

## Implantation of Stagg beetles hostels in the city of Geneva (Switzerland)

Giulio Cuccodoro\* & Mickael Blanc

Muséum d'histoire naturelle, Département d'Entomologie, route de Malagnou 1, 1208 Geneva, Switzerland

\*Corresponding author

---

### ABSTRACT

Brief presentation of our ongoing project of implementation of a network of “Stagg beetles hostels” in the city of Geneva (Switzerland) aiming at consolidating the last large populations of big woodboring beetles *Cerambyx cerdo* Linnaeus, 1758 (Coleoptera Cerambycidae) and *Lucanus cervus* Linnaeus, 1758 (Coleoptera Lucanidae) in Switzerland.

### KEY WORDS

Stagg beetles hostels; Geneva; woodboring beetles; *Lucanus cervus*; *Cerambyx cerdo*.

Received 05.12.2014; accepted 15.02.2015; printed 30.03.2015

Proceedings of the 2nd International Congress “Speciation and Taxonomy”, May 16th-18th 2014, Cefalù-Castelbuono (Italy)

---

### INTRODUCTION

The large woodboring beetles *Cerambyx cerdo* Linnaeus, 1758 (Coleoptera Cerambycidae) and *Lucanus cervus* Linnaeus, 1758 (Coleoptera Lucanidae) are associated to oaks and beeches. Their larvae feeding on decaying wood take 3 to 5 years to develop into imagoes, which live only one Summer and hardly disperse further than half kilometer from their native tree. In North and Central Europe, they can complete their life cycle only in trees big enough to protect larvae from the Winter frosts. During the 20th century their distribution has however drastically regressed due to intensive exploitation of those trees for timber as well as changes in agriculture techniques.

Because of the large array of other useful and more elusive organisms benefiting of their favoured habitat (i.e. senescent oaks and beeches), they are considered umbrella species and received therefore protected status in Europe since 1992. In Switzerland, where they received federal protected status only in 2011 (OFEV, 2011), they can be found

today essentially in the southern part of the country, *Cerambyx cerdo* with only scarce populations in the cantons of Geneva, Valais and Tessin.

Despite a limited and rather urbanized territory, the canton of Geneva has the privilege to host the most abundant Swiss populations of both of these emblematic beetles. Amazingly, they are essentially found in the hearth of the city itself rather than in the surrounding countryside, where most old trees were cut in the early 20th century for timber and adaptation of the landscape to mechanized agriculture.

Renewal of suitable natural habitats better distributed in space and time in the countryside is a matter of several decades. Meanwhile, as falling branches put citizens and other park's users at risk, senescent oaks and beeches in town are gradually cut and removed. As a result, despite their apparent abundance in the city of Geneva, these urban populations of large wood-boring beetles are each day less abundant and more fragmented, in such a way that their disappearance seems programmed if nothing is attempted today.

## MATERIAL AND METHODS

We thus decided to try to consolidate the urban populations of these protected beetles by promoting in the city of Geneva the set up of a network of “stagg beetles hostels”. Already implemented successfully in several other places elsewhere in Switzerland and Europe, « woodboring beetles hostels» consist basically in 1 meter long logs half buried in the ground recreating artificially the appropriate conditions for female oviposition and subsequent development of the larvae.

However installation of such large and lasting structures in the heart of a densely urbanised city faces various technical and social problems. In first instance stagg beetles hostels are more cumbersome than birdhouse: they require several square meters of land, should remain over a decade to be really efficient, and as such must be installed only in close concertation with all relevant city services (urbanists, gardeners, maintenance, etc.). Therefore we dedicated a lot of time and energy explaining urbanists, gardeners and maintenance workers that stagg beetles hostels were as necessary as easy to build, but moreover that they consist indeed in an inevitable new element of the urban furniture of the Geneva of the 21st century.

Second and certainly most challenging problem is that most citizens perceive insects as a nuisance, a source of danger (punctures, vectors of diseases) or as revelators of defective sanitary conditions. *Lucanus* Scopoli, 1763 and *Cerambyx* Linnaeus, 1758 unfortunately don't escape this “rule”, which is even exacerbated by their quite impressive size in such a way that they are often mistaken as dreadful exotic beasts fallen off a plane from Africa or elsewhere.

Therefore we accompanied our project from the beginning with a real campaign for « social rehabilitation » of these large woodboring beetles. In first instance we made a call to the citizens for observations in the frame of a participatory inventory aiming at 1) bringing presence of these beetles to the knowledge of citizens, 2) teaching to recognize them, 3) explaining they role, 4) drawing attention to their patrimonial status and the responsibility of Geneva citizens regarding their respect and protection, and 5) offering people the possibility to contribute directly to this issue by the transmitting their own observations.

Besides we took every opportunity to talk to school classes and publish in daily newspapers small articles declining these thema. A WEB page specially dedicated to that project and relaying permanently our call for observations was also created ([www.ville-ge.ch/mhng/coleopteres\\_bois\\_geneve.php](http://www.ville-ge.ch/mhng/coleopteres_bois_geneve.php)).

## RESULTS

It took some two years from the origin of our project in 2011 to the construction of the first stagg beetle hostel in Geneva, which was achieved on the 17th of April 2013 by gardeners of the city of Geneva assisted by childrens. Installed at the foot of three big senescent oaks colonized by both *Cerambyx* and *Lucanus* in the “Parc La Grange”, the most scenic and visited parc of the city of Geneva, this Stagg beetles hostel is agremented with a graphic pannel summarizing the biology, role and status of these beetles, with a flash code addressing smartphone users directly to our WEB page for further informations. The device was completed with an attractive giant oak *Lucanus* sculpted by a local artist aiming both at catching attention of the visitors and favouring perennality of the hostel, which symbolizes to us the participatory involvement of the Geneva citizens for a more rational management of their environment.

## CONCLUSIONS

This realisation will take all its meaning only if drawn in the future. In effect to modify the social perception of large woodboring beetles from the status of unwanted frightening pests to majestic useful animals being integral part of the environmental identity of the citizens will be certainly a long-term process. In this perspective participatory involvement of the public in a “continuous assessment” via regular calls for informations in the daily media seems very important to us. However it's obvious to our eyes that the best way to accelerate adhesion rate to the cause of large woodboring beetles will consist in penetrating public education programs, and that from the earliest school classes.

Nevertheless it appeared that once explained the environmental issues and technical feasibility



Figure 1. First Stagg beetles hostel of Geneva (Switzerland): construction with children.



Figure 2. First Stagg beetles hostel of Geneva (Switzerland): sculpture by Sylvio Asseo.



Figure 3. First Stag beetles hostel of Geneva (Switzerland) as completed (logs, sculpture, and didactic panel).

of the project, most professional actors of the city services concerned were enthusiastic to contribute at their level to its realization. The best proof we can present is that additional 7 stag beetle hostels have been installed by the gardeners in other parks of the city in 2014, and more are planned for 2015. Next steps will be to increase the density the network of stag beetle hostels with a target of one each 300 m in order to enhance gene flows between each individual population, then to implement corridors of stag beetle hostels favoring natural dispersal of these beetles through the suburban crown toward the countryside they used to belong. Meanwhile we already work with forestal authorities in order to promote the plantation of oaks and beeches in the countryside with a better

scaling in space and time of suitable habitats for these magnificent insects.

The project received the “Geneva cantonal award for sustainable development edition 2014”.

## REFERENCES

- OFEV, 2011. Liste des espèces prioritaires au niveau national. Espèces prioritaires pour la conservation au niveau national, état 2010. Office fédéral de l’environnement. L’environnement pratique n°1103, 132 pp.
- CEE, 1992. Directive 92/43/CEE du Conseil, du 21 mai 1992, concernant la conservation des habitats naturels ainsi que de la faune et de la flore sauvages. CEE. Journal officiel n° L 206 : 0007–0050.