The "Tropical Research Station La Gamba" – science, education and nature conservation in Costa Rica

La "Estación Tropical La Gamba" – sciencia, educación y conservación en Costa Rica

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Abstract: In 1991, Michael Schnitzler, a distinguished musician from Vienna, founded the association "Rainforest of the Austrians" (Verein "Regenwald der Österreicher"). The essential objective was to protect the Esquinas rainforest in southern Costa Rica (now Piedras Blancas National Park) from logging. A second aim was to provide research facilities for Austrian (and other) students and scientists. Schnitzler purchased an old farmhouse ('finca'), located at the edge of the Esquinas forest, near the small village of La Gamba. This 'finca' was the precursor and nucleus of a tropical field station which is now the "Tropical Research Station La Gamba". Scientific and financial support came from the Austrian Federal Ministry of Science and Research, the University of Vienna and the association "Rainforest of the Austrians". The station currently encompasses several buildings, including comfortable accommodation rooms, an air-conditioned laboratory with equipment for chemical and ecophysiological studies, research instruments such as microscopes, binoculars, laptops etc., and a botanical garden. The station is at the threshold of becoming an internationally established research institution and education centre, with the ambition of contributing to the exploration and conservation of Neotropical forests. Research work at the station has resulted in many doctoral, diploma and baccalaureal theses and scientific publications, with a broad range of topics. Moreover, students from Austria, Germany, Costa Rica and the U.S.A regularly use the station as a base camp for excursions and field courses.

Key words: Costa Rica, Tropenstation La Gamba, research station, tropical biology, nature conservation, education.

Resumen: En 1991, Michael Schnitzler, un distinguido músico de Viena, fundo la asociación "Bosque lluvioso de los Austriacos" (Verein "Regenwald der Österreicher"). El objetivo principal fue proteger el bosque lluvioso Esquinas (hoy Parque Nacional Piedras Blancas), en el sur de Costa Rica, de la tala de árboles. Un segundo objetivo fue proporcionar facilidades de investigación para los científicos y estudiantes austriacos y de otros paises. Schnitzel compró una vieja granja (finca), localizada en el límite del bosque Esquinas, cerca de la pequeña villa de La Gamba. Esta finca fue la precursora y núcleo de una estación de campo tropical ahora conocida como "Estación de Investigación Tropical La Gamba". El respaldo económico y científico provino del Ministerio Federal Austriaco de Ciencia e Investigación, la Universidad de Viena y la asociación "Bosque lluvioso de los Austriacos". La estación en la actualidad comprende varias construcciones, incluyendo confortables habitaciones, un laboratorio con aire acondicionado y equipo para estudios químicos y ecofisiológicos, instrumentos de investigación como microscopios, lupas estereoscópicas, computadores personales, etc. y un jardín botánico. La Estación está en el umbral de convertirse en una institución de investigación establecida internacionalmente y centro educacional, con el objetivo de contribuir a la exploración y conservación de los bosques Neotropicales. Los trabajos de investigación en la Estación han originado numerosas publicaciones científicas y tesis de diplomado, master y doctorado, con un amplio rango de objetivos. Cada año, grupos de estudiantes procedentes de Austria, Alemania, Costa Rica y Estados Unidos usan regularmenete la estación como una base de campo para excursiones y cursos prácticos.

Palabras clave: Costa Rica, Estación Tropical La Gamba, estación de investigación, biología tropical, conservación natural, educación.

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Fig. 1: The Tropical Station La Gamba with *Casa Matula* (left), main building (middle) and laboratory (right). Photo: M. Schnitzler.

The Station – history and development

In 1991, the association "Rainforest of the Austrians" (Verein "Regenwald der Österreicher") was founded by the distinguished Austrian musician Michael Schnitzler. His objective was to protect the Esquinas rainforest from logging and destruction. For many years, Schnitzler collected money in Austria and forwarded the donations to the state of Costa Rica. With that money, the government purchased large tracts of the Esquinas rainforest from the landowners. Finally, the whole Esquinas rainforest area was preserved and is now the core of the Parque Nacional Piedras Blancas. Paying tribute to the Austrian initiative, the parts saved by the Austrian donation have been declared the "Bosque de los Austriacos" ("Rainforest of the Austrians" or "Austrian rainforest") by the Costa Rican government. It forms part of a wonderful pristine forest, encompassing an area of c. 150 $km^{2.}$

Shortly after the start of Schnitzler's initiative, several Austrian scientists visited the Esquinas area and were overwhelmed by its beauty and biological richness. Soon it became apparent that this hot spot of tropical biodiversity in Central America would provide ideal conditions for promoting Austrian research in the tropics. As Michael Schnitzler was far-sighted enough to combine the idea of rainforest conservation and research, an old farmhouse ('finca') was purchased to provide elementary facilities for research activities. Two students of botany from the University of Vienna, Werner Huber and Anton Weissenhofer, and a zoology student, Astrid Keber, were the first to carry out field work for their diploma theses at the place. This marked the beginning of scientific activities of Austrian research in La Gamba. The two botany students, supervised by one of the authors (A. W.) were enthusiastic and adventurous enough to restore the farmhouse, and to convert it into a simple tropical research station. Two years later, the association purchased an adjacent 'finca'. This building, situated closer to the forest and to the Esquinas Rainforest Lodge, formed the nucleus of the present "Tropical Research Station La Gamba". This farmhouse was also reconstructed and modernised by the two botanists, and it soon offered convenient facilities for further students and researchers.

Through financial and personal support by the association "Rainforest of the Austrians", Anton Weissenhofer and Werner Huber were subsequently involved in upgrading and extending of the field station. Meanwhile, the interest of Austrian students and post-graduate scientists in carrying out research in Costa Rica had enormously increased. In 1998, Michael Schnitzler asked Huber and Weissenhofer to take over the responsibility for the station and to co-ordinate its operation and future development. For assistance, two residents of La Gamba were employed to maintain the infrastructure.

With the help of the Austrian Federal Ministry of Science and Research, the University of Vienna and the association "Rainforest of the Austrians", the Tropical Research Station La Gamba flourished and expanded continuously. At present, it covers five buildings and includes several comfortable living facilities, an air-conditioned laboratory and a botanical garden. Up to 35 scientists and students are able to stay and work simultaneously at the station. For its well developed infrastructure, maintained by local employees, the field station is at the threshold of becoming an internationally renowned research institution and education centre, with the objective of contributing to the exploration and conservation of rainforests in the Neotropics.

During the 15 years of its existence, many scientists have taken advantage of the facilities of the station. The easy access to a large area of pristine forest in Central America makes the station particularly valuable. The majority of visitors were from Austria, originally from the University of Vienna, but later from the Universities of Salzburg, Graz and Innsbruck, and from several universities in Germany and Switzerland, as well as from Costa Rica and the United States. As scientific work in the Neotropics becomes increasingly difficult and restricted due to bureaucracy, La Gamba is faced

with a steadily increasing number of scientists. In fact, comparatively little administrative effort is required to carry out research and to arrange or attend field courses at the La Gamba station (TEBB 2004).

Scientific activities – a short outline

Since 1993, about 60 doctoral and diploma theses have been carried out at the La Gamba station; in recent years, baccalaureate theses are increasingly being carried out as well (see survey by WEBER, this volume). Numerous scientific publications have resulted from these studies. The focus of the scientific work was initially on the flora and vegetation of the Esquinas forest, but includes now a broad range of topics, such as animal-plant interactions, herpetology, ornithology, entomology (especially of butterflies), limnology, chemical ecophysiology, biogeochemistry, geography and sociology. About 50 field courses and excursions have been organised, enabling students and scientists from universities all over the world to visit the Piedras Blancas National Park. In providing scientific information on the biology and ecology of rainforest organisms, one of the urgent challenges of the field station is to promote the conservation of the Esquinas forest, which is the last and largest intact lowland rainforest on the Pacific coast in Central America.

In 2001, study of the forest's flowering plants has permitted the publication of "An Introductory Field Guide to the Flowering Plants of the Golfo Dulce Rainforests" (WEBER et al. 2001). Catalogues of amphibians and reptiles (ALBERT et al. 2005) and of birds (SAUBERER et al. 2007) of the region have subsequently been published. A scientific advisory board, composed of distinguished Austrian scientists, helps to ensure that research at the station maintains a high quality level.

Many exhibitions on the intact nature of the Golfo Dulce region and on the scientific work carried out at the La Gamba station have been presented in Austria. In January and February 2008, an exhibition was also presented in La Gamba.

The La Gamba station – an integral link within the community of La Gamba

The small village of La Gamba, with a population of around 400 people, relies largely on agriculture for its existence. Formerly, employment in nearby banana plantations offered employment to the people of La Gamba. However, decades of over-exploitation led to a withdrawal of the international banana concerns from the area. Under these circumstances, it seems beneficial that both the Esquinas Rainforest Lodge and the La Gamba Field Station offer work at least for a limited number of villagers. They are employed as local managers, guides, gardeners, cooks and assistant staff. From the beginning, the field station tried to involve local villagers in the running of the station. At present, the station has eight employees. One of them is Mari Sanchez Porras; she started in 1998 as a cleaner, but advanced rapidly, serving as local manager of the station since 2000.

Fig. 2: The pool and the rancho in the garden of the La Gamba Station. Photo: W. Huber.

Although the original aim was to generate scientific data on rainforest biology, the station has proceeded to become a strong element promoting integration of the community of La Gamba. The station has become to an important address for the native population. One intention is to promote the idea of nature protection. Fur-

Fig. 3: Students working in the new laboratory. Photo: W. Huber.

thermore, many socio-economic projects, some jointly organised with the Esquinas Rainforest Lodge, are performed or co-ordinated at the La Gamba station (see survey by WEISSENHOFER et al., this volume). Many people and institutions from Austria and Germany, as well as international companies (e.g. Chiquita, OMV Austria, Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management) provide support for these projects. An important task is to convince the local community that the Austrians did not simply come to steal scientific data from their forests, but that all are greatly interested in co-operating with the local people. Certainly, this is the best way to ensure both the long-term success of the station and the prosperity and sustainable development of the La Gamba region.

For detailed information on the "Tropenstation La Gamba" see www.lagamba.at and www.regenwald.at.

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