

# The Search for Scent

Gliding silently across the canopy of a coastal rainforest in the Masoala Peninsula of northeastern Madagascar, Roman Kaiser knew he was on to something good.

“Can you smell this unique scent of White Freesia and Robina — which tree might it be — we have to go closer,” Kaiser said to his ScentTrek teammate and Givaudan executive perfumer, Dave Apel.

Not 10 m ahead, they found what they were looking for — a tree blooming with thousands of white flowers, *Dialium unifoliatum*, the Zana flower. Working 40 m above the ground, Kaiser and Apel spent the next 15 min capturing the flower’s unique scent using the headspace trapping technique while the pilot of the dirigible, off of which the team based its experiments, fought to hold the airship steady.

For Kaiser, a more than 30-year veteran at Givaudan (Switzerland), this is simply part of his relentless search for new molecules and just one of many ScentTrek expeditions.

Givaudan’s ScentTrek and TasteTrek programs have evolved from modest expeditions to Italy’s Ligurian Coast in 1991, the Swiss Mountains in 1992, and Indonesia in 1994, to spectacular explorations of French Guiana in 1996, and Gabon in 1999. The latest two ScentTrek exploratory expeditions have brought Kaiser to the rainforests of Madagascar.

The first of the two expeditions — in October 2001 — included Kaiser and Apel. The second expedition, which took place the following month, included Kaiser and Givaudan senior scientist Philip Kraft.



*Givaudan adventurer, Roman Kaiser.*



*The coast of Masoala Peninsula: the flowers of the Syzygium species imparts a watery melon note.*



*High above the rainforest canopy.*



*The experiment platform.*

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*Aframomum angustifolium*, or Cardamome de Madagascar, emits a ginger-like hesperidic note.

Such ScentTrek expeditions are for early birds. Each day, the team awoke from their hammocks at 4 AM to inflate the dirigible that carried them over the coastal forest's canopy. For thermal reasons, cruising over the canopy was only possible until 7 AM, which meant that the dirigible had to be ready to take-off before sunrise.

Working from a platform hung beneath the dirigible, the ScentTrek team collected headspace samples from indigenous flowers, fruits and vines. The team even had the pleasure to watch an impromptu performance by a group of acrobatic lemurs.

When they weren't performing their aerial act, the ScentTrek team explored the trails of the Masoala Peninsula where they investigated the refreshing green scent of *Ravenala madagascariensis* (Traveler's Tree), the tender floral fragrance of the Raramena flower, and the unripe pear and green pepper scent of the Longotra fruit, among others. The team finished each day in a makeshift lab where trapped scents were eluted into micro-ampoules.

During their flights above the rain forest and hikes across the peninsula, Kaiser and his team investigated more than 50 scents from flowers, fruits, woods, leaves and resins. Many of these scents have been reconstituted and are now available from Givaudan for the creation of fragrances.

"This has become an important part of my life," Kaiser said. "If you live with nature, natural scents and fragrances, it adds an additional dimension to your life."

Next fall, Kaiser travels to South Africa to study the scents of rare and endangered species. ■