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PP-444 [Bee Biology]

Statement for the Conservation and Restoration of the Dark European Honey Bee (*Apis mellifera mellifera*)

SICAMM
Societas Internationalis pro Conservatione Apis melliferae mellliferae
International federation for the conservation of the dark European honey bee Apis mellifera mellifera

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Karen Kloppenborg Møller, Denmark, Brunebier

BACKGROUND

After the last ice age, the dark European honey bee, *Apis mellifera mellifera*, (also known as the black or the brown bee) one of the subspecies of the Western honey bee (*Apis mellifera*), extended its range across Northern and Western Europe. For the last one million years, it has evolved independently of other subspecies, except for *A. m. iberiensis* which shared the same refuge during the last glaciation period.

Jan Gutzeit, Der Bundesverband Dunkle Biene Deutschland e.V. Germany

CURRENT SITUATION - FOUR SCENARIOS

Dark European honey bees in a tree stem in Lithuania (verified by wing index and DNA analyses). Laima B.-Čereškienė, Lithuanian Dark Bee Association

Existing populations of dark European honey bees in Europe are either:

(1) *Endangered by imports*. Local populations of the dark European honey bee are largely intact across much of the country.

(2) *Viable in reserves*. Local dark European honey bee populations remain viable in some reserves in the country but are threatened.

(3) *Strongly hybridised*. Dark European honey bee populations have been replaced, or severely hybridized, by non-native subspecies and artificial hybrids. This is the situation in most of the area of the original distribution of the dark European honey bee.

(4) *Wild populations in forests*. Fortunately, some dark European honey bee populations still exist, locally, as free-living colonies, in large forested areas with few economic interests for commercial beekeepers.

Original distribution of the dark European honey bee (*Apis mellifera mellifera)* and other honey bee subspecies (hybrid species like Buckfast not included)
Green line: original distribution limits to the west, north and east; **Vertically hatched line:** transition zone to the honey bee subspecies of southern and eastern Europe (*A. m. ligustica, carnica, macedonica* and *caucasica*); **Red dashed line:** northern limit of beekeeping (in current time).
Map distribution adapted from Thomas D. Seeley, 2019; The Lives of Bees: The Untold Story of the Honey Bee in the Wild; Princeton University Press, by V.R. Douarre. Source of Europe map: https://www.cartogratif.fr/continent-europe-4.php

GUIDELINE FOR TOOLS FOR CONSERVATION

(i) ***Strategic ban on non-native imports in all scenarios***. A ban on the import of non-native subspecies would be a hugely beneficial step forward for the sustainable recovery of the dark European honey bee. The large genetic variation still present in dark European honey bee populations makes them potentially more able to adapt to a changing climate and to become resistant against new pathogens and parasites.

(ii) ***Creation of reserves, or conservation areas, for the dark European honey bee***. When all the beekeepers on a homogeneous territory cooperate, a reserve or conservation area can be created, using the specifications of FedCAN (https://fedcan.org). This conservation programme can be implemented at a site where the dark European honey bee communities are still present. A central area where only dark European honey bees are kept, is surrounded by a buffer zone, where non-native bees can be replaced by dark European honey bees produced locally. In this way a population of around 150 colonies can be maintained, whose diversity can be preserved under natural selection, in the sanctuary at the centre.

(iii) ***Restoration programme*** to increase the percentage of dark European honey bee alleles outside of reserves or conservation areas. This could be a process of distributing young dark queens to interested beekeepers, thus promoting drone producing colonies in an area. Dark European honey bees used in restoration programmes should originate from areas comparable in climate and flora.

(iv) ***Promotion of free-living dark European honey bee populations existing in the wild***. Dark European honey bee populations must be preserved in European forests. This is important for the evolution of resistance to new diseases, parasites and to adapt to other environmental changes.

(v) ***Free distribution of genetically verified dark European honey bee colonies in and around buffer zones***. This approach supports the expansion of alleles of the native subspecies, encourages local beekeeper engagement, and creates a living protective ring around core conservation areas. Distribution programs should be accompanied by training, basic record-keeping, and periodic monitoring of genetic integrity.

Conall McCaughey, Native Irish Honeybee NIHBS

MORE INFORMATION

Reference: ***Statement for the conservation and restoration of the dark European honey bee (Apis mellifera mellifera)***

By The SICAMM conservation work team: Jacques van Alphen, Vincent R. Douarre, Laima Blažytė-Čereškienė, Markku Pöyhönen, Frankie de Dobbelaere, Natuschka Lee, Jo Widdicombe, John Greenaway. September 2025. More information can be downloaded from the SICAMM website.

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SICAMM Newsletter

HOW TO SUPPORT SICAMM Become a member, offer financial support, practical help, your speciality or expertise, join our work teams, or become a beekeeper of the dark European honey bee. For promotion our SICAMM social manager can offer social media support and get magazine and publication for a press release.

Disclaimer: This statement is intended to suggest the best practices and promote the conservation and restoration of the dark European honey bee (*Apis mellifera mellifera*) throughout Northern, Western and North-Eastern Europe. While not a set of rules, we propose a framework that can also be used for conservation efforts of other native honey bee subspecies within their natural evolutionary distribution ranges.

SICAMM

PP-444 [Bee Biology]

Statement for the conservation of Dark Honey Bee (Apis mellifera mellifera) and other European Native Honey Bee subspecies in their native range

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Thirty years ago, a rescue organization for the conservation of the dark honey bee (Apis mellifera mellifera) was founded: SICAMM (Societas Internationalis pro Conservatione Apis Melliferae Melliferae). Since then, the interest in the dark honey bee has increased significantly. This poster presents the SICAMM conservation commission's proposed blueprint. It sets out how the foundation's mission could be realised and how all its members, associations and individuals could contribute. We have chosen Apis mellifera mellifera as our symbol because it is native to Western and Northern Europe. However, SICAMM's federation also includes the conservation efforts of associations for other native European bee species. All European honey bee subspecies are common goods, as are their evolutionary history, biological constraints, importance, situation and the solutions for their conservation in their native range. Main topics: i) Evolutionary history of the different honey bee subspecies in Europe; ii) Importance of conserving the native honey bee subspecies in their natural range, iii) Biological constraints for benefiting from natural selection in honey bee conservation, iv) Four scenarios to describe the existing situations of Honey bee conservation, v) Solutions for conservation in order to secure the existing honey bee populations.