



# Expedition: Finding the Perfect Place - Monitoring Sleeping Trees Selected by Javan Gibbon

## Field Study: Conservation

**Summary:** Javan gibbons receive less attention than the great apes, yet their existence is threatened by deforestation, forest degradation, and illegal pet trade. Primatologist and educator Rahayu Oktaviani (Flag #23) and her team collected data about the tree preferences and ecology of these endangered small apes in the Citalahab Forest, Gunung Halimum Salak National Park, Indonesia, with the goal of developing specific conservation actions, including research, education, and community engagement.

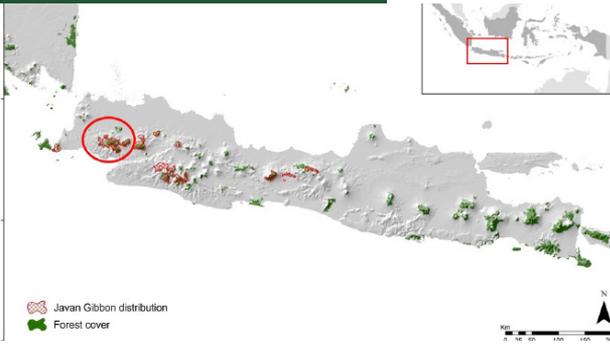
### THE EXPEDITION

If we talk about great apes, people could quickly point out the four species: Orangutan, Chimpanzee, Bonobo and Gorilla. However, not many have mentioned their cousin – the small ape with only 20 species left in Asia. The Javan or silvery gibbon is the only species surviving on one of the most populated islands on earth: The Java Island.



Rahayu Oktaviani with WINGS Flag #23

Through my organization at Yayasan KIARA and Javan Gibbons Research and Conservation Project, we have been conducting long-term research on the behavior and ecology of Javan gibbons to fill the knowledge gaps and have a better understanding of the life of this arboreal primate. We are working at Citalahab Forest, in the heart of Gunung Halimum Salak National Park (GHSNP), West Java, Indonesia. GHSNP is one of the remaining sub-montane rainforests left in Java and is becoming home to many species of endangered wildlife: Javan gibbons, Javan leopard, Javan hawk eagle, and many more. We expect that the results of our long-term monitoring can be used for the continued conservation efforts as the reference for the gibbons' rehabilitation center and the species management plan in this national park and other habitats.



### EXPEDITION GOAL

To identify the characteristics and preferences of sleeping trees selected by Javan gibbons in Citalahab Forest, Gunung Halimun Salak National Park, Indonesia.

### EXPEDITION RESULTS

Local community members who work together with us as field staff are this project's backbone. They have a vital role in ensuring the project keeps running when travel restrictions happen and we are not allowed to enter the national park. Moreover, with their work in the field, they have helped the authority patrol and secure the conservation area. Therefore, it is necessary to keep developing their capacity. We did several pieces of training for the assistants by inviting experts, from a wildlife photographer to a botanist, to share their expertise. We also purchased the necessary equipment for our project: a binocular and a range finder.

Our team is more capable and confident in gathering the Javan gibbons data in the field with the new skills. We followed the three wild groups of Javan gibbons that we called Group A, B, and S. Each group has an overlapping home range and is close to each other. We have identified the mean home range size is ~32 ha. Three habituated groups of Javan gibbons that we called Group A, B, and S were followed on a rotating basis, two days with each group. Gibbons live in a small family unit from two to six individuals per group. Each group was observed from one sleeping tree to the next sleeping tree for two consecutive days whenever possible.

### WHO

Rahayu Oktaviani

### WHAT

A longterm field project on the behavior and ecology of the Javan gibbon.

### WHEN

September 1 - December 31, 2021

### WHERE

Citalahab Forest, Gunung Halimun Salak National Park (SNP), West Java, Indonesia.

### WHY

To identify the characteristics and preferences of sleeping trees selected by Javan gibbon.



Javan gibbon, Citalahab Forest

From September to December 2021, we successfully observed 46 sleeping sites, including 15 tree species that are recognized as commonly used by Javan gibbons. The five most used species are *Altingia excelsa*, *Lithocarpus sundaicus*, *Castanopsis argentea*, *Melicope latifolia*, and *Schima wallichii*. Two sleeping tree species were identified as Indonesian endangered plant species (*Castanopsis argentea* and *Cinnamomum parthenoxylon*). This information helped us inform the authorities that there is a direct link and relationship between Javan gibbons and the natural environment. Conservation efforts should be holistic and consider protecting the remaining resources and planting the necessary trees useful for the Javan gibbons.

Unlike the great apes, all gibbons species do not build nests. Typically, the Javan gibbons' routine starts with waking up from the sleeping tree, foraging for food, resting, and doing social activities such as playing and grooming. Before sunset, the gibbons enter their preferred sleeping tree, sleep in a sitting position, and remain silent and inactive.



Rahayu Oktaviani observing the gibbons' activity

Our research observed gibbons started to enter their sleeping trees as early as 15:25 to 16:42 and left from 5:40 to 7:02. The gibbons used tall trees as their sleeping sites. They chose a tree with a height from 22 to 50 m (the average size was 38.7 m) and relatively above the average height of surrounding trees. The choice of sleeping sites may influence their survival, and it is a crucial aspect of the strategy to avoid predators. Raptors, leopards, and phyton have been identified as potential predators for the arboreal primates. Even though we did not witness any attacks, the gibbons develop strategies to avoid them and ensure their survival. We rarely found that gibbons used the same sleeping trees on consecutive days. Sometimes, they reused it, but infrequently and only after long intervals. We assumed predators might notice regular use.

This information enriches the knowledge about the behavior and ecology of Javan gibbons, which are listed as endangered species globally.

### CHALLENGES AND LESSONS LEARNED

The pandemic in Indonesia affected our groundworks due to travel restrictions and closing of the area. However, an excellent relationship with the authority and the partnership with the local community meant we could minimize challenges and still carry out the project.

Another challenge is related to topography. Gunung Halimun Salak National Park is a hilly mountain area of roughly 113,000 hectares that receives a high rainfall even during the dry season. Thus, it is a challenge to locate the gibbons. Or sometimes, if we could see the gibbons, we lost them in the middle of the day, because they moved fast above the canopy while we needed to find our way on the forest floor.

### EXPEDITION FUNDING

The Primate team of Ewha Womans University has supported long-term monitoring. The WINGS WorldQuest flag carrier grant has assisted us in providing essential equipment in the field.

### ABOUT THE FLAG CARRIER

Primate conservationist Rahayu Oktaviani has studied extensively the behavior and ecology of Javan gibbons (*Hylobates moloch*). She received a bachelor's in forest conservation at IPB University - Indonesia and a master's in ecology at Ewha Womans University - South Korea. Since 2014 she has managed a longterm research and conservation project, called OWAHALIMUN, on silvery gibbons at Indonesia's Gunung Halimun Salak National Park. In 2017, she initiated a conservation education program for local children to help develop a connection to the area's biodiversity. Two children's books inspired by Indonesian primates have been published by a national publisher. In 2020 she co-founded an Indonesian NGO, Yayasan KIARA, to develop a holistic approach to Javan gibbon and rainforest habitat conservation that includes research, conservation education and community engagement. She leads a team in this sustainable conservation effort and hopes that local engagement will encourage and empower them to become conservation agents in their own communities.



Rahayu Oktaviani and team with flag

### EXPEDITION TEAM:

Primatologist and Team Lead: Rahayu Oktaviani

Field Coordinator: Muhammad Nur

Field Assistants: Ri Rudini, Isra Kurnia, Nandar Pratama, Indra Lesmana, Alan, Muhammad Abdul Ajis, Apud Saepudin

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