30 questions about the bark beetle, foresters, and ecologists in the Białowieża Forest

- scientists answer frequently asked questions and set the record straight

About the bark beetle

1. Why is the Białowieża Forest valuable?

- large parts of it have never known a lumberjack's axe, there are many <u>old trees</u> and many rare species, its ecosystem is <u>still shaped by natural factors</u>, almost like it was thousands of years ago. As the only such place in Europe, it is well known to naturalists in the West, who envy us a lot. The <u>Białowieża National Park</u> covers 17% of the Polish part of the Forest.

2. What is the bark beetle?

- properly known as the <u>European spruce bark beetle</u> (<u>Ips typographus</u>), it is a 5mm-long beetle. It can fly and reproduces in spruces.

3. How does the beetle kill spruces?

- it attacks weakened trees. It burrows through the bark to lay eggs. The hatched larvae destroy the tree tissues by feeding. The defends itself by producing resin, but will die if the larvae are too many.

4. Has the bark beetle ever been present in the Forest before?

- the bark beetle has been here for aeons, and its presence is wholly natural. Several larger bark beetle outbreaks have been observed over the last 100 years. Each time, however, it has only killed a portion of spruces and never threatened the Forest.

5. Why is there a bark beetle outbreak in the Forest?

- it is a natural phenomenon, to which foresters have contributed by cutting down deciduous trees and planting spruces for years. To make matters worse, the Forest was dehydrated for many decades (in Belarus as well) to facilitate forest management, which weakened the shallow-rooted spruces. This led to many spruces being in poor health – a bark beetle paradise. Thus the outbreak.

6. Is the bark beetle a pest?

- in production forests the bark beetle is treated as a pest threatening lumber production, which leads to interventions. This requires at least 80% of invaded trees to be logged and removed from the forest before the beetle can leave them and invade more.

7. What is the role of the bark beetle in the Białowieża Forest?

- just the opposite: it is not a pest but rather a natural facilitator of changes in the forest caused by climate changes. There are <u>more</u> spruces in the forest than there should be, so some of them have to die, sooner or later. The bark beetle removes the surplus, leaving the fittest ones, and so corrects the foresters' mistakes. Therefore, bark beetle control is not only unnecessary, it is harmful to the Forest.

8. Will logging the infested trees limit the bark beetle outbreak?

- it is completely unrealistic. The bark beetle is 5mm long and can fly, the forest is huge, with spruces scattered throughout it. As a result, it will not be possible to find all infested trees in time, and logging only some of them is pointless. Besides, some spruces grow in Belarus and in the National Park (which covers 2/3 of the Forest), where they cannot be cut. So, the spruce logging method is doomed to fail, and even the foresters admit to it off the record. What is more, this method is extremely harmful.

9. Why is logging harmful?

- because it is a <u>cure worse than the disease</u>. The logging takes place in spring and summer, when the forest is brimming with <u>young animals</u> (e.g. <u>nestlings in tree hollows</u>), slain in droves by harvesters and run over by tractors. Those that survive run startled by the <u>noise</u> and the presence of cars carrying lumber away. While we may tolerate it in commercial forests, in the Białowieża Forest we cannot, as there are many rare and protected species here. Even more so that there is no need to do so – see 7.

10. Why do foresters want to fell infested spruces?

- first, they fell spruces infested by the bark beetle in order to limit the outbreak, just as they do in commercial forests, even if it should harm rare species and lead to the loss of the Forest's biodiversity. Second, they fell dry spruces in order to sell the lumber they yield.

11. The bark beetle will kill all the trees and there will be only nothing left

- The bark beetle attack s only older spruces, it never attacks deciduous trees

Secondly, the forest functions perfectly without pour f=help and as soon as dry spruce dies, immediately new trees grow. The are millions of seeds in the ground who are waiting for their turn to grow. When older tree dies, the seeds are growing and after several years they can be already 10 meters high. In the forest, in the places of killed spruces the trees are growing independently - if heave machines were not riding in the woods...

12. Foresters are cutting the dry spruces anyway

- Yes! And at the same time they are helping the bark beetle. When the beetle is killing the tree it leaves it so there is no need to cut it. And in the dry tree thousands of organisms are growing, including the enemies of the bark beetles, which later hunt for it. If the woodsman would really want to fight the beetle they would not touch any infected spruces, because it basically is like stopping the police from catching the thief. But they are cutting thousands of them now! Why> if you don't know why, then maybe...well, just ask them yourself.

13. Dry trees are dangerous for people

- But definitely less dangerous then steep slopes of the mountains. Dry spruce can stand for years, but will fall someday, and that is the reason why you can't enter the forest during heavy winds. In the National Park where there are lots of dead trees and thousands of tourists, no one was ever hurt.

Also, dry spruces can be cut down if the stand close to houses and roads –no one will protest it. The scientists are not crazy. But there is absolutely no reason to cut thousands of spruces in the middle of the forest and put them in lumber mills, because it has nothing to do with the safety but it is only about making money and destroying the biological variety of the forest!

14. The ecologists were blocking the cutting of first infected spruces couple of years ago and that is the reason of invasion of the bark beetle.

- The foresters increased the number of spruces almost twice in the agricultural part of the Bialowieza Forest and it had to leave to the gradation of the bar beetle. Cutting or not cutting of the trees would not change anything. – There is no way to stop the gradation. It is a natural and wanted occurrence.

15. The forest looks like a tree graveyard, as there are so many dead trees here.

- The bark beetle has only killed about 8% of the trees, so nothing threatens the Forest as a whole. Our concept of a genuine forest is false, because we know mainly commercial forests, where dead trees are quickly removed. But there are a lot of them in a real Forest. And that's for the best, because they are important – their hollows give shelter to birds and bats; in dead wood live invertebrates, mushrooms, etc. This is why there are so many rare species in the Forest.

16. The example of the Bavarian Forest shows that we have to cut down trees.

- That forest is a perfect example of the ineffectiveness of the foresters' actions. First, they had planted a lot of spruces, which were then killed by the bark beetle, but now the real forest begins to grow there, without human interference. Thus the nature itself has managed. We know the scientists from the Bavarian Forest, and they have signed the appeal for protection of the Bialowieża Forest. 17. What we ought to do?
- Leave the Forest in peace, carry out research and monitoring. The greatest threat to the Forest is human interference. The bark beetle will kill some more spruces, then its population will decrease, and the Forest will be in much better condition than after large-scale logging. Dead spruces will decompose over time, and young trees including spruces, which emerge frequently will take their place, and the situation will stabilize. Therefore, the whole Forest should be a National Park.

Part 2. On foresters and environmentalists

18. What are the parties to this dispute?

Part of the local residents, almost the entire academic world, and non-governmental organizations for the environmental protection are against the logging. As well as part of foresters, who understand that cutting down trees is pointless. The remaining foresters, mainly those in high positions, support the logging, as does the Minister of Environment, a few scientists (generally those associated with the State Forests), and part of the local population who don't realize the tourism potential of the Forest.

19. The scandal: who's the winner and who's the loser?

That's obvious that local people lose income from tourism, and scientists lose the ability to study natural processes. The foresters are losing their image, because they are perceived as mindless

plunderers of the Forest - bad decisions taken by their superiors cast a shadow on them too. And the society is the loser as well because the Forest is our common property. Still, narrow groups connected with the State Forests dealing with cutting and marketing of wood can make a pot of money on it.

20. The whole local community demands cutting

That's not true. A large part of the local population earns a living by tourism (check out Street View for how many tourist accommodations there are in Białowieża), because the Forest is visited by a lot of people. However, they don't pay a visit here just to admire stacks of cut trees, the whirr of saws or a parade of tractors dragging trunks along forest roads. What's more, when foresters will have cut down old trees and planted seedlings in rows, the Forest won't be attractive to tourists anymore. So mass cuttings reduce the amount of visitors, and this fact raises the residents' objection. In addition, the protection of the Forest creates many workplaces in tourism and services: one hotel can employ as many people as three forest inspectorates, which are in fact deficient.

21. The population lacks wood by imposed limits in cutting

The local population has the problem with buying timber because the foresters keep selling it to external buyers. Protection of the forest does not mean a total ban on cutting, quite contrary - the less valuable part of the Forest should provide wood for local needs.

22. Ecologists want to close the Forest

In fact it's quite opposite; ecologists were the ones to organize walks in the Forest and they keep inviting to visit it. They also provide environmental education, and scientists spread knowledge about the Forest. Meanwhile, the State Forests established a total ban on access to much of the Forest, even to the areas where there are no dead trees, and that has led to protests of locals who make profits of tourism.

23. The ban on cutting in the Forest must be the leftists' idea

Most of the scientists who are determined opponents of cutting in the Forest have nothing to do with the leftist ideology. Nevertheless, any ideology is irrelevant – before visiting a dentist do you start considering his private opinions and views? What matters here are pure facts and science, and any ideological point shows the lack of other arguments.

24. Only eco-fanatics without any knowledge protest in Białowieża.

- If you read such an opinion, there are only two possibilities: its author has been fooled or they are fooling other people. Almost the entire academic world in Poland (1,2,3,4,5,6) is protesting against cutting down the trees. Polish scientists from the Polish Academy of Sciences and the best universities, who have been studying the wildlife of the Forest for decades, are against the logging because they know how harmful it is. Also experts outside Poland agree that the spruces shouldn't be cut down. Non-governmental organizations are also protesting by blocking heavy equipment when logging of the most valuable fragments begins, and that mostly gets the media attention. Thousands of ordinary people in Poland and abroad also take part in the protest.

25. Nature conservation experts say we should fight the bark beetle.

Can you name at least one such expert? No, because it's another myth. Some scientists involved in the timber industry, e.g. those who deal with saws, advocate eradicating the bark beetle. But they are by no means experts in nature conservation. Almost all recognized conservation scientists (those who carry out their own research and publish scientific papers in good English-language journals) are against cutting down the spruces.

26. Foresters know best what to do in the Forest.

- The uniqueness of the Forest is precisely due to the lack of foresters' interference. Foresters are trained in how to manage a forest to produce good quality wood. But they know less about nature perseveration than scientists, because the education of foresters is geared towards production. So it's the scientists who are competent to decide on how to protect the Forest, not foresters. It is mainly the scientists who have carried out research in the Forest, for example, bird monitoring for 40 years. Do you know any such research conducted by foresters?

27. The foresters have to fight the bark beetle due to legal regulations.

Such regulations apply to commercial forests. So why they don't want to extend the National Park to cover the whole Forest? They complain that they have to cut trees, but at the same time they oppose the solution which removes this obligation. Suspicious, isn't it? Let's turn the whole Forest into a National Park, and the problem will disappear - scientists, conservationists and ¾ of Poles support this solution.

28. What is a UNESCO Site and why is it a problem?

-UNESCO World Heritage Sites are the most precious sites worldwide. The Forest is the only natural site on the list in Poland. It is a valuable distinction for us: it highlights the uniqueness of the Forest, which makes us proud. Still, the mass logging in the Forest is in total breach of the Convention protecting the UNESCO sites and leads to conflicts with the European Commission as well.

29. So, the whole conflict is political.

- in Poland, any conflict that is mediagenic enough becomes political. There are politicians from both sides turning up here, trying to gain some voter sympathy by doing so. We are not interested in

politics, however, we do what the Polish taxpayer pays us to do: conduct research and share the state of affairs according to our best knowledge.

30. Who should we believe in this dispute?

- we encourage you to restrict your trust when it comes to the Forest, as the Internet is full of home-grown experts and naïve people repeating the lies they have heard. So, always check the credentials of people speaking about the Forest (ours too). Listen to the scientists who can support their claims with results of studies and do not have any interests other than to protect the Forest – we neither sell lumber nor profit from tourism.

About the leaflet

As this leaflet's content is maximally concise, we had to skip much relevant information and simplify the descriptions. However, you can easily learn more from many papers showcasing the natural wealth of, and threats to, the Forest. We recommend for starters: paper 1, paper 2, paper 3, paper 4, paper 5, an interview, and YouTube clips about the bark beetle and the mammals, birds, and history of the Forest.

About the authors of the leaflet

Rafał Kowalczyk – habilitated doctor, Professor at the Polish Academy of Sciences (PAN), Director of the Mammal Research Institute, PAN, in Białowieża. Educated as a forester, he has been living in the Białowieża Forest for 25 years, studying mammal biology.

<u>Piotr Tryjanowski</u> – professor and Director of the <u>Institute of Zoology of the Poznań University of Natural</u> Sciences; studies the scientific basis of nature conservation and the effects of climate changes on biodiversity.

<u>Michał Żmihorski</u> – holds a doctorate in biology, works at the <u>University of Agricultural Sciences in Uppsala</u> (Sweden) and at the <u>Institute of Nature Conservation PAS in Kraków.</u>