

Wider aspects of a career in entomology.

11. An amateur in France

Hugh V. Danks

This series of articles outlines some ancillary aspects of my entomological career, for the potential amusement of readers. It reports the sometimes unexpected challenges of working in new places and in the real world, an approach that serves also to expose some conclusions about research activities and some information about insects and their environments. This article recounts further experiences prior to my professional career.



My time as an undergraduate student in zoology and entomology at Imperial College, London (see *ESC Bulletin* 52: 91) included travel outside England on a few occasions, exposing me to additional entomological, environmental, and cultural themes.

The most memorable journey was a cycling vacation in the Alps of southern France in 1964, with a fellow student from the entomology group. I could afford the 5-week trip only with outside support, and so applied for a vacation travel grant offered by the Goldsmiths' Company of London. The interview was an intimidating process. Many unsmiling senior gentlemen, all garbed identically in dark suits, were arrayed in a long row behind a giant boardroom table, which gleamed in the light from a window behind them. On the spacious floor in front of the table, an isolated chair faced the row of inquisitors—forcing the applicant sitting there to stare into the light like a prisoner undergoing interrogation. My application was successful; but the experience was also valuable because it made every future job interview seem so benign!¹

The continent of Europe was particularly interesting to us because the fauna is much more diverse than that of the small, wet, and cool British Isles. The continent occupies a much larger area, has a range of climates including warm southern sections, and contains mountain complexes (see Figure 1) that support distinctive



Figure 1. Relief map of France, showing mountainous regions and neighbouring countries, and the town of Grenoble, the starting point of the trip. Relief base map by Eric Gaba (CC BY-SA 4.0).

¹The Goldsmiths' Company continues to make substantial grants, now totalling millions of pounds per year, in support of education and other concerns (but not these individual travel grants). My 1964 grant of £35 had a purchasing power of about \$900 in current Canadian dollars. More than half of it was needed for commercial transport.

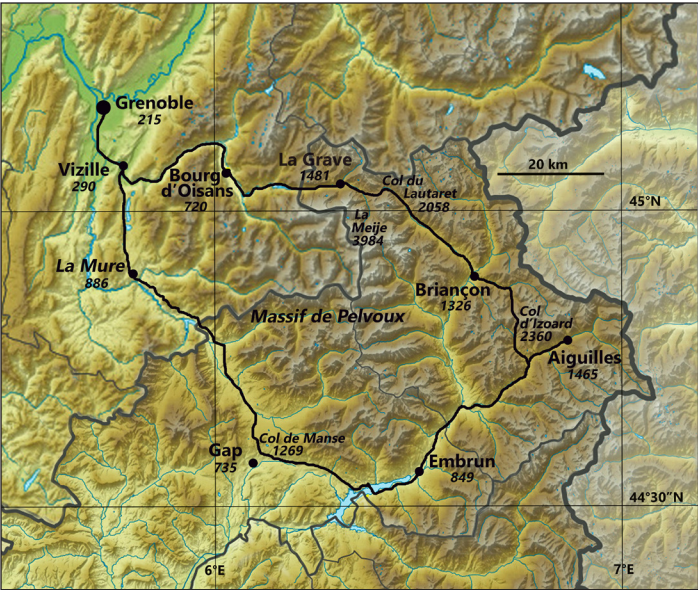
Hugh Danks (hughdanks@yahoo.ca) retired in 2007 after many years as head of the Biological Survey of Canada. In that role, he helped to coordinate work on the composition and characteristics of the arthropod fauna of the country, and to summarize the results. In addition, his research studied cold-hardiness, diapause, and other adaptations to seasonality in northern regions.

species. Only about 70 species of butterflies were known to occur in the United Kingdom, for example, but France alone had about 250.

Our bicycles and baggage were sent ahead by train, and we picked them up in Grenoble after overnight travel. Our subsequent route, and places mentioned below, are shown in Figure 2.

Some of these alpine roads have seen cyclists competing in the Tour de France. Climbing specialists would attack on the steep inclines up to the mountain passes (Figure 3), using bicycles that now weigh as little as 7 kg and have sophisticated derailleur gears. We could not ride up steep sections, because our heavy steel bikes (today regarded as “vintage”) weighed about 20 kg each, and had few gears. Moreover, each bicycle carried about 20 kg of baggage (cf. Figure 4), partly to ensure that we could collect productively at our first main destination, the alpine village of La Grave. A great deal of water was also needed in the hot conditions. Therefore, our own attacks on the passes consisted of pushing the bicycles uphill for many kilometres, a task that gave us much more powerful arms than were necessary to wield our insect nets. Evidently, we were amateurs in more than entomology.

In Bourg d’Oisans, an old man came over to learn where we were going. “Mais les montagnes ...,” he exclaimed. “C’est fou!” He might have been right. La Grave is more than 1250 m higher



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Figure 2. Map of the route in the French Alps, showing selected locations and elevations in metres. Relief components mainly from Flappieph (CC BY-SA 4.0).



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Figure 3. A road in the Alps of southern France.



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Figure 4. A vintage bicycle with only three hub gears, and laden with baggage, as used for the alpine travel described here.

than Grenoble, and the road has a number of discouragingly long uphill sections. Another 600 m ascent beyond the village is needed to reach Col du Lautaret, while the journey from Briançon over Col d'Izoard involves a continuous climb of more than 1000 m over a distance of 19 km, followed by a slightly steeper descent. These challenges were exacerbated because, in the harsh mountain climate, the road surface was often poor or under repair. Many signs warned of "chaussée déformée".

La Grave (Figure 5) is 78 km from Grenoble by road, and is permanently inhabited. We spent more than 2 weeks collecting insects there. At first the village seemed occupied chiefly by old people and children. We discovered why by talking to a local herdsman, who told us that he took his cattle up to the alpine pasture at 7 a.m., and returned at 8 p.m. Other able-bodied adults worked long hours in fields of hay and other crops.

Alpine habitats have been modified by such agricultural uses, as well as by roads, buildings, and hydroelectric developments. Disturbed areas were colonized by ruderal weeds and insects common in England. An unexpectedly high proportion of other insects proved to be widely distributed Palaearctic species too. Nevertheless, we found unfamiliar species near the village, as well as in larch forests and higher alpine zones.

I collected butterflies, bumble bees, and a few other aculeate Hymenoptera. Butterflies found only in the mountains included alpine graylings (Figure 6), species of ringlets (e.g., Figure 7), and Apollo butterflies (Figure 8); their larvae feed on grasses or on stonecrops, plants well represented at higher elevations. Many of the bumble bees had wide distributions, but some species are confined to high elevations in the Alps (e.g., Figure 9).

I had expected too to examine traditional alpine beekeeping, which used skeps (straw or wicker baskets) as hives. However, there were relatively few honey bees, and in any case skeps had already been replaced by modern hives.



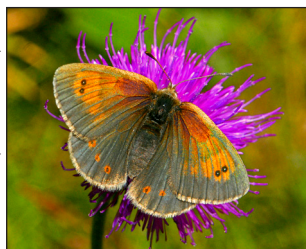
Parisette (CC BY-SA 3.0)

Figure 5. The village of La Grave, seen from a nearby hillside. The overall appearance of the village has changed relatively little over the years despite development around it.



Friedrich Böhringer (CC BY-SA 3.0)

Figure 6. Alpine grayling butterfly (the satyrid [satyrine] *Oeneis glacialis*), underside, found in the Alps above 1400 m; larvae feed on *Festuca* grasses. Wingspan about 5.5 cm. Species in this genus are known as "arctics" in North America.



Hectonichus (CC BY-SA 4.0)

Figure 7. Ringlet butterfly (the satyrid [satyrine] *Erebia dromus* [*E. cassioides arvensis*]), found in the Alps above about 1600 m; larvae feed on various grasses. Wingspan about 3.5 cm. Species in this genus are known as "alpinines" in North America.



Hectonichus (CC BY-SA 3.0)

Figure 8. Apollo butterfly (the papilionid *Parnassius apollo*), a mountain specialist with all populations currently in decline; larvae feed on stonecrops. Wingspan 6–8.5 cm in males, 6.5–9.5 cm in females.



Figure 9. Alpine bumble bee (*Bombus alpinus*), one of several relatively uncommon species found at higher elevations in the European Alps. Length of queen about 2.5 cm (worker about 1.5 cm).

My classmate collected aculeates and a few other taxa, but had limited experience with bees, so I told him how to distinguish male bumble bees that cannot sting from workers that require more careful handling (cf. Figure 10). For example, males and workers carry themselves differently, and in males the antennae are longer and appear less elbowed, the body and especially the front of the head are usually marked with more yellow, and the hind legs are narrower and lack the concave, hair-fringed pollen baskets of workers. Less easily seen in the field are characters like the numbers of abdominal and antennal segments.

He soon made a mistake and was stung, but retribution for my failed instructions was swift. I tried to capture a polistine wasp in hotter conditions than I was used to, and in the blink of an eye it whipped through the air and delivered an excruciatingly painful sting to the back of my hand.

At the campsite, resting quietly inside my tent after an evening rain, I was terrified when suddenly the structure shook alarmingly and a loud roar filled the air. Unknown to me, a herd of cattle was on its way back to the village through our camping area, and a cow had used its long rough tongue to lick beads of water off the tent. That lightweight tent (Figure 11) leaked if the thin fabric was touched when wet, so I was unhappy with the cow—although it did not appear to care! However, the tent proved serviceable because the weather was nearly always hot and sunny.

Those conditions, and the high cost of fuel for the stove, prompted us to limit cooking. Therefore, our basic diet was bread, cheese, and fruit, but even so it was quite diverse. The many kinds of crusty French bread—buttery, honeyed, firm, airy, and so on—made for an extraordinarily pleasant contrast to the familiar bland white bread of English sandwich loaves². Various French cheeses were available, as were assorted fruits, many of them grown in southern

Figure 10. Male (top) and worker bumble bees (*Bombus lucorum*). Length about 1.6 cm. Images by stevenfalk.co.uk/ photography.

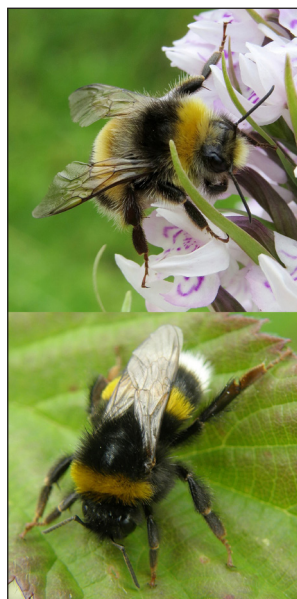


Figure 11. Lightweight tent similar to the one used in France.

² The modern form of English white bread originated when a simplified recipe with additives, lower-protein wheats, and accelerated mechanical processing allowed cheap mass production (and extended shelf life)—giving a soft product that some have characterized as soggy, flabby, and tasteless (“cotton wool”)!

France. Periodically, we treated ourselves to a feast of ripe apricots and the singular taste of sterilized milk³.

French classes in English schools emphasized verb declensions and syntax, but gave almost no useful experience of the spoken language. Therefore, at that time my vocabulary and ability to speak French were minimal, and my accent was atrocious. Considerable merriment was created among customers in the general store at La Grave when I mispronounced a request for two kilos of oranges, saying “deux” (2) in a way that resembled “douze” (12)!

Despite language difficulties, many people talked to us as we collected near the village. The locals were interested to know that we were entomology students learning about the fauna. We also met a few school-age visitors, leading to conversations that were entertaining, but not especially enlightening, because their grasp of English was as weak as our French.

Some of the tourists were amateur entomologists too. One pair of boys (with their father) reported that their grandfather, who lived in Briançon, had a collection of 30 000 specimens. There are many such people in Europe, and amateur entomological societies thrive there; indeed, the records of amateurs were among the earliest long-term data to document significant declines in the abundance of various insect species. My activities in the British Amateur Entomologists' Society, which during the 1960s had an average membership of nearly 800, were noted in *ESC Bulletin* 52: 21; 92.

La Grave is dominated by the mountain of La Meije (about 4000 m; Figure 12). Three cold torrents pour from its glacier complex, and one of them served the village campsite, ensuring our complete wakefulness after an early morning wash.

Several times we hiked up towards the glaciers in search of alpine butterflies and bumble bees. One sunny day as I climbed, large horse flies with iridescent eyes began to follow me. By the time more than 20 of them were speeding noisily around my head, the din and the disruption of entomological activities had become so annoying that I took my kite net (shown in Figure 13 in a very different setting) and captured all the flies by whirling it frantically about me multiple times⁴. Luckily, there was no local witness who might have generated further merriment in the village by describing this behaviour.

After another long uphill trek, my friend was so thirsty that he decided to drink from an alpine stream, adding “How polluted can it



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Figure 12. La Meije (3984 m), the mountain above La Grave.



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Figure 13. Author Hugh Danks in England in the 1960s, with the kite net he used to collect insects in France.

³Sterilized milk is normally heated to about 120°C, giving it a slightly creamier texture and a distinctive sweeter and stronger flavour than pasteurized milk, which has been held for a carefully controlled time at a much lower temperature (typically between about 65°C and 70°C). These changes in taste come at the expense of more subtle characteristics, but sterilized milk was favoured in rural areas because it spoils less rapidly.

⁴A procedure that was effortless, thanks to the strength derived from pushing a bicycle uphill!

be up here?” He received a possible answer after slaking his thirst, as he looked up to see a mountain goat wander out from behind a boulder just upstream.

One unforgettable hike passed through habitats with a variety of butterflies to a still, dark lake high in the mountains (Puy Vachier, Figure 14). We were not looking for aquatic insects, but no doubt a lake at this elevation would contain interesting species. An unusually large blue dragonfly hawked over the surface of the water⁵.

Somewhat reluctantly, because our stay had been so rewarding, we moved on from La Grave. Near the end of the steep descent from Col d'Izoard, my companion hit a patch of gravel and lost control, sustaining a deep elbow wound as he crashed. We struggled on to a hospital in the village of Aiguilles. A registration form was required before the injury could be treated, but the staff managed to transcribe only “Meatan” from all of my deficient attempts to spell Martin. However, the document proved adequate, and the doctor used a remarkably large number of painful swabs to clean gravel out of the wound. He also gave a series of daily penicillin injections to prevent infection, requiring us to stay in the town for a full week.

Insects there were not as diverse as near La Grave, but we encountered some additional species. Particularly striking were the thousands of grasshoppers that swarmed amongst the straw stubble in our camping field.

We had planned to make a wide sweep across southeastern France, but given the delay in Aiguilles, the cycling injury, and signs of wear on our bicycles, we simply cycled back along the south side of the Massif de Pelvoux. Therefore, our total journey covered only about 350 km, but even so the return to Grenoble had interesting insects (albeit less striking than those at La Grave), attractive scenery—and a few significant uphill sections...

A full day had to be spent in Grenoble after the baggage and bicycles were sent on ahead. We had been very restless on the journey down during a relatively short delay between trains in Paris; but now, following our long vacation, we sat happily in the town square, relaxing and watching the world go by. This interlude helped us to digest what we had seen and learned, giving a valuable lesson for the future: activities are more profitable when constant rushing around is balanced by periods of reflection. It was even possible to stay relaxed whilst crossing the border with our collections, because most problems caused by complex customs regulations, drug smuggling, sovereignty, and terrorism had not yet arisen.

Only part of the material could be identified after our return, given our inexperience and lack of relevant keys in French and German. Nevertheless, those identifications confirmed the diversity of the fauna and suggested some of the complex patterns of zonation, at several different scales, that are governed by latitude and elevation.

A lengthy report was soon sent to the Goldsmiths' Company, provider of my travel grant. It elaborated on educational and social benefits, which were especially important to that organization. (In the same way, later work plans and research-grant applications would emphasize their relevance to institutional or agency requirements!)



Stephan Enten (CC BY-ND 2.0)

Figure 14. Puy Vachier lake, a few km from La Grave. The lake is about 250 m x 300 m in size at an elevation of 2382 m; maximum depth 36 m.

⁵Probably the emperor dragonfly, *Anax imperator*.

In contrast, the report contained few entomological details. Sanitary facilities were not mentioned either, despite their importance during fieldwork. The campground at La Grave, for example, had a squatting toilet, with foot rests on each side of a drain hole at floor level (rather than a sitting toilet, with a pedestal and seat above the exit pipe). This configuration was unfamiliar to some tourists, leading them to use areas well beyond the reach of the flush—a detail most unlikely to impress the unsmiling senior gentlemen of the Goldsmiths' Company...

Later in our journey, a campsite run by a local farmer provided a similar but more basic facility. The cubicle was inside a large wooden shed equipped with both inside and outside lights, and I was there well after dusk. Suddenly, the farmer looked inside, saw no one in the shed, turned off both lights, and sped off. In pitch darkness, my exit from the “baited pitfall trap” was slow and careful.

A subsequent visit to France with another friend was eventful too. The car he had borrowed from his father lost coolant in the Cevennes (Figure 15), the mountains on the southeastern edge of the Massif Central, with disastrous results. My French was still poor, but despite the local accent I understood the garage owner as he took off the cylinder head, looked into the engine, turned to his assistant, and said “rien à faire!” We camped in the garage forecourt while the engine was sent away to be re-bored, and then returned home because the repair had used most of our remaining funds.

Before that event I did a little entomology, but learned more about the culture. For example,

I could now afford to patronize restaurants occasionally, but was not used to complex meals, nor to the very different approach those meals required. We were the only customers in a small restaurant during the first such encounter, and were served the set meal. A giant bowl of tiny crisped fishes (“petites fritures”) was brought, along with ample supplies of superb fresh bread. We were well satisfied after finishing the dish—but it proved to be only the appetizer! The substantial main course soon arrived. We could barely finish it despite a generous order of wine. Then ripe fruits were laid out, and we struggled to eat some so as not to offend the host. A cheese course appeared. To excuse our failure to consume it, I tried to explain that the goat cheese was certainly excellent, but a little strong for our palates. At last we could stop eating ... until huge portions of mild Gruyère cheese were brought instead! The restaurateur was very helpful, although he must have been puzzled by our behaviour, which included agonized movements after the enormous meal.

Perhaps he would have agreed with witnesses to my earlier trip to the Alps, such as the old man who saw our heavy bicycles. Anyone who takes 40 kg up mountain passes, stares at the ground intently for long periods (observing insects invisible to those watching), handles bumble bees, chases butterflies, and speaks incomprehensible French, might indeed be thought a little mad.



Clem Rutler (CC BY-SA 4.0)

Figure 15. A roadside view of the Cevennes mountains.