities, where other species of pollinating insect decreased and seed and fruit production is warrant.

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