



Cornelia Hesse-Honegger

Field Study in the Environment of the
Nuclear Reprocessing Plant La Hague Cap de La Hague, Normandy

France 1999

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Thoughts

When I arrived at Cap de La Hague in Normandy, France, I was overwhelmed by all the little hills and the many streets, which seemed to be cut into the ground. There were so many streets that it seemed impossible to catch the same one twice. Soon I realized however that the reprocessing plant was built on the highest spot of the entire peninsula. In their brochure, COGEMA mentions, that the reprocessing plant lies 172 - 188 meters above sea level. Some chimneys are as high as 100 meters. This probably means that the atom industry hoped the strong west-east or east-west winds would carry away the radioactivity. I think from their point of view they chose the best place they could find.

Looking at the locations where COGEMA measures radioactivity, I think they chose spots, which are less exposed than some I have investigated. It looks like a clever distribution, but I think they know where they can find less radioactivity. Jobourg is too close and almost at the same altitude as COGEMA. Digulleville lies just between two hills at the lowest point about 57 meters above sea level. From driving through this area, I know that it is full of trees and some forest. Gréville and Beaumont are certainly sensible spots to measure radioactivity. But Herqueville lies hidden on a steep slope in the south of the plant. There the measurements on organisms lies between 1.5 – 6 mSv/year. The picture-manipulations for advertisement and leaflets showing a man taking samples in a surrounding of flowers tell a lot about their attitude towards the truth (See pages 39 and 41)

Since 1987 I have been studying true bugs (*Heteroptera*) found in the environs of nuclear installations. In the beginning, I chose the spots where I researched for true bugs but in my field study in the Canton Aargau, Switzerland 1992 – 1999 I selected the research locations with the intersects of the coordinates on the map to achieve a random distribution. I learned a lot about the health of the insects on exposed hillsides and non-exposed hillsides. During my studies in the USA, Nevada atom bomb testing area and surrounding of the Hanford plutonium factories, I learned that distance is of minor importance. The wind carries radioactivity from the Nevada test area as far as the Utah Mountains about 180 km and, it is there that the true bugs looked the worst.

As a research site, reprocessing plant COGEMA/AREVA La Hague is especially interesting, because of its topography as well as the lack of other industry apart from farming. It could almost be considered a laboratory situation.

There are of course not only the strong winds of east-west and west-east, but also local winds. Since the countryside slopes down steeply towards the seashore on three sides of the plant, the local winds which are active mostly towards evening or when the weather is calm. The fact that the local winds fall from the plateau where the re-

processing plant is located to the shore, is of importance. I have no knowledge of the wind frequency of these local winds, except for those I felt personally during my stay. It would be very interesting though to know more about these winds.

I looked to see whether I was able to spot the tops of the chimneys from the research locations where I collected the true bugs. Sometimes as it is the case at Pointe de Nez, they were hidden behind a small hill. I imagined that if I had a location with a hill in between shore and chimney, the wind as well as radioactivity could not swoop down the hill but would be stopped behind the small hill. It eventually would go over the hill but deposit less of its radioactive load. I was therefore not surprised to find fewer heavily disturbed true bugs behind the hills. (See profiles)

One also has to take into consideration the large number of small rivers, which flow mostly on the north, but also on the south side of the peninsula. Undoubtedly, they carry some radioactivity into the sea. As Prof. Jean-François Viel from the University in Besançon told me, a lot of radioactive tritium is emitted into the little river Saint Hélène, that flows into the middle of Anse St. Martin, (see Anse St. Martin middle of bay pages 54 - 62) where I had a research location below the hotel where I stayed.

Since there are no relevant field studies with true bugs or other insects, I had to find my own way in the conception of my field studies and in their presentation. At the beginning of my research in 1988 I believed that there was something like a reference or control biotope in which insects would be near to 100% healthy. But I learned that even habitats, close to nuclear installations can be reference biotopes when no radiation hits the ground, depending on topography and winds. As I started 1969 to collect and paint true bugs in Switzerland and Ghana next to the rain forest, I have good comparison with the situation on the La Hague peninsula.

Since in Europe there was much fallout from the Chernobyl accident and there is a dense net of nuclear installations it is difficult to find a reference biotope, a place which was never exposed to radioactive fallout. Finding such a place is much easier in the USA, there are stretches of countryside without any industry, or farming and off the main wind direction from a nuclear power plant or other nuclear installations.

Scientists start from the premise that a normal mutation rate would be 0.048 % not even 1 percent. So, all increase in percentage comes from manmade pollution. They claim, without having studied it scientifically that a lack of a limb in feeler or an asymmetrically shaped thorax is normal.

One thinks that three or five disturbed true bugs out of fifty is a small number or no reason to cry out.

I think one should imagine they were children and I am sure one would find the

number at least very disturbing. Since in good environments no morphological disturbances can be found on true bugs, I consider my findings at Cap de La Hague to be a pure catastrophe. I see it not only from the kinds of deformations but also from the gravity of the disturbances. Also, the surface of the chitin sometimes is like a completely new landscape which I tried to catch in my pictures (See Anse St. Martin middle of Bay, pages 51 - 62)

While drawing and painting with the microscope, I have to observe every detail. With the scale in my binocular, I measure every part of the body and every pattern. I try to paint them as accurately as it is, as I am able. A painting is more easily readable than a photography where many random occurrences such as light, shadow or focus disturb the readability of the picture and hence the insect's disturbances. While painting I can memorize not only the deformations, but also other details like color, structure, angle of legs and feeler and not least the material the chitin itself whether it is supple or brittle. These memorized images help me when I see a new deformed insect. I remember where I have seen such a deformation, before and can bring it into the whole net of information I have gathered during all the years of my research. This makes every true bug I collect most precious and valuable.

My field studies are based on true bugs (*Heteroptera*). These insects belong to the phylum Arthropoda and are a suborder of *Hemiptera*.

Most true bugs feed on plants. If the plants are irradiated, the radiation will get into their bodies. True bugs live over generations at the same spot and fly only short distances. They belong to the group of 'Hemimetabola' insects, they do not pupate. This means that after hatching they immediately incorporate radioactivity by sucking the liquid of plants with their trunk-like suctorial mouthpiece. They react distinctly even to the lowest doses of ionizing radiation with disturbances of their bodies. If I cannot find enough true bugs, I collect cicada, leafhoppers (*Auchenorrhyncha*, *Homoptera*) as well as some ladybird beetles (*Coleoptera*, *Coccinellidae*). Lady bird beetles are second in the food chain and feed on aphids (*Sternorrhyncha*), which again are a suborder of *Hemiptera* and also suck liquid from plants. True bugs, leafhoppers and aphids belong to the same order *Hemiptera* and have a similar development. They are extremely good bioindicators and show us what we do to nature. If we would look at nature perhaps we could reconsider our behaviour.

Text and Photos

July 29, 1999

Having traveled from Zürich Switzerland, on the morning of July 29th I went to the tourist office in Cherbourg trying to find an apartment I could rent for the whole duration of my field study around the nuclear reprocessing plant La Hague. There was no apartment available and I decided on a hotel instead. One reason for the heavily occupied lodgings was the eclipse of the sun that was to take place on August 11th. The beaches in Cap de La Hague were one of the best places to observe this nature-event.

With a few telephone numbers in my pocket I began, the search. I knew it would not be easy. Finally, I found a room in Hotel Saint-Martin des Grèves in Omonville La Petite, a newly opened hotel that was not yet well known. I also rented a small car. At this instance, I thought that Omonville La Petite was the best place to stay on the peninsula, because it is located north of the nuclear reprocessing plant COGEMA La Hague (now AREVA) and, I assumed, this area would be less irradiated than places to the west or east of the plant which are exposed to the prevailing winds.

Important conditions for the choice of hotel were to have a table and good daylight. The small hotel in Omonville La Petite fulfilled these conditions, and it was clean, pleasant and quiet. A room with a ceiling window was free at the top, and Madame and I heaved a table upstairs into it. The binocular microscope and painting utensils were quickly set up, and soon I felt comfortably settled. I reserved the room for the rest of my stay.

That evening I walked to the seashore, which was only five minutes walking distance. It was hot and pleasant breeze wafted about me. On my way, I saw a cloud of vapor moving down the hill to the sea shore. Panic seized me that it was a radioactive cloud, the steam from one of the cauldrons. I turned to a couple taking an evening walk as well, and asked about the source of the mist. They explained that it indicated that the weather conditions were stable. When the weather is nice, there is always this mist in the evening. All the same, the fog came exactly from the place on top of the hill where the nuclear reprocessing plant La Hague is located. This meant there were also wind currents coming from the hill and going down out to the sea, and not only those strong winds from west to east.

July 30, 1999

On the first day of my field study on true bugs 'Heteroptera' I started to collect to the east of Omonville La Petite, which lies facing south of the hotel half way up the hill. It was a lovely and warm late afternoon.

All the same it was difficult to find true bugs. My aim was to collect 65 true bugs per research site. In all I only found 15 individuals of which 3 were damaged. They were mostly soft bugs, Miridae. These small dark brown or black very fine soft bugs, I call 'survivors' because they appear in places where all other true bugs have either been decimated or have died out. Usually these black true bugs look healthy. Hence in my opinion it is a bad sign when they are damaged. The most frequently damaged features of these soft bugs were knotted feeler and wavy wings.



Hotel Saint-Martin des Grèves and my room with working table



At the beginning of a field study I allow myself to get acquainted with the territory and with plant life. It takes some time to find out which species of true bugs live on which plants. Learning more about the topography of the area I can with time and experience determine where I want to collect and choose the final research sites.

July 31, 1999

I collected 27 true bugs and cicadas south of Digulleville and did not go back to this site during my stay in this area. Three of the true bugs were damaged. The left selvage of the wing of one soft bug, Miridae was abnormal. One squash bug larva, Coreidae, had a deformation on the selvage of the abdomen. A green soft bug had unequally long wings. The characteristic ,wings in uneven length' I found during field studies in other locations, like the surrounding of Swiss nuclear power plants.

Wings in uneven length are often not easily identified. One must inspect an insect from all angles to determine whether a wing is concave or convex, bent in another way or shorter. As wings might change their angle when dead it is hard to determine whether a wing is shorter. The section of the wing called ,cuneus' is more stable and can be compared from left to the right wing. When measuring length of wings with the help of the scale within the binocular microscope, minute irregularities are often measured. If they are just a small fraction more bent, the wing seems shorter. For this reason, I do not record very small differences, as I cannot be sure to be misled by an optical trick.

In already by artificial radioactive irradiated areas specifically soft bugs, Miridae are dryer, less smooth and therefore wings stand up more easily. Also leg and feeler break faster and the outer skeleton is not as shiny and flexible as it should be. This interesting fact I found during my field study in the Chernobyl area 1990. True bugs in Kiev were not morphologically damaged but their outer skeleton was brittle and dull.

Driving in the confusion of the roads which criss cross the peninsula and which are like trenches between the hills, often covered with bushes and trees, I kept losing my way. I wanted to get provisions at the shopping center in Beaumont. As I had to pay everything myself, I did not want to spend too much money on meals in restaurants. The hotel and car were as it was expensive enough.

In Cherbourg, I had bought some china and silverware. All that was lacking was some good food and a bottle of French wine.

Soft bug, Miridae from Diguleville, found 31 of July 1999 and painted the same day



August 1, 1999

Although I did not especially want to look for true bugs on the town where the epidemiologist. Jean - François Viel from the University of Besançon had found leukemia clusters by children, I made my way to Gréville-Hague. (He had given me the names of the towns during a personal encounter). In the center of the village square, there is an impressive statue of the French painter Jean François Millet (1814), who was born in the nearby hamlet of Gruchy. He was one of the first painters to portray ,unimportant people' like peasants and painted such country scenes as the ,Gleaners'. He died 1875.

For a beginning it did not seem like a bad idea to look for true bugs in one of these towns such as Gréville-Hague. I was also naturally curious to see what the town would look like. And where else should I begin in the maze of roads and hills? Sundays are good for looking for bugs near towns. Near a building outside of Gréville, where old tires were stored, I set to work.

I found 56 true bugs, of which 9 were abnormal. In addition I found chamomile plants, their heads of which were terribly deformed. Although the place was ideal for looking for true bugs, it took me a long time to gather all the fifty bugs which was my aim. For my field study in the Canton of Aargau, Switzerland, I collected 65 true bugs per research point. Was the ground polluted by the tires or other chemicals or was it the radiation from La Hague? Around this place were many cows and agricultural fields.

I found mostly soft bugs (Miridae) and flower bugs (Anthocoridae). Six of the soft bugs had wavy or knotted feeler tips. This for me is a sign, that the bugs are not healthy.

That the characteristic of knotted feeler is due to air pollution through artificial radioactivity would be a difficult task to prove to a natural scientist. Most of all, because not one has ever studied true bugs in the vicinity of nuclear installations and true bugs seem not very interesting to biologists. But also generally low radiation of manmade radioactivity is considered harmless. Here it was difficult to find the necessary amount of true bugs in an adequate time and it became clear to me, that 1) I would not get far with soft bugs and 2) I had to find other families and from agriculture untouched areas and biotopes.



Hamlet of Gréville-Hague with the statue of François Millet and below the biotope with the tire storage



August 2, 1999

I thought it wise not to tell Madame, the hotel landlady, what I intended to do, I was stealing out very early in the morning, so that no one from the hotel would see me. I looked for bugs along the road leading to Omonville-la-Rogue.

I found 18 insects, mostly squash bugs (*Coreus marginatus*) and even a stink bug larva (*Palomena viridissima*). One soft bug had a severely deformed neck plate; another had a copper red and white spot on the abdomen. In the room, I began to draw this soft bug, pleased finally to be able to begin making a drawing (see page 56).

On my evening walk to the seashore, that was only five-minute walking distance from the hotel, I found a tree bug (*Carpocoris purpureipennis*) on a plant (*Armeria maritima*) living on the gravel beach by the sea shore. I greeted the bug, picked it up, looked at it carefully and put it back.

My mind started working.

If I were able to find one such bug, then there would have to be many more of them. This was what I concluded and had hoped for. I was excited by the real possibility of working with a bug family other than the soft bug family, which is often very small and difficult to preserve with an insect needle. From experience, I knew that one could show the deformities better with tree bugs (*Pentatomidae*). They are not only more susceptible to radiation they are also much bigger and have larger and more defined planes in their body structure. Also, I like this family best of all and therefore prefer to find and am happy to paint them. If there were a large number of tree bugs in natural biotopes, namely those not used for agricultural purposes like the place I had found at the beach, that would be ideal for this field study.

August 3, 1999

Eagerly, I went to the seaside toward evening and found at the edge of the gravel beach 33 true bugs and cicadas. Among them was a squash bug (*Coreidae*) which I had never seen before and could not identify. There were also sloe bugs (*Dolycoris baccarum*), a cicada (*Homoptera*), a lady bird beetle (*Coccinellidae*) and a soft bug (*Miridae*). The inspection with my binocular back in the hotel revealed that an enormous catastrophe was taking place in this area. Of the 33 bugs 6 had terrible abnormalities. Two *Carpocoris purpureipennis* looked very bad.

One had wings in uneven length the other had a terribly deformed wing. I was very upset. I had found the true bugs primarily in the umbel of '*Armeria maritima*'. These umbels are formed like baskets. The bugs sit there in pairs or threesomes or alone. In the evening the plant closes the basket, the bugs are sheltered and protected from wind and rain. Nature is so ingenuous.

Now I knew where the tree bugs could be found. Considering the difficulty was to finding number, I decided to limit the number of insects to 50 individuals per research location. I did not want to harm the population too much or decimate them unnecessarily.



Biotope with ,Armeria maritima'
beach Anse Saint-Martin ,Middle of bay' with a bunker from Second World War



August 5, 1999

Weather had turned bad, during the night it had rained and the wind had whipped the trees. In the morning the sun shone, and on my walk along the seashore I saw lots of algae. I took a few strands to the hotel room and painted them as long as they were wet. Then I pressed them. To a botanist in Zürich I had promised to bring back some algae. If it was possible I also wanted to investigate some plankton. However, after a water sample, even using the greatest magnification, did not reveal even one organism, I decided to keep to the bugs.

Photography of two leaves of algae. The lower one has deformed leaf points



August 6, 1999

On the way to the shopping center, on the right turn off to Beaumont and somewhat higher than my location, lay the French nuclear reprocessing plant COEMA (today AREVA) La Hague in its entire enormity of three kilometers. Viewed from the plant, my location was to the northeast.

Here I also found primarily large green Miridae, presumably *Calocoris norvegicus*. One had a dark spot on the left transparent hindwing, under the cover wing. The same day I also searched near Audeville, approximately 100-meter distance from the previous place, and collected at the turn off Beaumont/Audeville another 19 true bugs, all of which looked healthy. This location is near the disposal site, a grass - covered hill at the east of the nuclear reprocessing plant La Hague.

Research site Audeville with the reprocessing plant La Hague in the background



August 7, 1999

In the meantime, I finally had found a larger and more exact map of the region, which now I began to brood over. With a pencil I drew lines, and noticed that I should not only be looking in the immediate vicinity of the plant but also farther to the east. If one draws a horizontal line east of La Hague COGEMA/AREVA, it passes north of Cherbourg to Cap Lévi. That would be my next research site.

The weather was good and so I drove beyond Cherbourg in the direction of Barfleur, choosing the road along the sea. The first stop was Cap Lévi, which I had chosen on the map. A lighthouse stands on a little point jutting out into the sea. There I looked for true bugs. I also found the tree bug *Carpocoris purpureipennis*. Nine of the 50 true bugs were gravely crippled.

The second location was near Gatteville. I found La Hogue on the road sign, and on the map as well. Here six of the 50 true bugs were damaged, similarly to Cap Lévi. However, at Cap Lévi it had been easier to find 50 true bugs.

At La Hogue, also a lovely place on the seashore, in front of and behind the dunes, there were enough plants with bugs living on them. By then as it was already very hot the true bugs had gone into hiding for their midday nap and, I felt somewhat tired as well. Perhaps that is why it seemed more difficult to find the 50 true bugs here than on Cap Lévi. But toward evening I had all the insects in my cups, and traveled back to Cherbourg satisfied.

This night I could not stay in my room in Hotel St. Martin, because not only had my room been reserved long in advance, but the whole hotel was occupied by people who wanted to watch the eclipse of the sun. Therefore, I had to go to Hotel Mercure in Cherbourg again, where I had already stayed the first night.



Research sites Cap Lévi above and La Hogue below



August 8, 1999

On the way back in the morning, I passed Landemer and the beautiful castle Dur Ecu. At first I looked for bugs along the seashore in Landemer. But I did not have any luck here as it is very built up, and I found not a single individual on the narrow path by the shore. At the parking lot of the castle Dur Ecu, I finally found 31 bugs, mostly squash bugs (*Coreus marginatus*), two stink bugs larvae (*Palomena viridissima*) as well as one ladybird beetle (*Coccinellidae*). I took no time to visit the castle from the 16th century but was only interested to get the true as fast as possible to the hotel.

One of the *Palomena viridissima* larvae was alive with a terrible deformation as I discovered later with my microscope, after having reinstalled my utensils. Black dots, point pits were lacking on the left side of the thorax or were light in color. Part of the wing was disturbed. Because larvae lose their form and color quickly I started immediately to draw and paint this larva. The next day I spent in my room again at Saint Martin to paint this stink bug. (See image on cover)



Research site castle Dur Ecu



August 11, 1999

I was not at all happy on August 10th, the day before the eclipse of the sun, because I had to leave my room once again, as it had been reserved a long time ago. In the meantime, the hotel filled up with people. Some were even camping on the field in front of the hotel. There were many campers down by the sea. The owner of the hotel had found me a room at her cousin's in Nacqueville. I was very grateful, as I had already prepared myself inwardly to spend a cold night in the car.

Next day at noon, I could move back to my previous room and set up again my microscope and painting equipment.

The eclipse of the sun was expected at noon. An almost complete eclipse could be seen at Cap de La Hague. However, the weather suddenly got bad and cloudy, so that at the moment of the eclipse one could see only darkness. It did not get completely dark however, but just as dark as it is shortly before night fall. All the same, the moment touched me. It got cold. In my mind pictures of a nuclear winter formed along with the feeling of gratitude for daily sunshine.

The beach was full of people. I was angry that so many parents did not force their children to use the special glasses. The radio had warned of danger to one's eyes. The summer of 2000 I had a student, who had looked at the sun during the eclipse, and who now has a seeing disability.

August 12, 1999

Finally, I was installed again and could continue to work. The masses of people disappeared and everything was quiet again. The stink bug from Dur Ecu upset me. I had seen and investigated hundreds of stink bug larvae, but never seen a sight such as this one under the binocular.

From my window under the roof facing south, I saw the lights of the reprocessing plant COGEMA/AREVA La Hague every night. The plant is behind the hill and only the tips of the chimneys are visible, but still the sky seems lightly lit. I tried photographing this light at various times and, began observing the surroundings at night more closely. The stillness was noticeable - no chirping at night, no noises of insects. Even in Zürich where I live, I hear the buzzing of insects at night. This strange stillness worried me I considered buying a tape recorder to record the quiet.

This evening the first moth flew in my window.

In Goury at the outer most western point of the peninsula, I found 50 true bugs in record time.



Darkness covers the landscape during the eclipse of the sun
View from my window during the night with light shining from the reprocessing plant behind the hill



August 15, 1999

I noticed that the heads of some of the bugs were twisted and that the feelers pointed every which way. I began to think about the subtleties of the abnormalities. Who was going to take bent feelers or twisted heads seriously?

Only when I was drawing a *Carpocoris purpureipennis* with unequally long wings back in my studio in Zürich, did I discover that the right selvage of the abdomen was also badly deformed. Although six insects were damaged comparable to the ones from Cap Lévi and La Hogue, the damage of wings uneven in length I consider a most serious damage. I found this kind of deformation only in the environs of nuclear power plants.

Morphological disturbances of the abdomen are also rare and I found them as well only in, by artificial radioactivity contaminated areas around nuclear power plants. In this case, the damage is very particular. It looks as if the chitin of the outer skeleton had been melted. This kind of 'melting structure' I found on a leafhopper in the environs of the nuclear reprocessing plant Sellafield UK, as well as in the environs of Swiss nuclear power plants.

From Goury I drove to Vauville, where Prof. Jean François Viel² from the University of Besançon had also found a leukemia cluster. I collected there because Vauville lies practically south of the COGEMA/AREVA La Hague plant. I would guess that there is not so much wind going to the south. I wanted primarily to collect true bugs on beaches. All the same I was curious about the results, since Prof. Viel had found one of the highest leukemia rates in Vauville.

The weather was not as good as it had been during the morning, but I found all the bugs in no time. People were bathing and riding waves; here of all places where a leukemia cluster had been found. I would have liked to shout to the young people that they should not be bathing here. But that would have been pointless, because who would say anything when I was not there? And anyway, is it permissible to frighten People?

One young person asked me what I was looking for, and I explained that I studied bugs and painted them. Later the parents passed by and called 'bonne chasse'. Happy hunting. At this location 6 of the 50 bugs were morphologically damaged, however not as badly as in Goury. But - so many more people live here than in Goury.



Beach at Goury

Typical normandy house at Dunes de Vauville



August 16, 1999

I began looking for bugs near the village of Omonville-la-Rogue, which lies northeast of COGEMA/AREVA on the seashore. Despite looking for a long time I only found 38 true bugs. I had to return to this location two more times before I had collected all of the 50 true bugs. Here during the day I also heard the first cricket.

At the beach of Omonville-la-Rogue the abnormalities looked terrible and the more I looked over the insects deep into the night, the more I got worried and angry. One of the tree bug larvae, a shiny green/coppery *Carpocoris purpureipennis*, which had a deformation on the neck plate, I drew immediately. For a moment I felt anxious - not for myself - I would leave this place soon enough - but for the people living here permanently.

While drawing the tree bug larva I noticed typical metallic taste in my mouth the people of Chernobyl and even Three Mile Island had described after the release of radioactivity during the accidents. I had as well tasted it after the accident of Chernobyl while in Zürich and not even knowing at that time there had been an accident in a nuclear power plant. Once more when I worked with linden leaves I had collected in Poleskoje. I touched the leaves and then my fingers with the tongue to move the leaves again. I was a little shocked to having brought home radioactive material. But I just had to do it, I had to paint those leaves. (See page 46)

I understood the liquidators, who collected the radioactive waste that had been flung from the burning core of the nuclear reactor after the catastrophe of Chernobyl nuclear power plant. They drank lots of vodka, and maintained it was the best medicine against radiation sickness. At least they didn't have this metallic taste in their mouths anymore. Many of them became seriously ill and others died in a horrible way.

August 17, 1999

Again, I looked below the hotel on the seashore, and found 10 more true bugs, 4 of which were terribly deformed. One larva of *Carpocoris purpureipennis* larva had an awfully deformed thorax. The surface looked like a completely new landscape and I started to draw it right away before it would change form and color (see page 61).

From this research location 'Anse Saint Martin middle of bay' one sees the chimneys of the nuclear reprocessing plant COGEMA/AREVA La Hague. Though the plant is hidden behind the hill there is a falling wind late in the afternoon that goes down the slope of the hill to the seashore.

This evening I heard a cricket below my windowsill for the first time.



Beach at Omonville-la-Rogue and view to the Hotel Saint-Martin des Grèves from sea shore



August 19, 1999

I made my way to Ecalgrain. One drives down to the sea shore from the village of Jobourg, which lies on the west side a little bit south of the reprocessing plant La Hague. At Ecalgrain the rocks fall steeply to the water below, a beautiful, wild landscape opens. One cannot get to the sea everywhere; the surf is too dangerous. I began to climb on the south side of the road to a hill above the sea.

There on top of the hill, overlooking the breakers, I searched for true bugs. There is no agriculture here, not even sheep. Nonetheless 7 of the 50 insects were damaged. Although there were no unequally long wings like in Anse Saint Martin and Goury. Legs and feeler were morphologically deformed. The location lies about 105 meters above sea level and north west of the nuclear reprocessing plant La Hague. The nuclear reprocessing plant lies at a height of 172 - 188 meter above sea level. I thoroughly enjoyed sitting in the grass facing the sun and looking at the natural surroundings of this location. I did not return to the car gladly, but I wanted to find one more location.

The research site of Roche Gelétan lies at the end of the road which leads from St. Germain - de - Vaux down to the seashore, northwest of the nuclear reprocessing plant La Hague. I could only collect 30 bugs this day, and had to return to complete the number. The biotope was meager, and on the west side of the road there was a nature protection area, where collecting insects and plants was of course forbidden.

Time was running out. at the end of August I had to be back in Zürich. Since I tried to have at least 50 true bugs from each location to take home, I often drove in different directions to collect the missing bugs in the late afternoons, when I was tired from looking at the insects through the microscope, writing protocols or from drawing and painting.



Research point Ecalgrain and below Roche Gelétan



August 22 1999

On August 20 I had to return to Dur Ecu, and collected another 17 true bugs, all of them squash bugs (*Coreus marginatus*). Four had disturbances.

I also drove to Anse des Moulinets near Herqueville, where the pipeline with radioactive waste-water juts out into the sea. The diameter of the pipeline is enormous. Something like an oil drilling tower, a platform with all kinds of equipment, stands in the sea. There seemed to be a ship patrol, in any case a small ship was near the platform. It was Sunday, and a few hikers were out walking.

Around the building there did not seem to be any personnel. Surprising, since the liquid flowing in this huge pipe is extremely dangerous. Looking at the homepage of Greenpeace, they claim on June 19, 2000, that COGEMA La Hague lets 1,4 Million liters' radioactive liquid waste per year into the sea. If this amount were put into barrels and dropped into the sea it would be forbidden. But leading the liquid waste directly into the sea is still legal and accepted by all countries!

A nature reservation area spreads out to the right and left of this installation, as far as Nez de Jobourg. This is a strategy in my opinion. Very often the areas near nuclear installations, particularly in the main wind direction, are nature reservation areas, as I observed at Three Mile Island in the USA. This serves, as the purpose of preventing curious people like me from finding unpleasant items, like crippled true bugs. At such places, that might be irradiated, no one should be able to make any observations, which could lead to unwanted questions.

In any case I remained true to my conviction, not to collect any bugs in nature reservation areas. I walked on narrow path almost as far as Nez de Jobourg in the northwest. I did notice however that there was hardly a true bug to be found. I barely saw 10 bugs during the hour and a half I was walking.

For a long time, I had heard a rustling in the roof above of my hotel room. I had thought it was a martin but they were bats. I was able to watch how with a big 'whoosh' they flew out about 9:15 in the evening. First one, then the other. What they ate was a mystery to me, since there were so few insects swarming about.

One evening as I was observing them with fascination, one suddenly clutched onto the stone windowsill as if it wanted to know who was watching. It nearly frightened me to death but still, one could say cynically, then COGEMA/AREVA La Hague can't be that bad, when bats are still flying about.



Platform where the huge pipeline is coming from the factory La Hague COGEMA/AREVA and looking on the concrete floor, covering the pipeline



August 23 1999

The morning of August 23 I visited the nuclear reprocessing plant COGEMA/AREVA La Hague. As a foreigner one must apply two weeks in advance, and one's identification papers are copied. I went on the first tour at 9 o'clock, and had myself photographed by a man in the group in order to also have this document of my visit. (page 129)

We were a group of about 20 people. After checking our names, we got a tag and a dosimeter. First, we were brought in a lecture room. I took notes of the information we were given about COGEMA/AREVA:

The first part of the plant was built in 1966. Since 1976 it occupies 300 hectares (1 ha = 2.47 acres) of land and employs 6000 people.

The fuel rods must cool in a water pool for 3.5 years before they can be reprocessed. Part of the burned-out fuel rods are processed into MOX; one part is recycled in uranium and another part is sent to a storage place. The pipe at Anse des Moulins is 5 km long and reaches a current in the sea, which takes radioactivity to a current flowing north. (It takes about 6 months to reach Norway!) The amount of 0.02 - mSv Polonium has been measured in rotting shells. Dioxin is also released into air from chimneys. Two electrical fences are around the whole compound. Rain and river water is collected and analyzed.

All the clocks in the plant are set on international time. The chimneys have different colors. In the plant with the blue chimney for example, the reduction of nuclear material is carried out (which probably means burning).

At the end of the talk we were told we could ask any questions, and they would be answered. To my question whether Switzerland was still sending containers with radioactive contaminated surfaces, a danger to employees, the man answered that everything was fine now.

One probably did not want to take Switzerland, a good customer to court. The contracts with Switzerland ran out in 2000, and the facilities, Switzerland helped to finance became the property of COGEMA/AREVA.

The contracts had been made with the Swiss Department of Energy, but the plant had been financed by the Swiss nuclear industry. I asked what he thought of the investigation of Prof. J. F. Viel. He said they were all slanderous. The comité scientifique of France had made investigations, and found that none of the results are true. (Prof. Viel stopped this kind of research after his parents who live in the area had been physically attacked and their might have been other pressures).

Then a lady directed us in a bus to another building, where the fuel rods are stored and cooled down in deep pools. Now we are in the blue zone and have to put on coats and plastic covers for the shoes. First we come to the area where the fuel rods are taken apart by robots. One can see them through a window.

Those that we saw were standing still. Thick yellow cables, coming out of the room with the robots, are drawn into the room where we were standing. I wondered if



Reprocessing plant La Hague COGEMA/AREVA



radioactivity could get through the rubber casing around holes in the wall. In any case the wall with the holes, labeled from 1 - 18, out of which the many rubber tubes were coming, did not look high-tech but rather like a something improvised. We were told that the plant is inspected 30 - times a year and that 6 Euratom experts are always on hand - as if this were of any comfort.

On the floor of the chamber I noticed a dark fluid. The lady explained that there is always a little spillage when the fuel rods are taken out, but this is not a problem because it evaporates. (As if with evaporation radionuclides would disappear)

Then we went upstairs. Climbing stairs with plastic slippers is somewhat awkward and not designed for moving along quickly. From the balcony, we could see the fuel rods in the water.

The pool is blue - green like a swimming pool. It is 90 meters long and 17 meters wide and 9 meters deep. I was told that Swiss fuel rods were lying in the corner. The water is not changed, just cooled. The fuel rods remain in the water for 5 years until they are cooled down.

This means that when brought to La Hague, they are highly radioactive *and* hot. A plastic plant (instead of a living plant in a pot) on glass covered balcony lends a naturally cozy and trustworthy atmosphere. Now the 'dangerous' part of the tour was over. We were lead into a room where the overcoats were left and the plastic shoes removed - naturally with bare hands, and - swish, everything was tucked away in a container. One wiped one's hands on one's pants, and everything was clean again. The room in which the measuring instruments stand is painted in green, and looks like a GDR (German Democratic Republic) washroom after World War II.

Now we stepped quickly onto a pedestal so that the machine could measure our radiation. We put our hands up to the wrists in two openings. On a screen, we could see two hands and two feet. In the middle of the pictures is an hourglass. When the sand is down and no alarm given, it means that one is not radioactive.

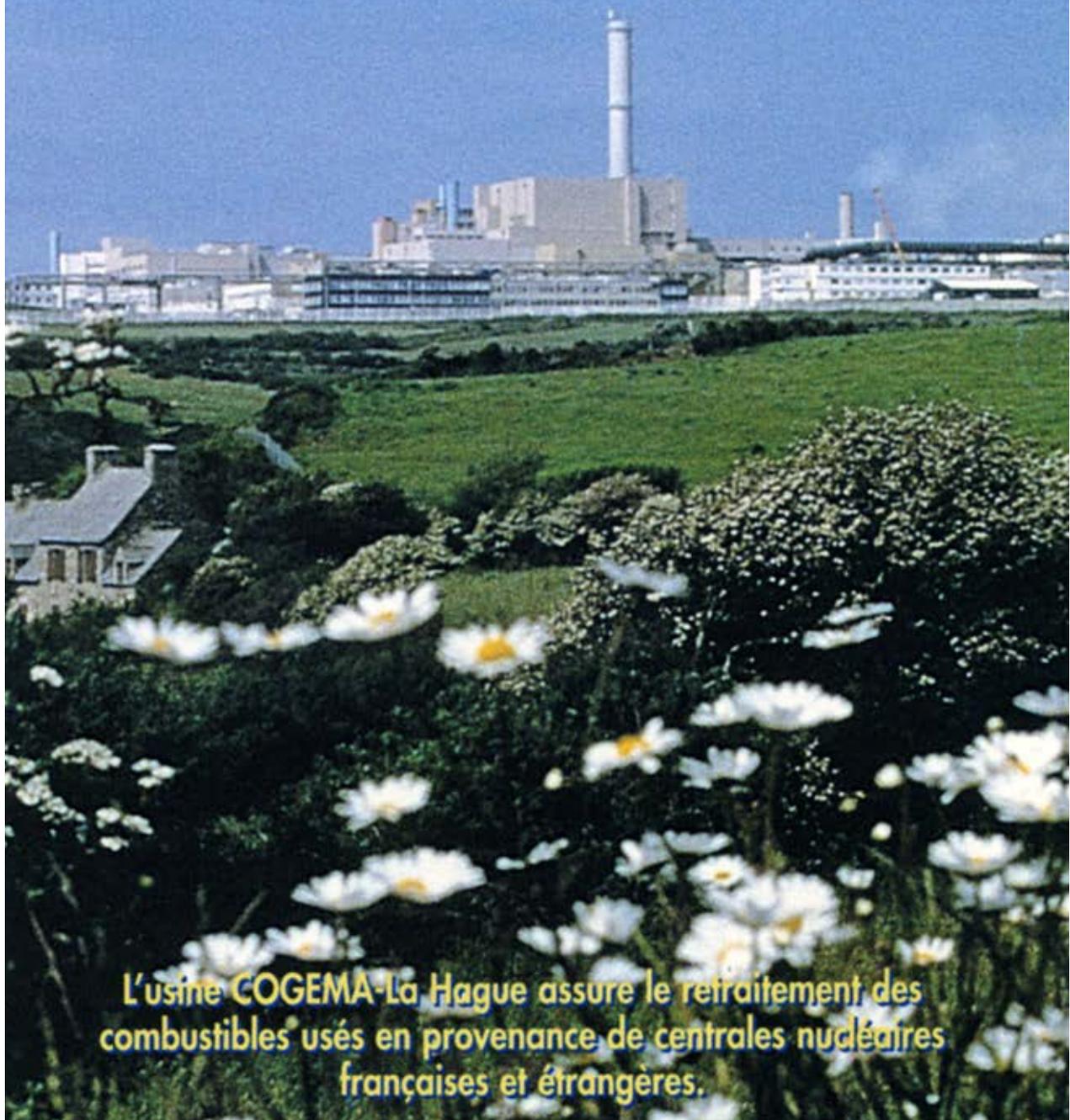
Everyone in the group received this fortunate result, sure that COGEMA/AREVA would never irradiate a visitor. No, each of us had that much confidence. We could now return the dosimeter, and thank God, no radioactive radiation was read here either, no evidence of any contamination in these clean rooms.

Our bus was already waiting, we got in. I bumped my knee on a seat - it hurt. But the tour was not over; we were brought to the computer room. The whole operation is directed from here.

The main colors in the room are light blue and a dull red. The light is dimmed. A chromized aluminum fixture shines on the ceiling with little built in lights.

Very elegant. Here again are the artificial plants, a sign that COGEMA/AREVA has a modern relationship to Nature. I saw several units under thick glass plates each with six computers and two men. The walls between the units are all a subdued, cool gray - green, which are bordered by dark frames.

*Ne l'imaginez plus,
venez la voir.*



L'usine COGEMA-La Hague assure le retraitement des combustibles usés en provenance de centrales nucléaires françaises et étrangères.

The men who work there and, I noticed this as we passed one of the main the staircase, are tall, thin, blond and good - looking. I wondered if these were the criteria for being employed here, since the French are generally rather short and dark. At the end, we were allowed to marvel at a container used for the final storage.

It is a silvery cylinder 160 cm high that can be closed up on top. The radioactive waste that has been poured into glass is packed in such containers, and is returned in this form to the nuclear power plants from which the waste originated.

One man in the group attracted negative attention by asking impertinent questions, which were answered with a cool smile. Of course, one knows that in every group there are a few such know - it - all's. This man even maintained that France's nuclear bombs are stored on the Plateau Albion, between Cannes and Nice.

Now it was almost noon and the tour was over. I was exhausted. But before leaving the ground, and after getting my little camera from the car, I went back to the information Center. On the top floor, I had discovered some photographs that show how earth and water samples are taken in the area around COGEMA/AREVA on the Cap de La Hague. At a glance, I could see that these were photomontages. In one picture a man is sitting in a field of flowers and seemingly suspended, a typical old Normandy house. Way at the back one sees the reprocessing plant. I quickly photographed this picture as I found it very interesting.

These photographs, though not very good, turned out to be very informative, when I saw an advertisement for COGEMA/AREVA in a French newspaper a few weeks later. It was the same picture, only the details were arranged differently.

Photo manipulation, to convey truth?

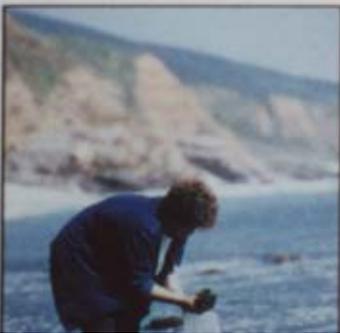
This is a contradiction in my opinion. But who can remember the pictures in the Information center? Who sees that the pictures are manipulated? And who would ever compare them!

In the evening a soft breeze from the south coming directly in my window I heard the cricket again.

In the morning a moth was lying on the floor. I took it carefully in my hand, as though I had never ever hurt an insect, and lay it on the windowsill.



La surveillance (de la mer) porte sur l'air, les sédiments et sur l'herbe, le lait et les légumes.



QUI NOUS CONTRÔLE

L'Établissement est sous le contrôle des **Ministères de l'Industrie, de l'Énergie et de la Santé (DRIRE⁽¹⁾, DSIN⁽²⁾ et OPRI⁽³⁾**

Images from COGEMA/AREVA concerning the sampling of sediment to measure radiactivity emitted by the plant and below a postcard one can take, showing how sound nature is in the vicinity of the reprocessing plant



August 24, 1999

A couple of men had arrived in the hotel. They worked for COGEMA/AREVA. Madame told me proudly that they would be staying for 10 months. This is good business, since either no one or only few guests are expected in winter. I was pleased for the hotel manager, only one of the workers came from Africa. I spoke with him and found out that he had a wife and children in Lille, in the north of France. I asked him whether he was afraid of radiation. He assured me that their work was not carried out in the dangerous part of the reprocessing plant. Or is it only what they told him? I urged him to refuse the work, if he had the feeling that he was being sent into the jaws of hell. He should think of his wife and children, and that he could get sick and that then COGEMA/AREVA would probably not pay him anything. I told him that in Switzerland foreigners are hired for dangerous work, and that one lets them go after paying them well for three months. No one knew later how they fared, and no one cared. The same had been done to the clean-up workers in Chernobyl, the so-called liquidators. These liquidators, all young men and soldiers, had been recruited from all over the Soviet Union. Later they were dismissed. Most of their names are unknown as well as where they came from or how they managed later on. I think that the young African man heard me, and I hope that he had the courage to look out for himself. But when an unemployed father gets such a well-paying job, what should he do?

The Bay of Anse Saint-Martin is very long and there is a gravel beach. At the last minute, so to speak I felt that I also had to collect bugs at the western end. The point is called Pointe du Nez. On August 24th, I had already collected 37 bugs. They did not nearly look as bad as those from the middle of bay. Two were damaged. It is interesting that from this point one cannot see the chimneys of the plant. A rather large hill lies between the plant and the beach. Looking for true bugs was very tiring, and I realized that perhaps the bug season was already coming to an end. On August 26, I found another 13 bugs to sum them up to 50. From all the 50 bugs 3 were damaged, none had unequally long wings of crippled legs like I had found in the middle of bay.

August 25, 1999

Finally, I took time to drive to Valogne. Rain was pouring down and the trip was not pleasant, particularly on the motorway where speeders whizzed by flinging water onto the windshield. In Valogne is the train station where the containers of radioactive waste are loaded onto trucks, the waste comes from Germany Switzerland and different regions of France. It is a typical small, modest French train station in the middle of the city. At the ticket counter, I asked whether these facts were true, namely the unloading of radioactive waste and loading of reprocessed waste. The young employee confirmed these information without the slightest hesitation. The trucks have to drive the environmentally hazardous containers from the train station through Cherbourg and then on the motorway to the reprocessing plant La Hague and back. There is a Lycée school near the train station, which I noticed on my way back. I could swear that in this station there is no receptacle, in case one of the containers was damaged in any way. But who worries about that, certainly not the French nor unfortunately the Swiss who deliver the waste. I am ashamed.



Train station at Vologne, where containers with radioactive waste are transferred from railroad to truck, truck to railroad



August 25, 1999 I stopped at Nacqueville, looked first by the seashore but found no bugs. At the parking lot a little way from the shore I found squash bugs (*Coreus marginatus*). Fifty bugs were quickly found and collected. And away I went back to the hotel. Four of the fifty bug were damaged. I was not so happy that most of the bugs were squash bugs but at least I could compare them with the squash bugs I collected for many years in the environs of the nuclear research Paul Scherrer Institute in Villigen, Canton Aargau. Every summer since 1992 I have examined a sizable number of true bugs. On average 15 % are damaged in the area around the Paul Scherrer Institute.

August 26, 1999 I had to collect again at Pointe du Nez, as the last time, I could only collected 10 true bugs. On August 26 I went back three times. In the morning, at midday and in the evening. In the evening I finally could collect most of the true bugs.

August 28, 1999 The last day, after I had already put my suitcase in the car, I got the ingenious idea of looking for true bugs at the east end of the Bay Saint Martin, called Les Sablons. I was luckier here. There were enough true bugs, but mostly squash bugs (*Coreus marginatus*). From this location one could see the chimney tops of the reprocessing plant La Hague. Here, four bugs were damaged, worse than at Pointe de Nez but not as badly as in the middle of bay. I also saw that there were more ladybird beetles in this part than elsewhere.

I was glad that I hit on a large number of tree bugs (*Pentatomidae*) for this study, and that the same species could be found at almost all research locations.

As soon as I had the bugs in the cups I threw my running shoes into a nearby container. I didn't want to risk taking home what might be radioactive shoes. Then I drove happily to Cherbourg from where I wanted to take the train the following day. Upon arriving at the hotel in Cherbourg and taking the suitcases to the room, I noticed that I had left the microscope in the hotel room in Omonville la Petite. I drove back to get this most important instrument. In Cherbourg, I returned the car and walked to the hotel. The next morning I was at the station to take the 11 o'clock train. I was unpleasantly surprised to find out that this train is not scheduled on Saturdays. So, I took a taxi with suitcases, microscope and bags back to the Hotel Mercure and spent one last night there.



Anse Saint-Martin Pointe du Nez and below Anse St Martin Les Sablons





Linden tree leaves from Poleskoje, Ukraine victims of the Chernobyl radioactive cloud
Tempera Millimeter paper, Zürich 1990

Records and Watercolors
of all morphologically abnormal
true bugs

Gréville Hague

Date	Nr.	Name Latin	Name	ok	Condition
01.08.1999	1	Miridae	Soft Bug	ok	
01.08.1999	2	Miridae	Soft Bug	ok	
01.08.1999	3	Miridae	Soft Bug	ok	
01.08.1999	4	Miridae	Soft Bug		growth on scutellum
01.08.1999	5	Miridae	Soft Bug		dark spot on right wing
01.08.1999	6	Miridae	Soft Bug		two blisters on left side abdomen
01.08.1999	7	Miridae	Soft Bug		dark growth on right wing
01.08.1999	8	Miridae	Soft Bug	ok	
01.08.1999	9	Miridae	Soft Bug	ok	
01.08.1999	10	Miridae	Soft Bug	ok	
01.08.1999	11	Miridae	Soft Bug	ok	
01.08.1999	12	Miridae	Soft Bug	ok	
01.08.1999	13	Coreus marginatus	Squash Bug	ok	
01.08.1999	14	Miridae	Soft Bug	ok	
01.08.1999	15	Miridae	Soft Bug	ok	
01.08.1999	16	Miridae	Soft Bug	ok	
01.08.1999	17	Miridae	Soft Bug	ok	
01.08.1999	18	Miridae	Soft Bug	ok	
01.08.1999	19	Miridae	Soft Bug	ok	
01.08.1999	20	Miridae	Soft Bug	ok	
01.08.1999	21	Miridae	Soft Bug	ok	
01.08.1999	22	Miridae	Soft Bug	ok	
01.08.1999	23	Miridae	Soft Bug	ok	
01.08.1999	24	Miridae	Soft Bug	ok	
01.08.1999	25	Miridae	Soft Bug	ok	
01.08.1999	26	Miridae	Soft Bug		point of left wing bent
01.08.1999	27	Miridae	Soft Bug	ok	
01.08.1999	28	Miridae	Soft Bug	ok	
01.08.1999	29	Miridae	Soft Bug	ok	
01.08.1999	30	Miridae	Soft Bug		dark spot on left wing
01.08.1999	31	Miridae	Soft Bug	ok	
01.08.1999	32	Miridae	Soft Bug	ok	
01.08.1999	33	Miridae	Soft Bug	ok	
01.08.1999	34	Miridae	Soft Bug		point of right wing disturbed
01.08.1999	35	Miridae	Soft Bug	ok	
01.08.1999	36	Miridae	Soft Bug	ok	
01.08.1999	37	Miridae	Soft Bug	ok	
01.08.1999	38	Miridae	Soft Bug	ok	
01.08.1999	39	Miridae	Soft Bug	ok	
01.08.1999	40	Miridae	Soft Bug		knotted feelers

01.08.1999	41	Miridae	Soft Bug	ok
01.08.1999	42	Miridae	Soft Bug	knotted feelers
01.08.1999	43	Miridae	Soft Bug	ok
01.08.1999	44	Anthocoridae	Minute Pirate Bug	ok
01.08.1999	45	Miridae	Soft Bug	knotted feelers
01.08.1999	46	Miridae	Soft Bug	ok
01.08.1999	47	Miridae	Soft Bug	ok
01.08.1999	48	Miridae	Soft Bug	ok
01.08.1999	49	Miridae	Soft Bug	ok
01.08.1999	50	Miridae	Soft Bug	ok
	50	total		40 undisturbed 10 disturbed



Camomile flower found at research site Gréville



Gréville Nr. 34



Gréville Nr. 40



Gréville Nr. 42

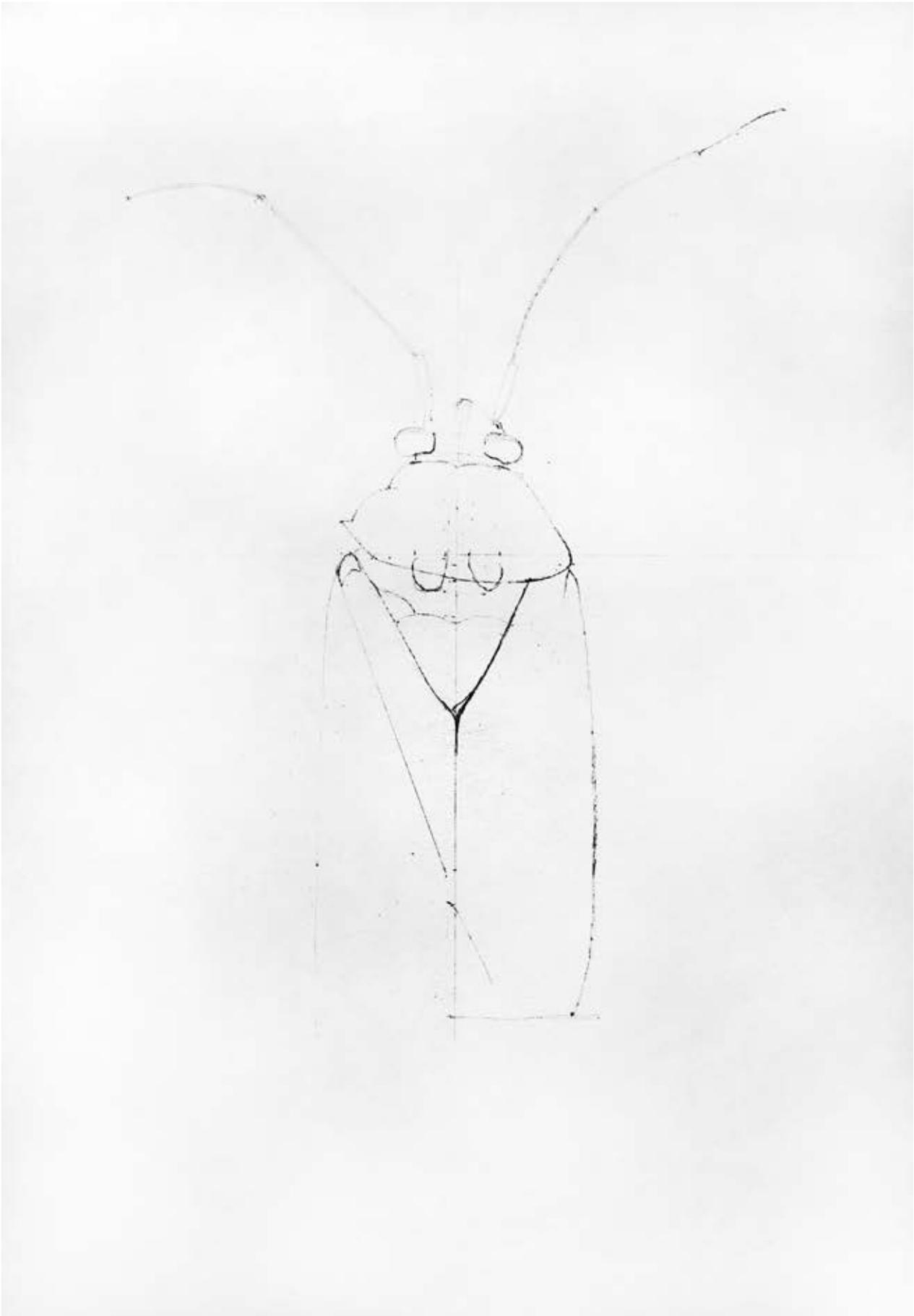


Gréville Nr. 45

Anse Saint Martin middle of Bay

Date	Nr.	Name Latin	Name	ok	Condition
03.08.1999	1	Coreidae	Squash Bug		right lower wing crumpeled
03.08.1999	2	Dolycoris baccarum	Sloe Bug		right side of thorax deformed
03.08.1999	3	Miridae	Soft Bug	ok	
03.08.1999	4	Homoptera	Cicada	ok	
03.08.1999	5	Carpocoris purpureipennis	Tree Bug	ok	
03.08.1999	6	Carpocoris purpureipennis	Tree Bug		left wing deformed, right side abdomen dark patch
03.08.1999	7	Miridae	Soft Bug		thorax with dark patch
03.08.1999	8	Carpocoris purpureipennis	Tree Bug Larva	ok	
03.08.1999	9	Miridae	Soft Bug	ok	
03.08.1999	10	Miridae	Soft Bug		thorax with dark patch
03.08.1999	11	Coccinellidae	Lady Bird Beetle		right wing dark patches
03.08.1999	12	Coccinellidae	Lady Bird Beetle	ok	
03.08.1999	13	Coccinellidae	Lady Bird Beetle	ok	
03.08.1999	14	Carpocoris purpureipennis	Tree Bug	ok	
03.08.1999	15	Dolycoris baccarum	Sloe Bug	ok	
03.08.1999	16	Carpocoris purpureipennis	Tree Bug		left side head deformed
03.08.1999	17	Carpocoris purpureipennis	Tree Bug Larva		left feeler deformed
03.08.1999	18	Carpocoris purpureipennis	Tree Bug		left wing deformed
03.08.1999	19	Carpocoris purpureipennis	Tree Bug	ok	
03.08.1999	20	Carpocoris purpureipennis	Tree Bug Larva	ok	
03.08.1999	21	Miridae	Soft Bug	ok	
03.08.1999	22	Carpocoris purpureipennis	Tree Bug		right wing deformed
03.08.1999	23	Lygocoris tiliae	Soft Bug	ok	
03.08.1999	24	Carpocoris purpureipennis	Tree Bug Larva	ok	
03.08.1999	25	Carpocoris purpureipennis	Tree Bug Larva	ok	
03.08.1999	26	Carpocoris purpureipennis	Tree Bug Larva	ok	
03.08.1999	27	Carpocoris purpureipennis	Tree Bug Larva	ok	
03.08.1999	28	Carpocoris purpureipennis	Tree Bug	ok	
03.08.1999	29	Carpocoris purpureipennis	Tree Bug	ok	
03.08.1999	30	Dolycoris baccarum	Sloe Bug	ok	
03.08.1999	31	Carpocoris purpureipennis	Tree Bug Larva	ok	
03.08.1999	32	Miridae	Soft Bug	ok	
03.08.1999	33	Miridae	Soft Bug		leg, joint with growth
17.08.1999	34	Carpocoris purpureipennis	Tree Bug	ok	
17.08.1999	35	Carpocoris purpureipennis	Tree Bug	ok	
17.08.1999	36	Carpocoris purpureipennis	Tree Bug	ok	
17.08.1999	37	Carpocoris purpureipennis	Tree Bug		left hind leg too short
17.08.1999	38	Carpocoris purpureipennis	Tree Bug		right wing deformed
17.08.1999	39	Carpocoris purpureipennis	Tree Bug	ok	

17.08.1999	40	Carpocoris purpureipennis	Tree Bug	ok
17.08.1999	41	Carpocoris purpureipennis	Tree Bug Larva	surface on right wing and scutellum disturbed
17.08.1999	42	Carpocoris purpureipennis	Tree Bug Larva	
17.08.1999	43	Carpocoris purpureipennis	Tree Bug Larva	deformation on right side of head
21.08.1999	44	Carpocoris purpureipennis	Tree Bug	ok
21.08.1999	45	Carpocoris purpureipennis	Tree Bug	ok
21.08.1999	46	Carpocoris purpureipennis	Tree Bug	ok
21.08.1999	47	Carpocoris purpureipennis	Tree Bug	ok
21.08.1999	48	Carpocoris purpureipennis	Tree Bug	ok
21.08.1999	49	Carpocoris purpureipennis	Tree Bug	selvage of thorax deformed
21.08.1999	50	Carpocoris purpureipennis	Tree Bug Larva	ok
	50	total		33 undisturbed 16 disturbed



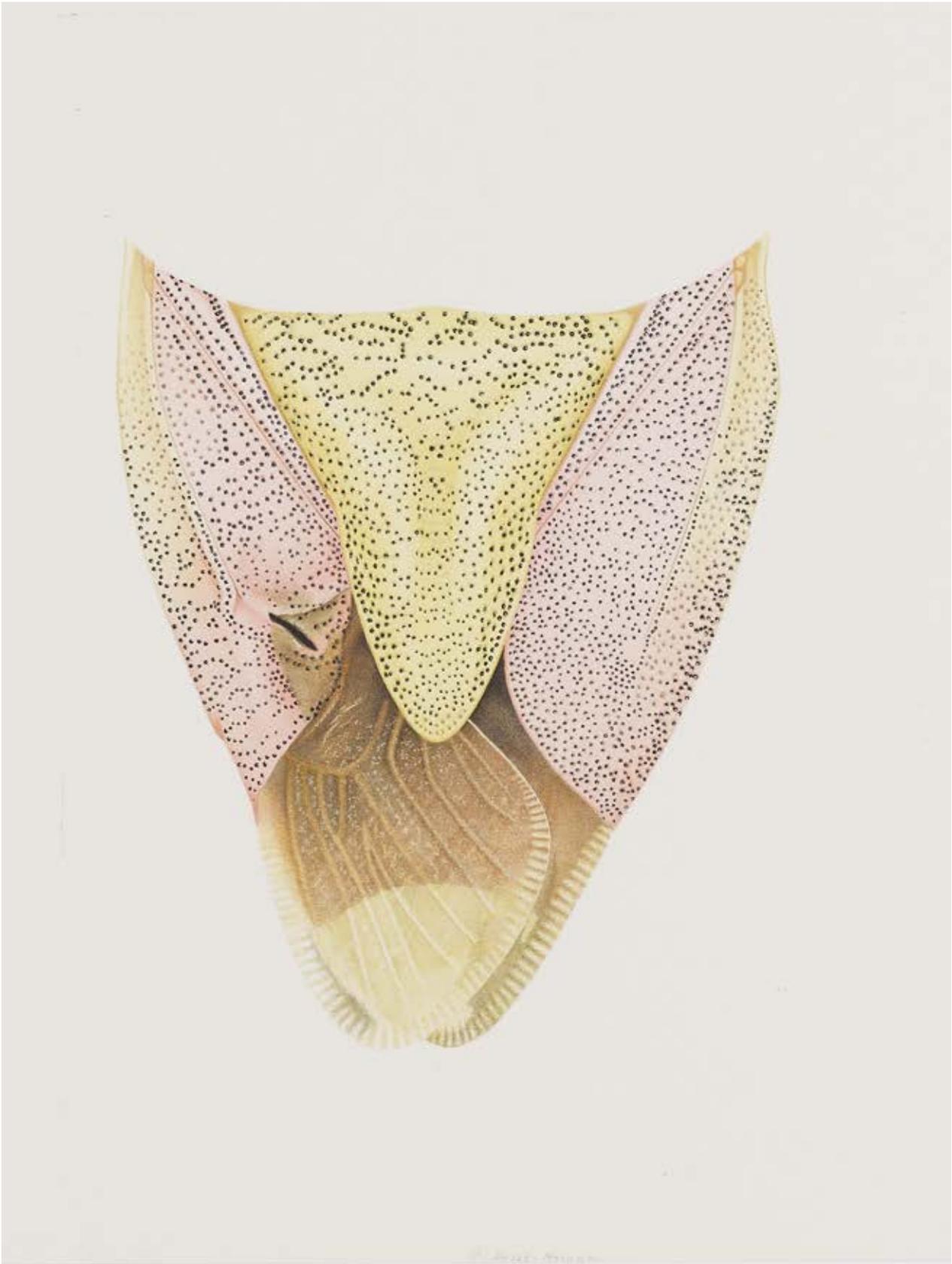
August 2, soft bug with deformed thorax found at the street ledaing from the hotel to Omonville-la-Rogue



Anse Saint Martin middle of Bay Nr. 6



Anse Saint Martin middle of Bay Nr. 18



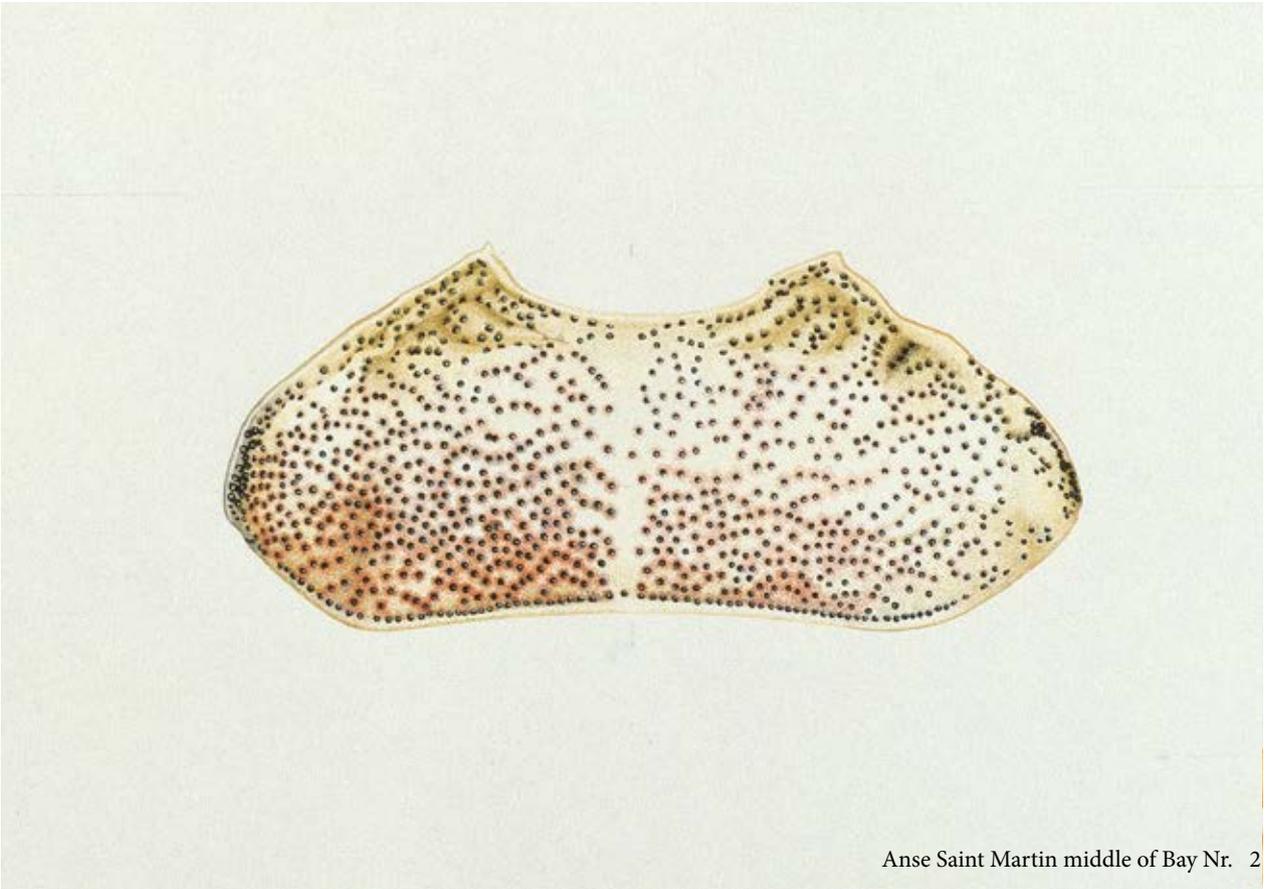
Anse Saint Martin middle of Bay Nr. 22



Anse Saint Martin middle of Bay Nr. 38



Anse Saint Martin middle of Bay Nr. 41



Anse Saint Martin middle of Bay Nr. 2



Anse Saint Martin middle of Bay Nr. 43



Anse Saint Martin middle of Bay Nr. 38



Anse Saint Martin middle of Bay Nr. 37

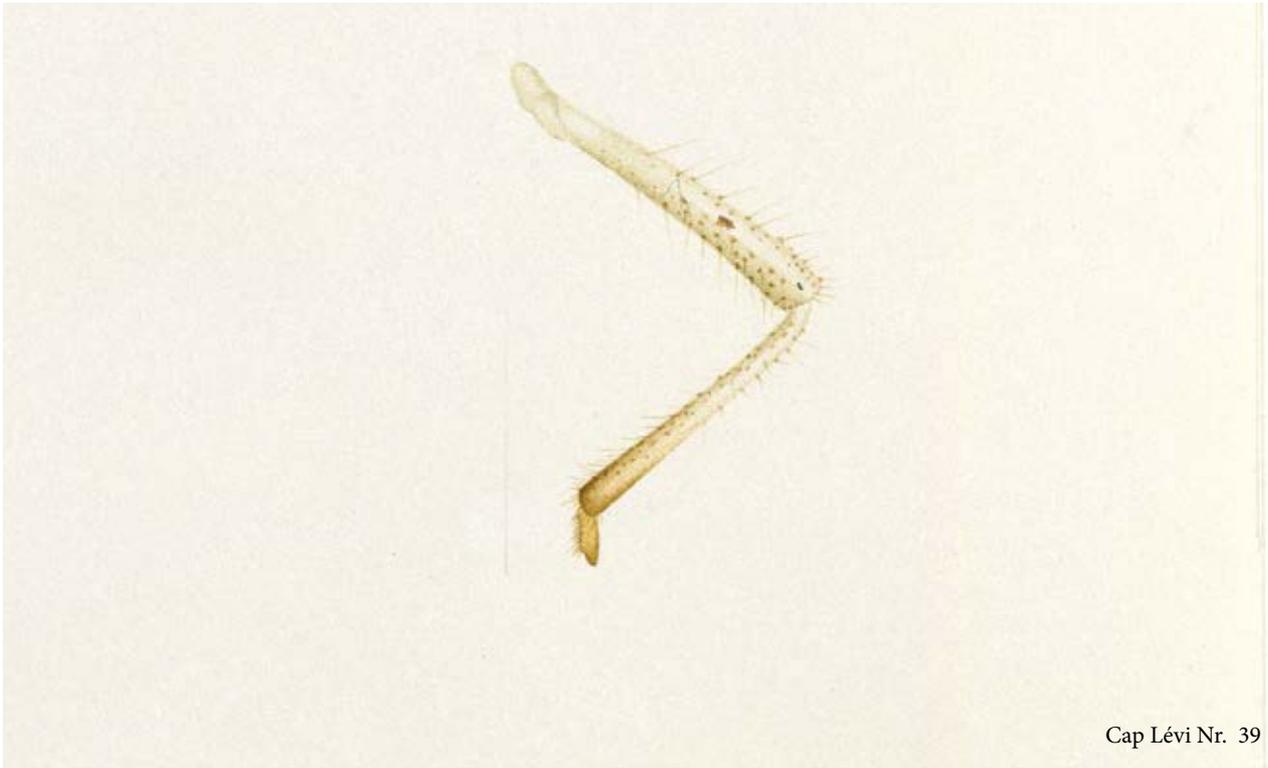
Cap Lévi

Date	Nr.	Name Latin	Name	ok	Condition
07.08.1999	1	Homoptera	Cicada	ok	
07.08.1999	2	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	3	Dolycoris baccarum	Sloe Bug	ok	
07.08.1999	4	Coreus marginatus	Squash Bug	ok	
07.08.1999	5	Carpocoris purpureipennis	Tree Bug Larva		left side abdomen blister
07.08.1999	6	Coccinellidae	Lady Bird Beetle	ok	
07.08.1999	7	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	8	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	9	Dolycoris baccarum	Sloe Bug Larva	ok	
07.08.1999	10	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	11	Dolycoris baccarum	Sloe Bug	ok	
07.08.1999	12	Dolycoris baccarum	Sloe Bug Larva	ok	
07.08.1999	13	Dolycoris baccarum	Sloe Bug		indentation point of scutellum, right side thorax selvage irregular
07.08.1999	14	Dolycoris baccarum	Sloe Bug		protrusion right side scutellum
07.08.1999	15	Carpocoris purpureipennis	Tree Bug Larva		right side head smaller
07.08.1999	16	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	17	Carpocoris purpureipennis	Tree Bug		left wing dark patch
07.08.1999	18	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	19	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	20	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	21	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	22	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	23	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	24	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	25	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	26	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	27	Dolycoris baccarum	Sloe Bug	ok	
07.08.1999	28	Dolycoris baccarum	Sloe Bug	ok	
07.08.1999	29	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	30	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	31	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	32	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	33	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	34	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	35	Dolycoris baccarum	Sloe Bug	ok	
07.08.1999	36	Dolycoris baccarum	Sloe Bug	ok	
07.08.1999	37	Dolycoris baccarum	Sloe Bug	ok	

07.08.1999	38	<i>Dolycoris baccarum</i>	Sloe Bug	ok
07.08.1999	39	<i>Dolycoris baccarum</i>	Sloe Bug Larva	right hind leg deformed
07.08.1999	40	<i>Dolycoris baccarum</i>	Sloe Bug	left hind leg deformed
07.08.1999	41	<i>Carpocoris purpureipennis</i>	Tree Bug	right side abdomen deformed
07.08.1999	42	<i>Carpocoris purpureipennis</i>	Tree Bug	ok
07.08.1999	43	<i>Dolycoris baccarum</i>	Sloe Bug	ok
07.08.1999	44	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok
07.08.1999	45	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok
07.08.1999	46	<i>Carpocoris purpureipennis</i>	Tree Bug	ok
07.08.1999	47	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok
07.08.1999	48	<i>Carpocoris purpureipennis</i>	Tree Bug	ok
07.08.1999	49	<i>Coreus marginatus</i>	Squash Bug Larva	ok
07.08.1999	50	Miridae	Soft Bug	ok
	50	total		42 undisturbed 8 disturbed



Cap Lévi Nr. 41



Cap Lévi Nr. 39



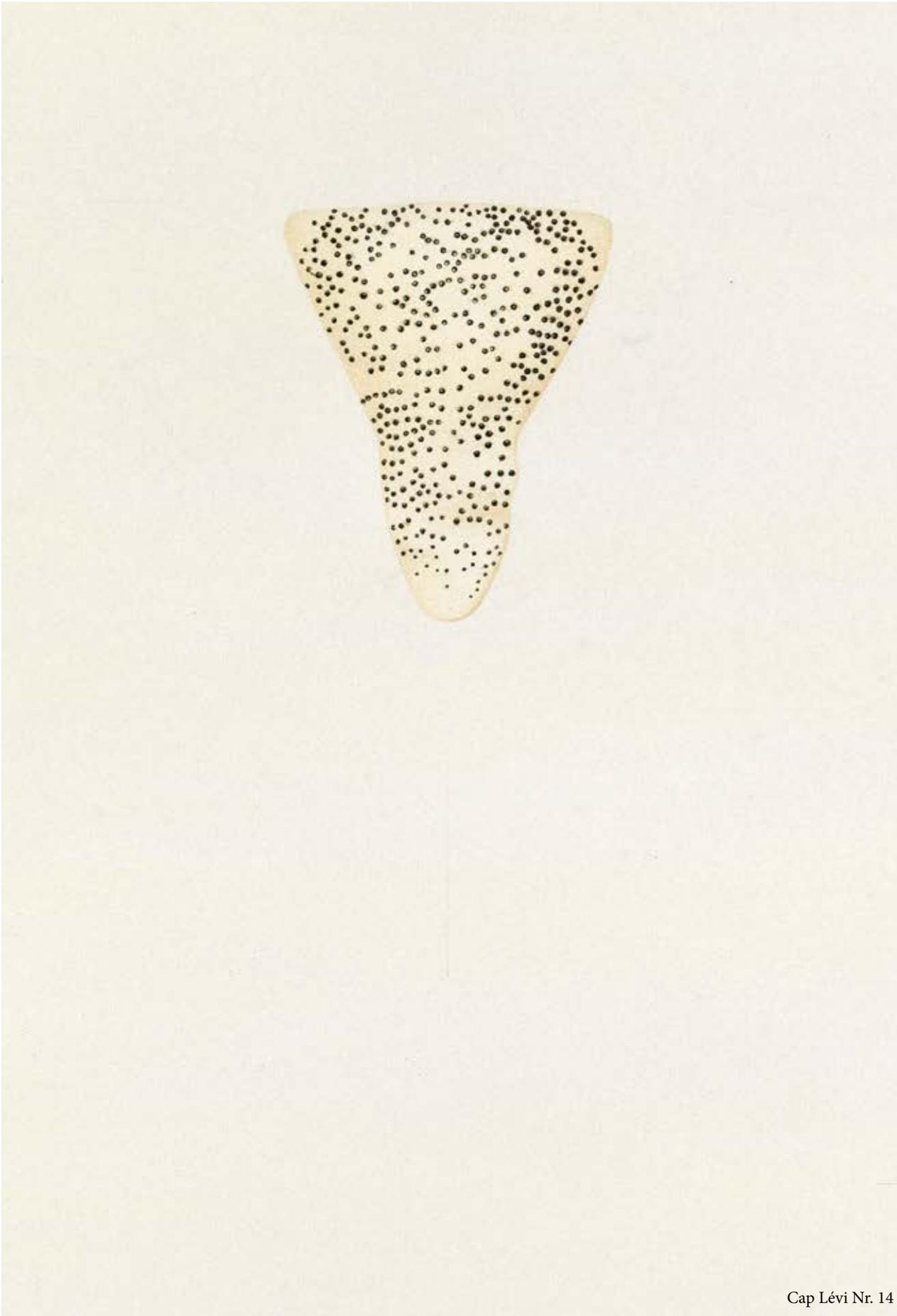
Cap Lévi Nr. 5



Cap Lévi Nr. 40



Cap Lévi Nr. 15

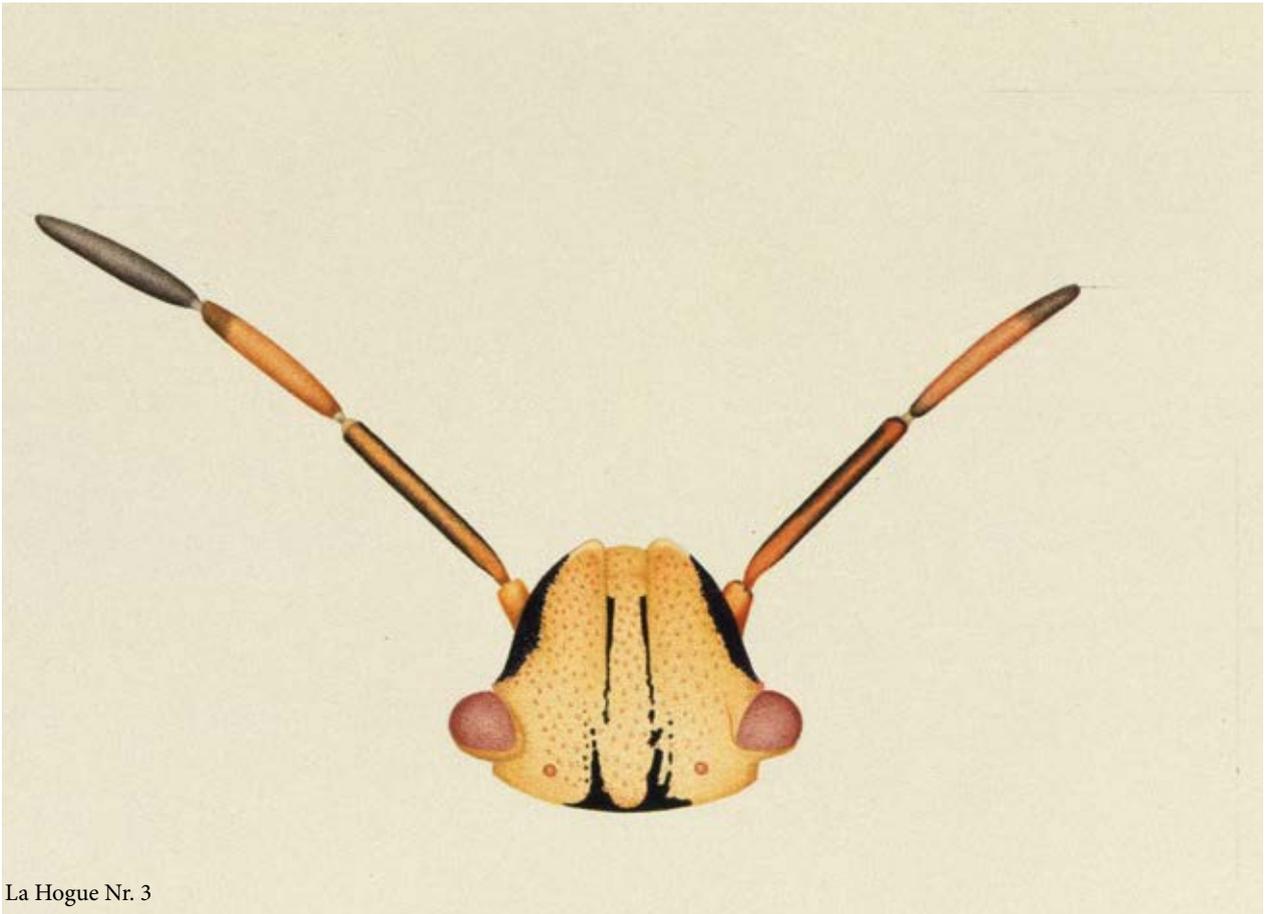


Cap Lévi Nr. 14

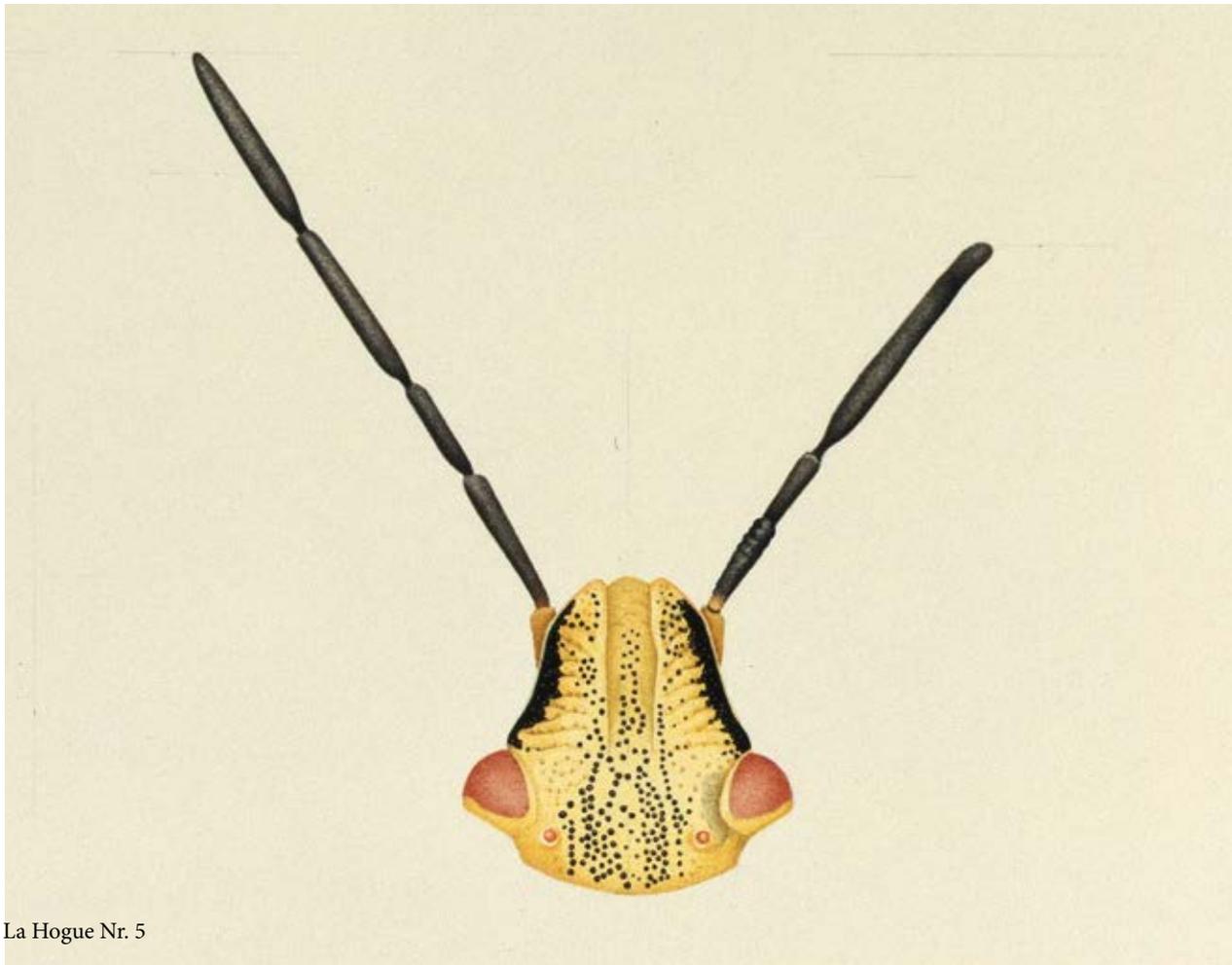
La Hogue

Date	Nr.	Name Latin	Name	ok	Condition
07.08.1999	1	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	2	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	3	Carpocoris purpureipennis	Tree Bug		right feeler three sections, right foreleg deformed
07.08.1999	4	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	5	Carpocoris purpureipennis	Tree Bug		right feeler deformed
07.08.1999	6	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	7	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	8	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	9	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	10	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	11	Coreus marginatus	Squash Bug	ok	
07.08.1999	12	Coreus marginatus	Squash Bug	ok	
07.08.1999	13	Carpocoris purpureipennis	Tree Bug		right feeler four sections
07.08.1999	14	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	15	Dolycoris baccarum	Sloe Bug	ok	
07.08.1999	16	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	17	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	18	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	19	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	20	Coreus marginatus	Squash Bug Larva	ok	
07.08.1999	21	Coreus marginatus	Squash Bug Larva	ok	
07.08.1999	22	Coreus marginatus	Squash Bug Larva	ok	
07.08.1999	23	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	24	Coreus marginatus	Squash Bug Larva	ok	
07.08.1999	25	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	26	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	27	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	28	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	29	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	30	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	31	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	32	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	33	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	34	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	35	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	36	Coreus marginatus	Squash Bug Larva	ok	
07.08.1999	37	Carpocoris purpureipennis	Tree Bug Larva	ok	

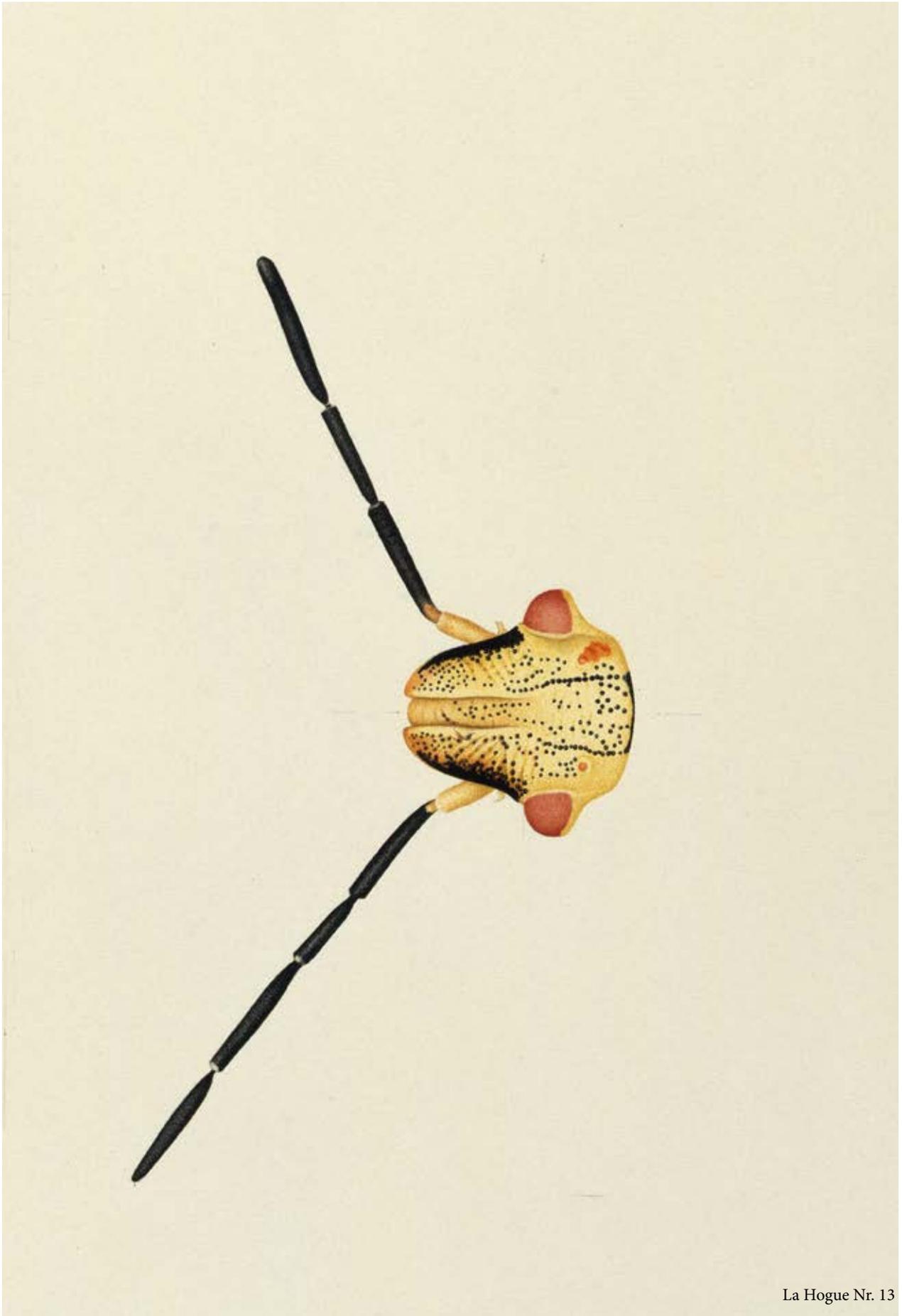
07.08.1999	38	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	39	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	40	Carpocoris purpureipennis	Tree Bug Larva		left wing growth
07.08.1999	41	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	42	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	43	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	44	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	45	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	46	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	47	Carpocoris purpureipennis	Tree Bug Larva	ok	
07.08.1999	48	Carpocoris purpureipennis	Tree Bug	ok	
07.08.1999	49	Carpocoris purpureipennis	Tree Bug		right feeler 5. section lighter colored
07.08.1999	50	Carpocoris purpureipennis	Tree Bug Larva	ok	
	50	total		45	undisturbed
				5	disturbed



La Hogue Nr. 3



La Hogue Nr. 5



La Hogue Nr. 13

Dur Ecu

Date	Nr.	Name Latin	Name	ok	Condition
08.08.1999	1	Miridae	Soft Bug	ok	
08.08.1999	2	Miridae	Soft Bug		thorax deformed
08.08.1999	3	Miridae	Soft Bug	ok	
08.08.1999	4	Miridae	Soft Bug	ok	
08.08.1999	5	Miridae	Soft Bug	ok	
08.08.1999	6	Coreus marginatus	Squash Bug	ok	
08.08.1999	7	Coreus marginatus	Squash Bug Larva	ok	
08.08.1999	8	Coreus marginatus	Squash Bug Larva	ok	
08.08.1999	9	Coreus marginatus	Squash Bug Larva	ok	
08.08.1999	10	Miridae	Soft Bug	ok	
08.08.1999	11	Miridae	Soft Bug	ok	
08.08.1999	12	Palomena prasina	Stink Bug Larva	ok	
08.08.1999	13	Miridae	Soft Bug	ok	
08.08.1999	14	Anthocoridae	Minute Pirate Bug	ok	
08.08.1999	15	Miridae	Soft Bug	ok	
08.08.1999	16	Miridae	Soft Bug	ok	
08.08.1999	17	Miridae	Soft Bug	ok	
08.08.1999	18	Miridae	Soft Bug	ok	
08.08.1999	19	Coccinellidae	Lady Bird Beetle		right wing disturbed chitin
08.08.1999	20	Miridae	Soft Bug	ok	
08.08.1999	21	Miridae	Soft Bug	ok	
08.08.1999	22	Palomena prasina	Stink Bug Larva		ventral left side abdomen blister, left side thorax and left wing with light pit points, left wing shorter
08.08.1999	23	Palomena prasina	Stink Bug Larva	ok	
08.08.1999	24	Palomena prasina	Stink Bug Larva		left side head deformation on eye
08.08.1999	25	Pentatomidae	Tree Bug	ok	
08.08.1999	26	Coreus marginatus	Squash Bug Larva	ok	
08.08.1999	27	Coreus marginatus	Squash Bug	ok	
08.08.1999	28	Coreus marginatus	Squash Bug Larva	ok	
08.08.1999	29	Coreus marginatus	Squash Bug Larva	ok	
08.08.1999	30	Coreus marginatus	Squash Bug Larva	ok	
08.08.1999	31	Coreus marginatus	Squash Bug Larva	ok	
08.08.1999	32	Heterotoma plani- cornis	Soft Bug	ok	
08.08.1999	33	Coreus marginatus	Squash Bug Larva	ok	
20.08.1999	34	Coreus marginatus	Squash Bug	ok	
20.08.1999	35	Coreus marginatus	Squash Bug	ok	

20.08.1999	36	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	37	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	38	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	39	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	40	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	41	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	42	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	43	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	44	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	45	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	46	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	47	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	48	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	49	Coreus marginatus	Squash Bug Larva	ok
20.08.1999	50	Coreus marginatus	Squash Bug Larva	ok
	50	total		46 undisturbed 4 disturbed





Dur Ecu Nr. 22

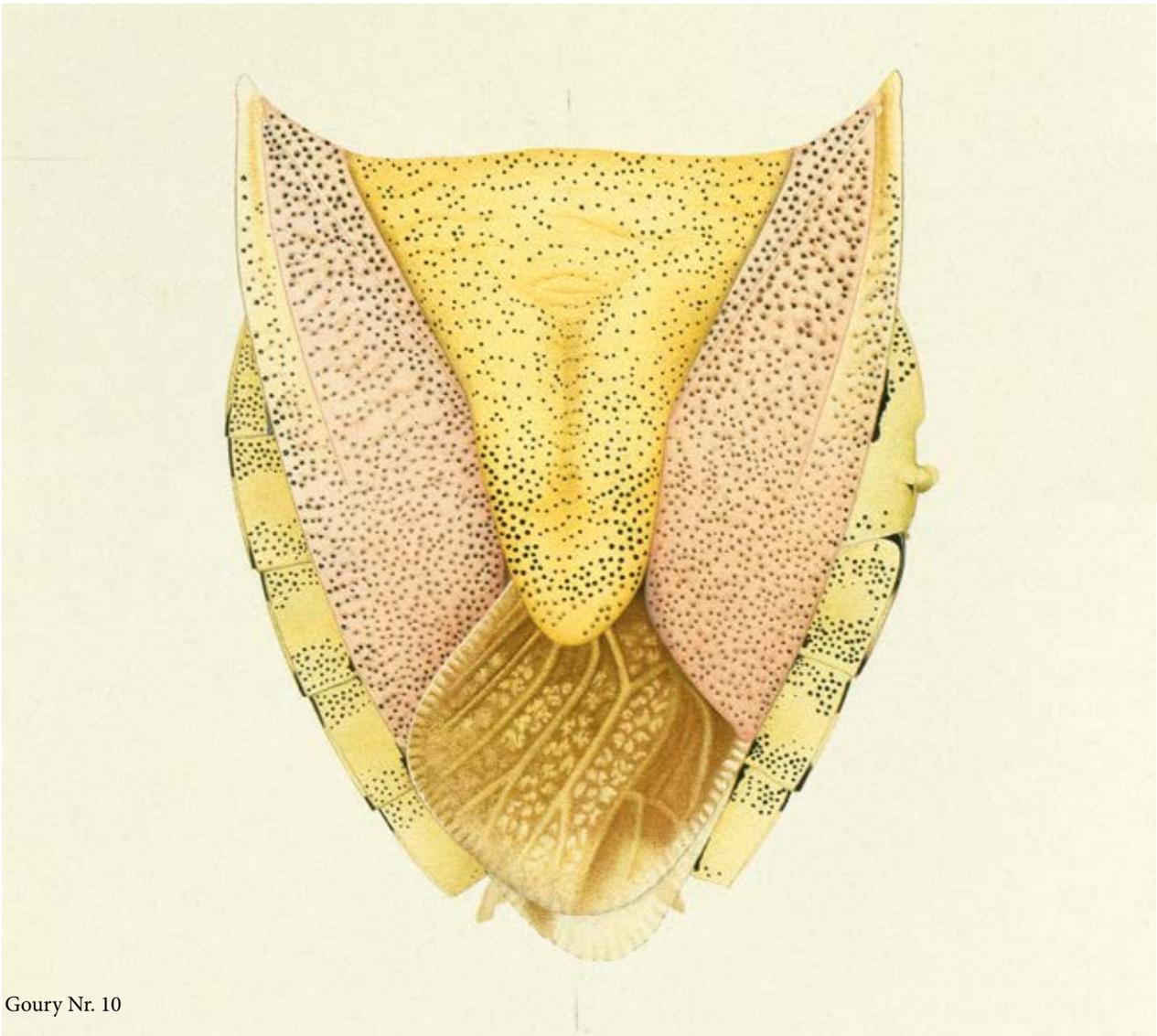
Goury

Date	Nr.	Name Latin	Name	ok	Condition
15.08.1999	1	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
15.08.1999	2	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
15.08.1999	3	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	4	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	5	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	6	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	7	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	8	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	9	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	10	<i>Carpocoris purpureipennis</i>	Tree Bug		wings in uneven length and abdomen right side abnormal
15.08.1999	11	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	12	<i>Carpocoris purpureipennis</i>	Tree Bug		left side hindleg and right side of head disturbed
15.08.1999	13	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	14	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	15	Coccinellidae	Ladybird Beetle	ok	
15.08.1999	16	<i>Carpocoris purpureipennis</i>	Tree Bug		left middleleg abnormal
15.08.1999	17	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	18	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	19	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	20	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
15.08.1999	21	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
15.08.1999	22	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	23	<i>Carpocoris purpureipennis</i>	Tree Bug		right feeler fourth section long, fifth section short right hindleg abnormal
15.08.1999	24	<i>Carpocoris purpureipennis</i>	Tree Bug		
15.08.1999	25	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	26	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	27	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	28	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	29	Pentatomidae	Tree Bug Larva	ok	
15.08.1999	30	Coccinellidae	Ladybird Beetle	ok	
15.08.1999	31	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	32	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15.08.1999	33	Pentatomidae	Tree Bug Larva	ok	
15.08.1999	34	Coccinellidae	Ladybird Beetle	ok	

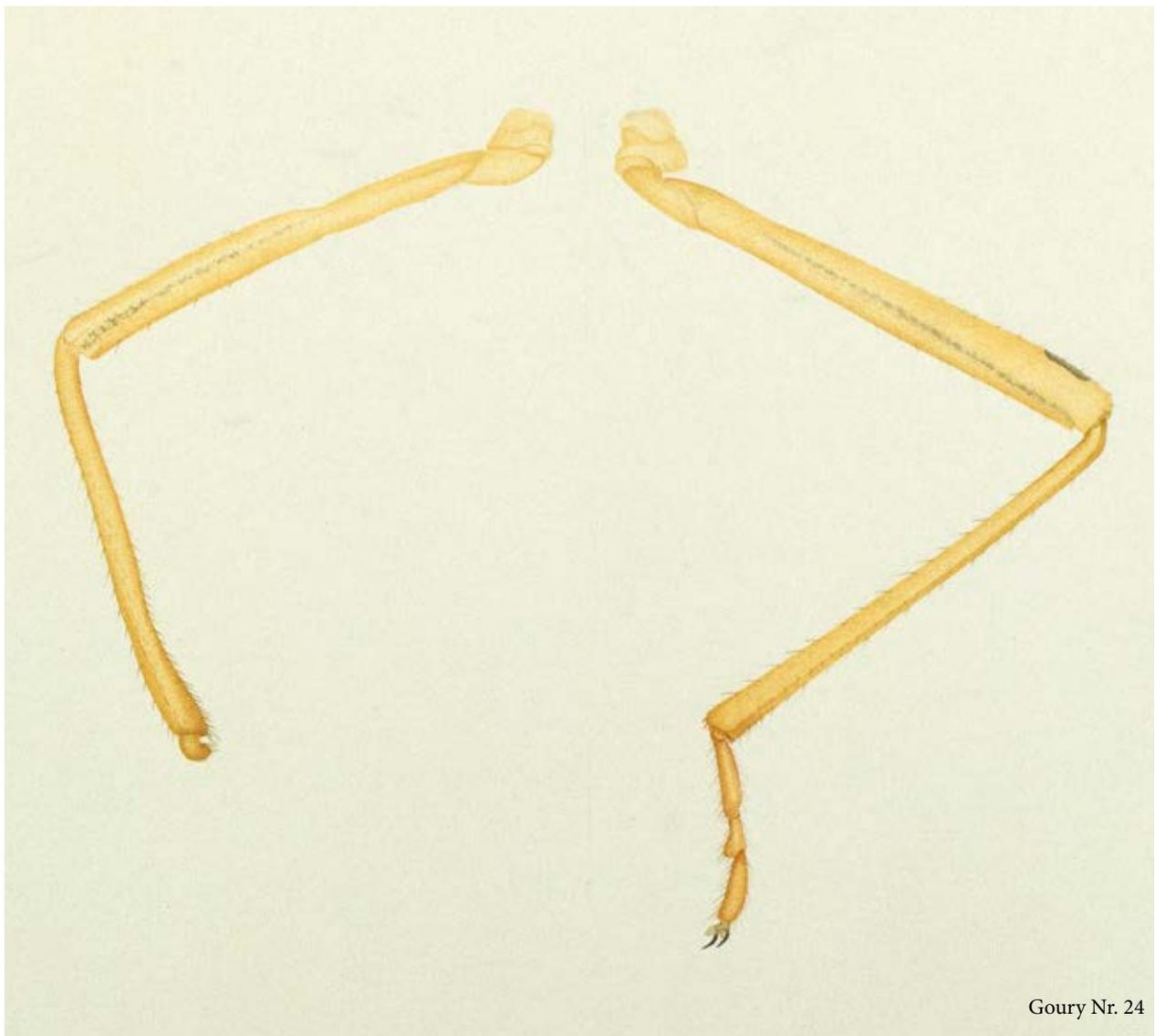
15.08.1999	35	Carpoxoris purpureipennis	Tree Bug	ok	
15.08.1999	36	Carpoxoris purpureipennis	Tree Bug Larva		right hindleg and foot abnormal
15.08.1999	37	Coccinellidae	Ladybird Beetle		right side middleleg and foot abnormal.
15.08.1999	38	Pentatomidae	Tree Bug Larva	ok	
15.08.1999	39	Carpocoris purpureipennis	Tree Bug	ok	
15.08.1999	40	Carpocoris purpureipennis	Tree Bug	ok	
15.08.1999	41	Carpocoris purpureipennis	Tree Bug	ok	
15.08.1999	42	Carpocoris purpureipennis	Tree Bug	ok	
15.08.1999	43	Carpocoris purpureipennis	Tree Bug	ok	
15.08.1999	44	Carpocoris purpureipennis	Tree Bug	ok	
15.08.1999	45	Carpocoris purpureipennis	Tree Bug	ok	
15.08.1999	46	Carpocoris purpureipennis	Tree Bug	ok	
15.08.1999	47	Carpocoris purpureipennis	Tree Bug Larva	ok	
15.08.1999	48	Carpocoris purpureipennis	Tree Bug Larva	ok	
15.08.1999	49	Carpocoris purpureipennis	Tree Bug Larva	ok	
15.08.1999	50	Carpocoris purpureipennis	Tree Bug	ok	
	50	total		43	undisturbed
				7	disturbed



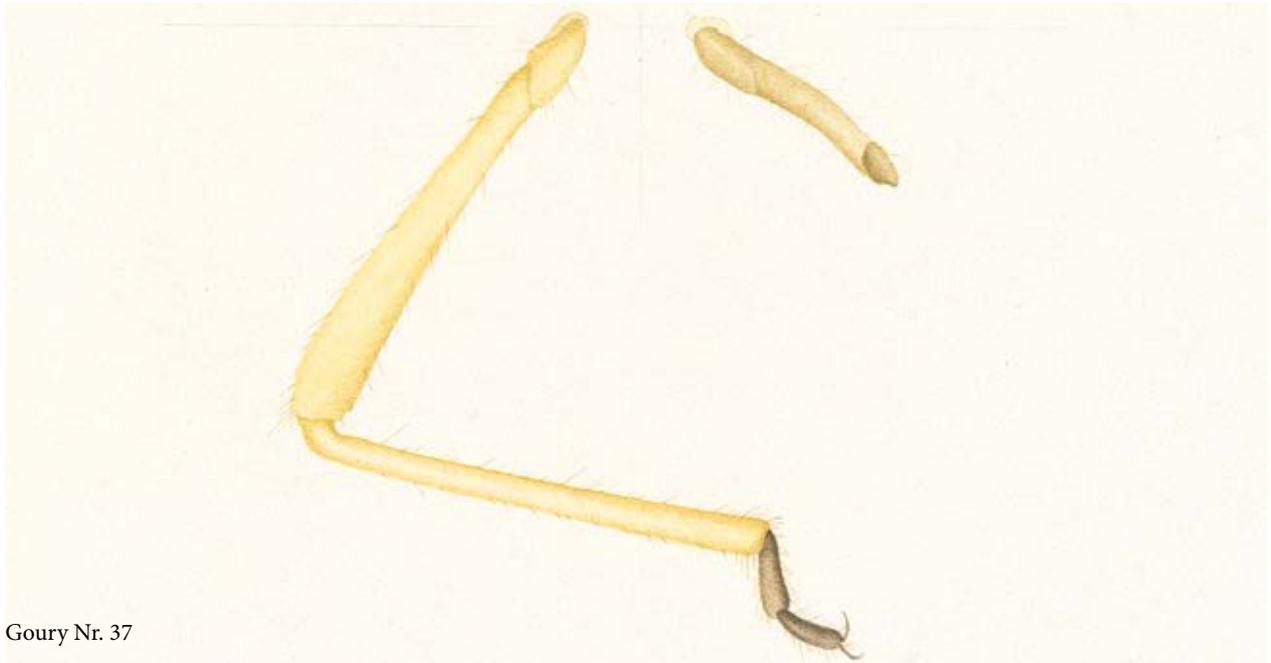
Goury Nr. 23



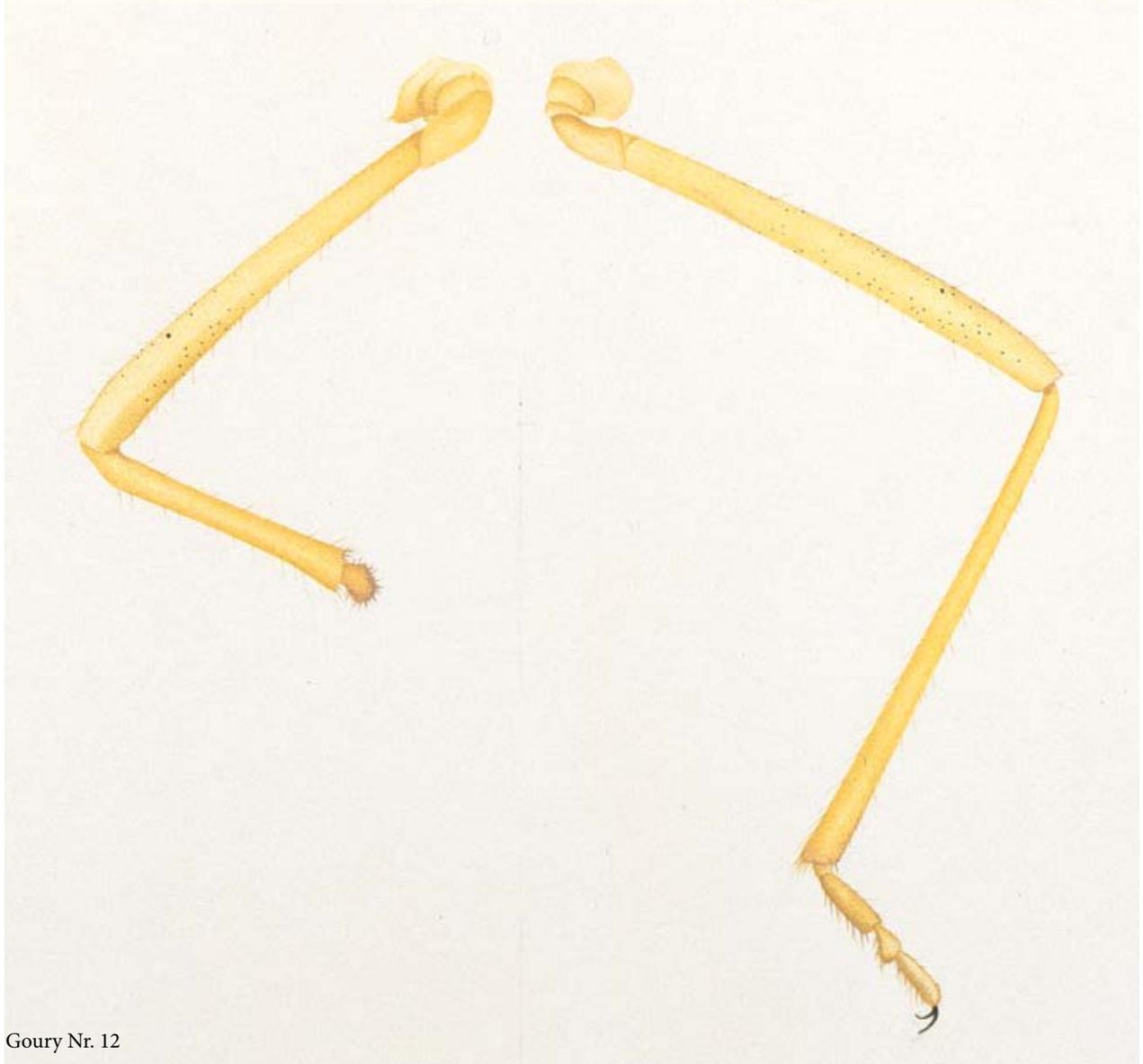
Goury Nr. 10



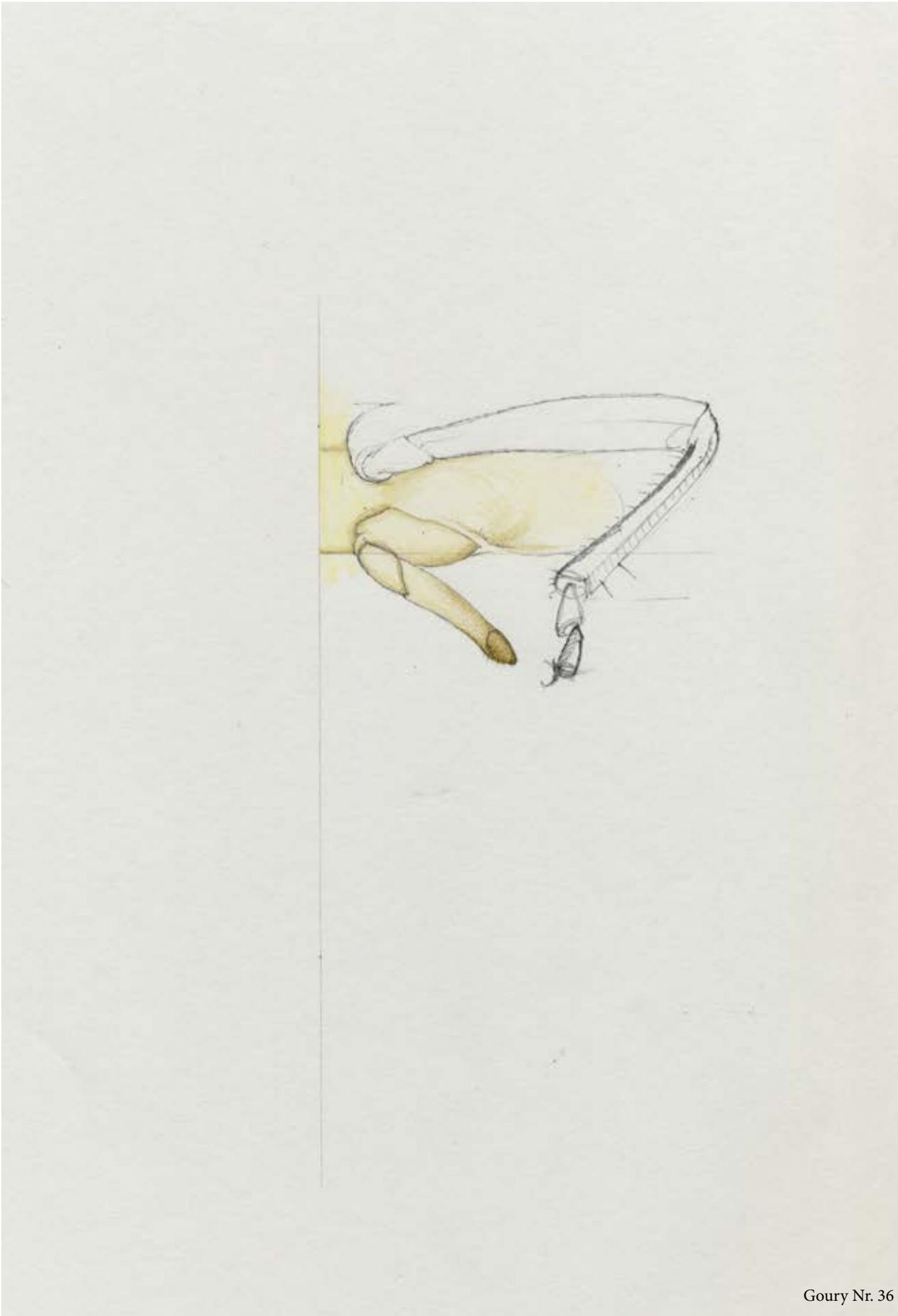
Goury Nr. 24



Gouy Nr. 37



Gouy Nr. 12



Goury Nr. 36

Dunes de Vauville

Date	Nr.	Name Latin	Name	ok	Condition
15. 08. 1999	1	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	2	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	3	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	4	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	5	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	6	Miridae	Soft Bug	ok	
15. 08. 1999	7	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
15. 08. 1999	8	<i>Dolycoris baccarum</i>	Sloe Bug		left feeler four sections
15. 08. 1999	9	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
15. 08. 1999	10	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	11	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	12	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
15. 08. 1999	13	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
15. 08. 1999	14	Homoptera	Cicada	ok	
15. 08. 1999	15	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	16	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
15. 08. 1999	17	Homoptera	Cicada	ok	
15. 08. 1999	18	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	19	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	20	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
15. 08. 1999	21	<i>Carpocoris purpureipennis</i>	Tree Bug		right feeler four sections, fourth section longer
15. 08. 1999	22	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	23	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	24	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	25	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
15. 08. 1999	26	<i>Dolycoris baccarum</i>	Sloe Bug		right hindfoot abnormal
15. 08. 1999	27	<i>Corizus hyoscyami</i>	Scentless Plant Bug	ok	
15. 08. 1999	28	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
15. 08. 1999	29	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
15. 08. 1999	30	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
15. 08. 1999	31	Pentatomidae	Tree Bug	ok	
15. 08. 1999	32	Pentatomidae	Tree Bug Larva	ok	
15. 08. 1999	33	Pentatomidae	Tree Bug Larva	ok	
15. 08. 1999	34	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
15. 08. 1999	35	<i>Coreus marginatus</i>	Squash Bug		left side scutellum bent

15.08.1999	36	Dolycoris baccarum	Sloe Bug	ok	
15.08.1999	37	Miridae	Soft Bug	ok	
15.08.1999	38	Pentatomidae	Tree Bug	ok	
15.08.1999	39	Pentatomidae	Tree Bug	ok	
15.08.1999	40	Carpocoris purpureipennis	Tree Bug Larva	ok	
15.08.1999	41	Carpocoris purpureipennis	Tree Bug Larva	ok	
15.08.1999	42	Pentatomidae	Tree Bug Larva	ok	
15.08.1999	43	Coreus marginatus	Squash Bug Larva		right feeler three sections
15.08.1999	44	Coreus marginatus	Squash Bug Larva	ok	
15.08.1999	45	Carpocoris purpureipennis	Tree Bug Larva	ok	
15.08.1999	46	Carpocoris purpureipennis	Tree Bug Larva	ok	
15.08.1999	47	Miridae	Soft Bug	ok	
15.08.1999	48	Carpocoris purpureipennis	Tree Bug Larva	ok	
15.08.1999	49	Coccinellidae	Ladybird Beetle	ok	
15.08.1999	50	Homoptera	Cicada	ok	
	50	total		45	undisturbed
				5	disturbed



Dunes de Vauville Nr. 8



Dunes de Vauville Nr. 21



Omonville-la-Rogue

Date	Nr	Name Latin	Name	ok	Condition
16. 08.1999	1	Dolycoris baccarum	Sloe Bug	ok	
16. 08.1999	2	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	3	Carpocoris purpureipennis	Tree Bug Larva	ok	
16. 08.1999	4	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	5	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	6	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	7	Carpocoris purpureipennis	Tree Bug		left wing point deformed
16. 08.1999	8	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	9	Dolycoris baccarum	Tree Bug	ok	
16. 08.1999	10	Carpocoris purpureipennis	Tree Bug Larva	ok	
16. 08.1999	11	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	12	Dolycoris baccarum	Sloe Bug	ok	
16. 08.1999	13	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	14	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	15	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	16	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	17	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	18	Carpocoris purpureipennis	Tree Bug Larva	ok	
16. 08.1999	19	Carpocoris purpureipennis	Tree Bug Larva	ok	
16. 08.1999	20	Carpocoris purpureipennis	Tree Bug Larva		left hindfoot deformed
16. 08.1999	21	Carpocoris purpureipennis	Tree Bug Larva	ok	
16. 08.1999	22	Carpocoris purpureipennis	Tree Bug Larva	ok	
16. 08.1999	23	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	24	Carpocoris purpureipennis	Tree Bug		left feeler abnormal
16. 08.1999	25	Carpocoris purpureipennis	Tree Bug Larva		left side thorax deformed
16. 08.1999	26	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	27	Dolycoris baccarum	Sloe Bug		left feeler four sections
16. 08.1999	28	Dolycoris baccarum	Sloe Bug		surface of left wing point abnormal
16. 08.1999	29	Dolycoris baccarum	Sloe Bug	ok	
16. 08.1999	30	Carpocoris purpureipennis	Tree Bug Larva	ok	
16. 08.1999	31	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	32	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	33	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	34	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	35	Carpocoris purpureipennis	Tree Bug	ok	
16. 08.1999	36	Dolycoris baccarum	Sloe Bug	ok	
16. 08.1999	37	Carpocoris purpureipennis	Tree Bug Larva	ok	

16. 08.1999	38	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
20. 08.1999	39	<i>Coreus marginatus</i>	Squash Bug	ok	
20. 08.1999	40	<i>Coreus marginatus</i>	Squash Bug	ok	
20. 08.1999	41	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
20. 08.1999	42	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
20. 08.1999	43	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
20. 08.1999	44	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
24. 08.1999	45	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
24. 08.1999	46	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
24. 08.1999	47	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
24. 08.1999	48	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
24. 08.1999	49	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
24. 08.1999	50	<i>Coreus marginatus</i>	Squash Bug Larva		thorax right side abnormal
	50	total		40	undisturbed
				10	disturbed



Omonville - la - Rogue Nr. 50



Omonville - la - Rogue Nr. 27



Omonville - la - Rogue Nr. 20

Ecalgrain

Date	Nr.	Name Latin	Name	ok	Condition
19.08.1999	1	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	2	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	3	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	4	Carpocoris purpreipennis	Tree Bug		opening to right side middle-leg, dark patch
19.08.1999	5	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	6	Dolycoris baccarum	Sloe Bug Larva	ok	
19.08.1999	7	Lygaeidae	Seed Bug	ok	
19.08.1999	8	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	9	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	10	Carpocoris purpreipennis	Tree Bug		right feeler deformed
19.08.1999	11	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	12	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	13	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	14	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	15	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	16	Dolycoris baccarum	Sloe Bug Larva	ok	
19.08.1999	17	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	18	Homoptera	Cicada	ok	
19.08.1999	19	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	20	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	21	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	22	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	23	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	24	Dolycoris baccarum	Sloe Bug		right side hindleg deformed
19.08.1999	25	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	26	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	27	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	28	Carpocoris purpreipennis	Tree Bug		opening for left hindleg and hindleg deformed
19.08.1999	29	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	30	Dolycoris baccarum	Sloe Bug Larva	ok	
19.08.1999	31	Dolycoris baccarum	Sloe Bug Larva	ok	
19.08.1999	32	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	33	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	34	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	35	Carpocoris purpreipennis	Tree Bug	ok	
19.08.1999	36	Dolycoris baccarum	Sloe Bug	ok	

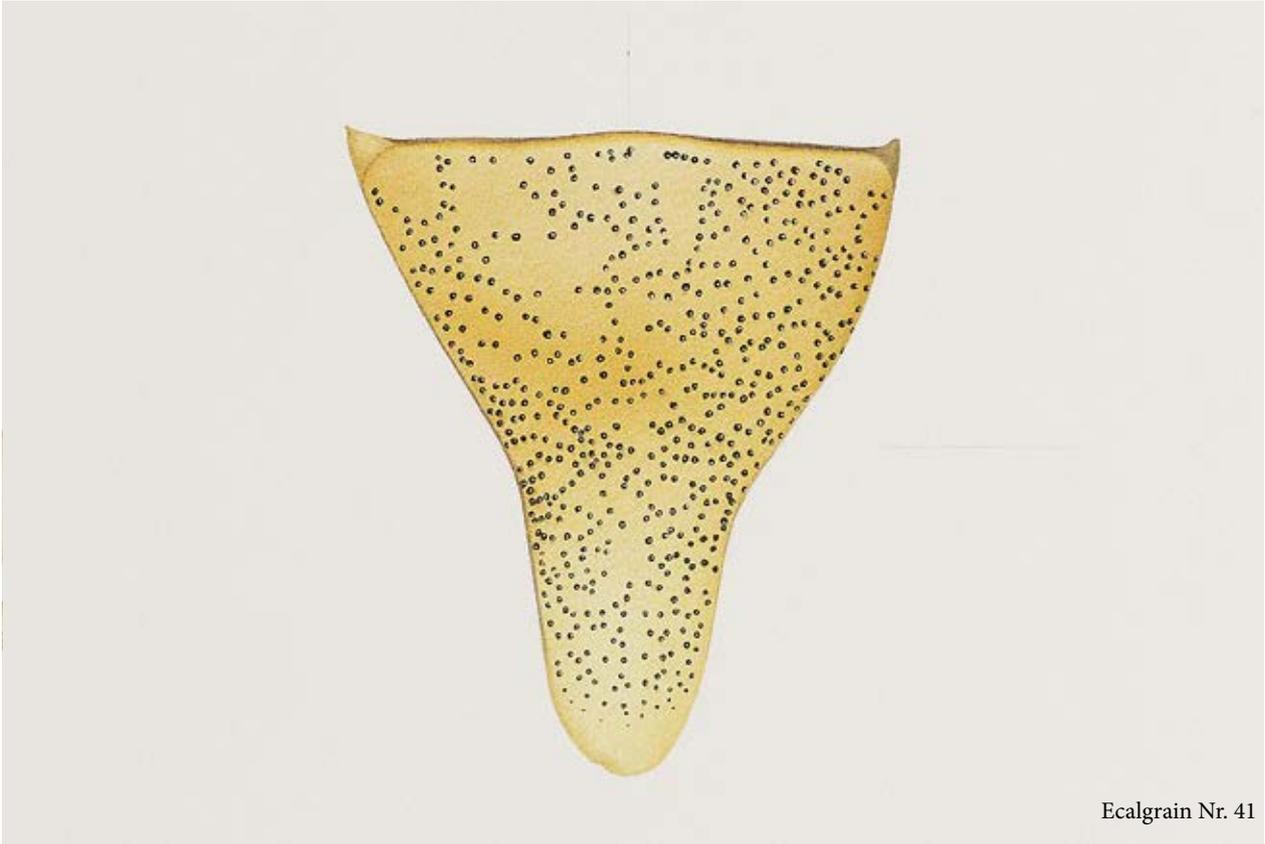
19.08.1999	37	Dolycoris baccarum	Sloe Bug		right side foreleg deformed
19.08.1999	38	Pentatomidae	Tree Bug Larva		left side middleleg and foot deformed
19.08.1999	39	Pentatomidae	Tree Bug Larva	ok	
19.08.1999	40	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	41	Dolycoris baccarum	Sloe Bug		wings and scutellum shifted and waved
19.08.1999	42	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	43	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	44	Pentatomidae	Tree Bug Larva	ok	
19.08.1999	45	Dolycoris baccarum	Sloe Bug	ok	
19.08.1999	46	Pentatomidae	Tree Bug Larva	ok	
19.08.1999	47	Homoptera	Cicada	ok	
19.08.1999	48	Pentatomidae	Tree Bug Larva		right feeler deformed
19.08.1999	49	Pentatomidae	Tree Bug Larva	ok	
19.08.1999	50	Pentatomidae	Tree Bug Larva		
	50	total		45	undisturbed
				8	disturbed



Ecalgrain Nr. 10



Ecalgrain Nr. 38



Ecalgrain Nr. 41



Ecalgrain Nr. 28

Roche Gelétan

Date	Nr.	Name Latin	Name	ok	Condition
19. 08. 1999	1	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	2	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
19. 08. 1999	3	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
19. 08. 1999	4	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
19. 08. 1999	5	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
19. 08. 1999	6	<i>Carpocoris purpureipennis</i>	Tree Bug Larva		thorax left side deformed
19. 08. 1999	7	Homoptera	Cicada	ok	
19. 08. 1999	8	<i>Dolycoris baccarum</i>	Sloe Bug		scutellum deformed
19. 08. 1999	9	<i>Corizus hyoscyami</i>	Scentless Plant Bug		right wing black pattern in divided in two parts
19. 08. 1999	10	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	11	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	12	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
19. 08. 1999	13	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	14	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	15	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	16	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
19. 08. 1999	17	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
19. 08. 1999	18	Coccinellidae	Ladybird Beetle	ok	
19. 08. 1999	19	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	20	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	21	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
19. 08. 1999	22	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
19. 08. 1999	23	Miridae	Soft Bug	ok	
19. 08. 1999	24	<i>Carpocoris purpureipennis</i>	Tree Bug		scutellum bent
19. 08. 1999	25	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	26	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	27	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	28	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
19. 08. 1999	29	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
19. 08. 1999	30	Homoptera	Cicada	ok	
19. 08. 1999	31	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
19. 08. 1999	32	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19. 08. 1999	33	<i>Carpocoris purpureipennis</i>	Tree Bug		scutellum bent
19. 08. 1999	34	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
19. 08. 1999	35	<i>Dolycoris baccarum</i>	Sloe Bug	ok	
19. 08. 1999	36	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
19. 08. 1999	37	<i>Carpocoris purpureipennis</i>	Tree Bug		

19.08.1999	38	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
19.08.1999	39	<i>Carpocoris purpureipennis</i>	Tree Bug		thorax right side dark patch
20.08.1999	40	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
20.08.1999	41	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
20.08.1999	42	<i>Carpocoris purpureipennis</i>	Tree Bug Larva	ok	
20.08.1999	43	<i>Coreus marginatus</i>	Squash Bug	ok	
20.08.1999	44	<i>Carpocoris purpureipennis</i>	Tree Bug		mesothorax left side with blister
20.08.1999	45	<i>Carpocoris purpureipennis</i>	Tree Bug		right feeler four sections
20.08.1999	46	Coccinellidae	Ladybird Beetle	ok	
20.08.1999	47	Coccinellidae	Ladybird Beetle	ok	
20.08.1999	48	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
20.08.1999	49	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
20.08.1999	50	<i>Carpocoris purpureipennis</i>	Tree Bug	ok	
	50	total		43	undisturbed
				7	disturbed



Roche Gelétan Nr. 9



Anse St. Martin Pointe du Nez

Date	Nr.	Name Latin	Name	ok	Condition
24. 08. 1999	1	Carpocoris purpureipennis	Tree Bug Larva	ok	
24. 08. 1999	2	Carpocoris purpureipennis	Tree Bug Larva	ok	
24. 08. 1999	3	Carpocoris purpureipennis	Tree Bug Larva	ok	
24. 08. 1999	4	Carpocoris purpureipennis	Tree Bug	ok	
24. 08. 1999	5	Carpocoris purpureipennis	Tree Bug Larva	ok	
24. 08. 1999	6	Carpocoris purpureipennis	Tree Bug	ok	
24. 08. 1999	7	Carpocoris purpureipennis	Tree Bug Larva	ok	
24. 08. 1999	8	Carpocoris purpureipennis	Tree Bug Larva	ok	
24. 08. 1999	9	Carpocoris purpureipennis	Tree Bug Larva	ok	
24. 08. 1999	10	Dolycoris baccarum	Sloe Bug		scutellum left side asymmetrical
5. 08. 1999	11	Dolycoris baccarum	Sloe Bug	ok	
25. 08. 1999	12	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	13	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	14	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	15	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	16	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	17	Dolycoris baccarum	Tree Bug Larva	ok	
25. 08. 1999	18	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	19	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	20	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	21	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	22	Coreidae	Squash Bug	ok	
25. 08. 1999	23	Coreidae	Squash Bug Larva	ok	
25. 08. 1999	24	Coreidae	Squash Bug Larva	ok	
25. 08. 1999	25	Carpocoris purpureipennis	Tree Bug Larva	ok	
25. 08. 1999	26	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	27	Dolycoris baccarum	Sloe Bug	ok	
25. 08. 1999	28	Dolycoris baccarum	Sloe Bug	ok	
25. 08. 1999	29	Carpocoris purpureipennis	Squash Bug Larva	ok	
25. 08. 1999	30	Carpocoris purpureipennis	Tree Bug	ok	
25. 08. 1999	31	Carpocoris purpureipennis	Squash Bug Larva		lower selvage of thorax irregular
25. 08. 1999	32	Carpocoris purpureipennis	Squash Bug Larva	ok	
25. 08. 1999	33	Carpocoris purpureipennis	Squash Bug Larva	ok	
25. 08. 1999	34	Carpocoris purpureipennis	Squash Bug Larva	ok	
25. 08. 1999	35	Dolycoris baccarum	Sloe Bug	ok	

25. 08. 1999	36	Dolycoris baccarum	Sloe Bug		thorax left side selvage irregular
25. 08. 1999	37	Carpocoris purpureipennis	Tree Bug Larva	ok	
26. 08. 1999	38	Carpocoris purpureipennis	Tree Bug Larva	ok	
26. 08. 1999	39	Carpocoris purpureipennis	Tree Bug Larva	ok	
26. 08. 1999	40	Carpocoris purpureipennis	Tree Bug Larva	ok	
26. 08. 1999	41	Carpocoris purpureipennis	Tree Bug Larva		thorax right side irregular
26. 08. 1999	42	Coreidae	Squash Bug	ok	
26. 08. 1999	43	Carpocoris purpureipennis	Tree Bug Larva	ok	
26. 08. 1999	44	Homoptera	Cicada	ok	
26. 08. 1999	45	Dolycoris baccarum	Sloe Bug	ok	
26. 08. 1999	46	Dolycoris baccarum	Sloe Bug	ok	
26. 08. 1999	47	Dolycoris baccarum	Sloe Bug	ok	
26. 08. 1999	48	Carpocoris purpureipennis	Tree Bug Larva	ok	
26. 08. 1999	49	Carpocoris purpureipennis	Tree Bug Larva	ok	
26. 08. 1999	50	Dolycoris baccarum	Sloe Bug	ok	
	50	total		47	undisturbed
				4	disturbed



Pointe du Nez Nr. 31



Pointe du Nez Nr. 41

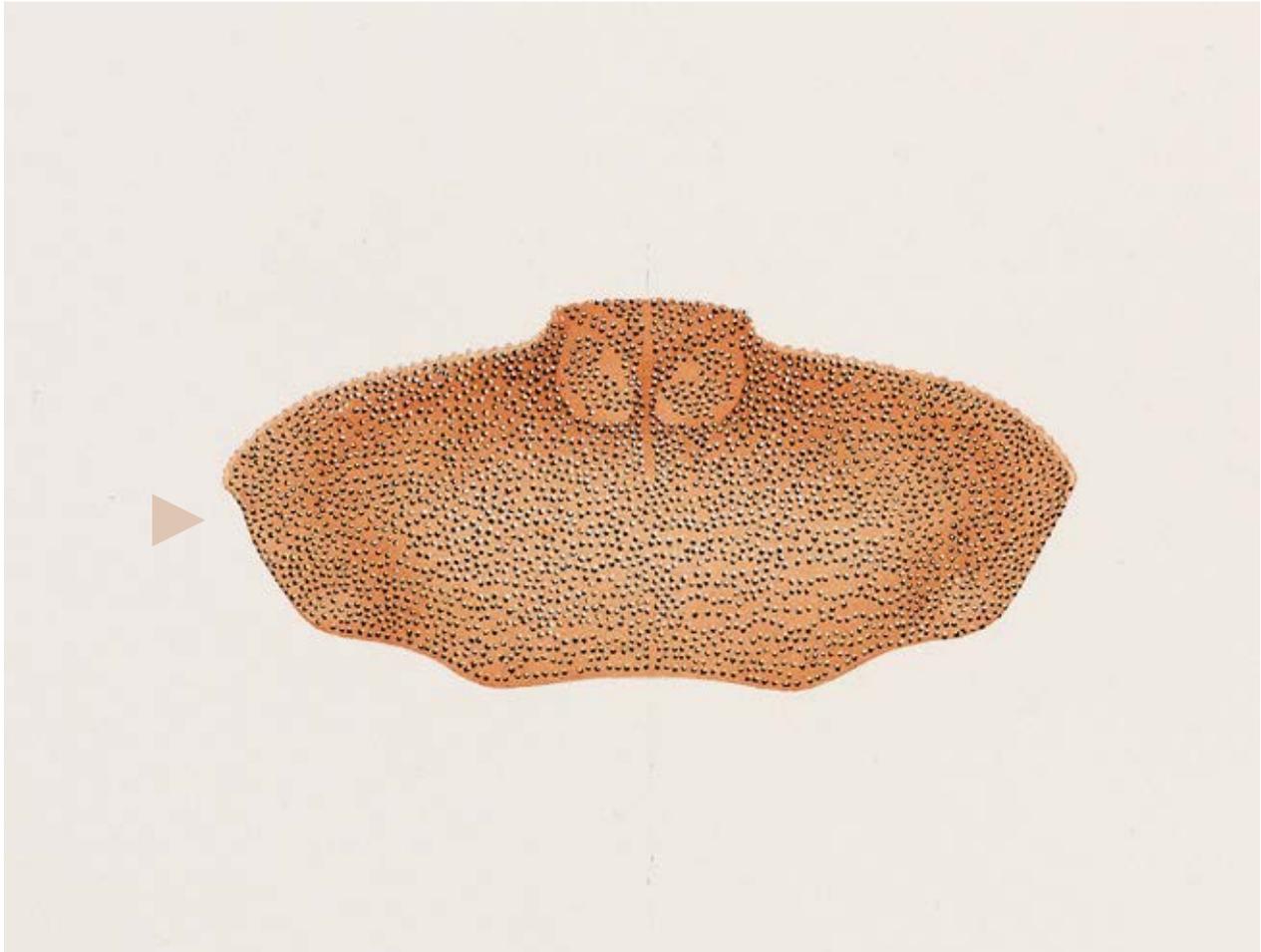


Pointe du Nez Nr. 36

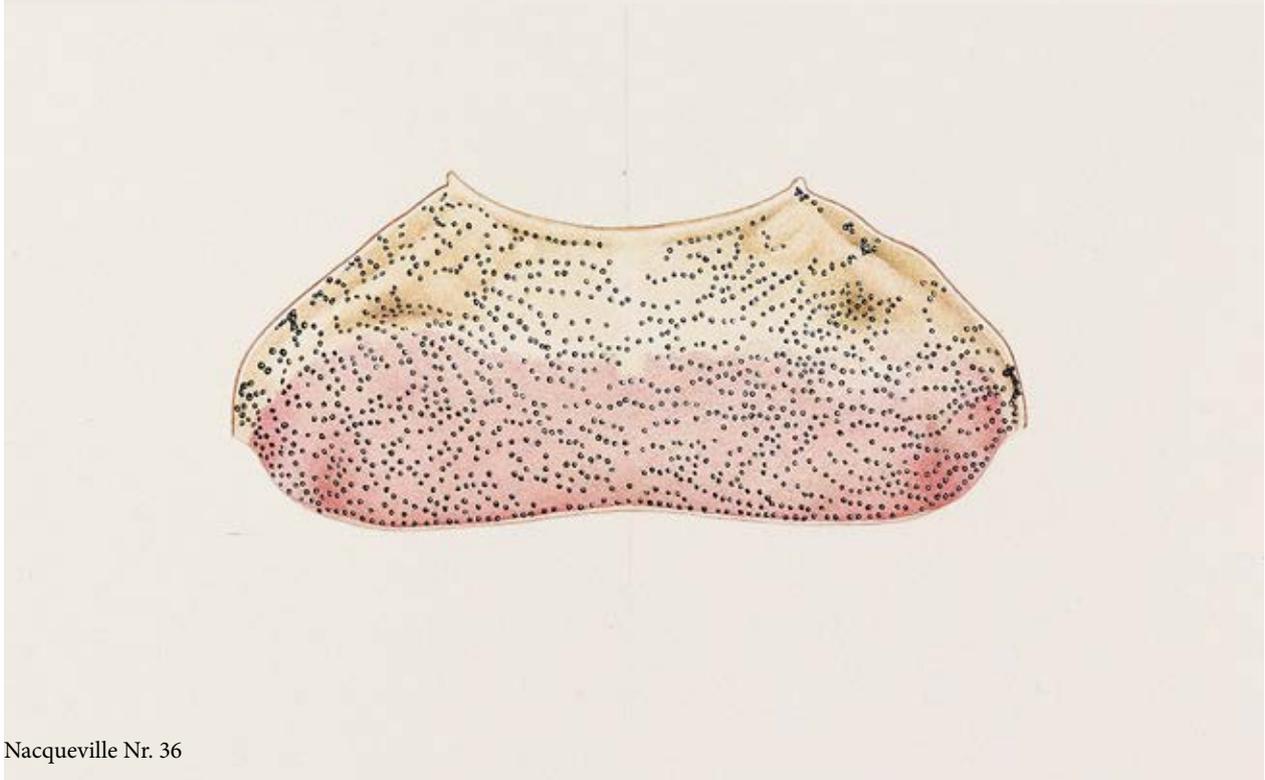
Nacqueville

Date	Nr.	Name Latin	Name	ok	Condition
25. 08. 1999	1	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	2	Coreus marginatus	Squash Bug		scutellum bent to the right side
25. 08. 1999	3	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	4	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	5	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	6	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	7	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	8	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	9	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	10	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	11	Dolycoris baccarum	Squash Bug	ok	
25. 08. 1999	12	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	13	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	14	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	15	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	16	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	17	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	18	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	19	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	20	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	21	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	22	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	23	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	24	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	25	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	26	Coreus marginatus	Squash Bug		point of right wing waved
25. 08. 1999	27	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	28	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	29	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	30	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	31	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	32	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	33	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	34	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	35	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	36	Coreus marginatus	Squash Bug		right side thorax indentation
25. 08. 1999	37	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	38	Coreus marginatus	Squash Bug	ok	

25. 08. 1999	39	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	40	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	41	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	42	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	43	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	44	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	45	Coreus marginatus	Squash Bug	ok	
25. 08. 1999	46	Dolycoris baccarum	Squash Bug		right side thorax protrusion
25. 08. 1999	47	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	48	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	49	Coreus marginatus	Squash Bug Larva	ok	
25. 08. 1999	50	Coreus marginatus	Squash Bug Larva	ok	
	50	total		46	undisturbed
				4	disturbed



Nacqueville Nr. 36



Nacqueville Nr. 36



Nacqueville Nr. 2

Anse St. Martin Les Sablons

Date	Nr	Name Latin	Name	ok	Condition
28.08.1999	1	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	2	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	3	<i>Coreus marginatus</i>	Squash Bug		left wing waved
28.08.1999	4	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	5	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	6	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	7	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	8	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	9	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	10	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	11	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	12	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	13	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	14	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	15	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	16	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	17	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
28.08.1999	18	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
28.08.1999	19	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
28.08.1999	20	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
28.08.1999	21	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
28.08.1999	22	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
28.08.1999	23	<i>Carpocoris purpureipennis</i>	Tree Bug		scutellum bent
28.08.1999	24	<i>Carpocoris purpureipennis</i>	Tree Bug		abdomen with blister
28.08.1999	25	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	26	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	27	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	28	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	29	<i>Coreus marginatus</i>	Squash Bug Larva	ok	
28.08.1999	30	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	31	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	32	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	33	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	34	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	35	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	36	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	37	<i>Coreus marginatus</i>	Squash Bug	ok	
28.08.1999	38	<i>Coreus marginatus</i>	Squash Bug	ok	

28.08.1999	39	Coreus marginatus	Squash Bug	ok	
28.08.1999	40	Coreus marginatus	Squash Bug	ok	right feeler three sections
28.08.1999	41	Coreus marginatus	Squash Bug	ok	
28.08.1999	42	Coreus marginatus	Squash Bug	ok	
28.08.1999	43	Coreus marginatus	Squash Bug Larva	ok	
28.08.1999	44	Coreus marginatus	Squash Bug Larva	ok	
28.08.1999	45	Coreus marginatus	Squash Bug Larva	ok	
28.08.1999	46	Coreus marginatus	Squash Bug Larva	ok	
28.08.1999	47	Coreus marginatus	Squash Bug Larva	ok	
28.08.1999	48	Coreus marginatus	Squash Bug Larva	ok	
28.08.1999	49	Coreus marginatus	Squash Bug Larva	ok	
28.08.1999	50	Coccinellidae	Lady Bird Beetle	ok	right wing dark patch

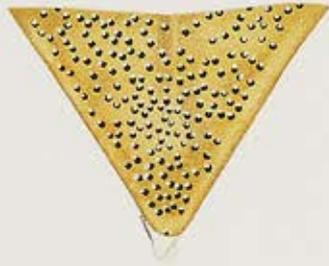
50 total

47 undisturbed

5 disturbed

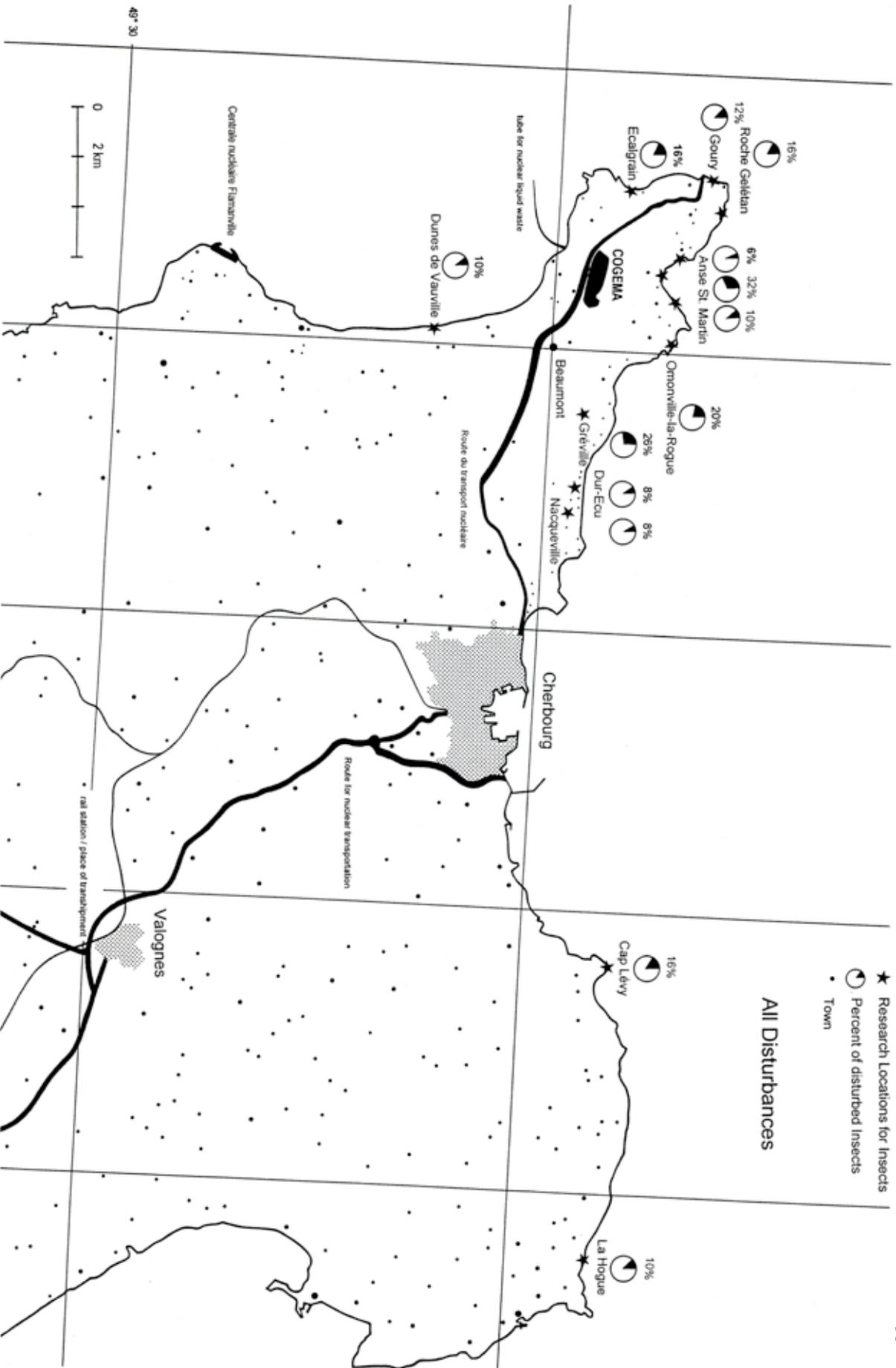


Anse Saint Marin Les Sablons Nr. 40

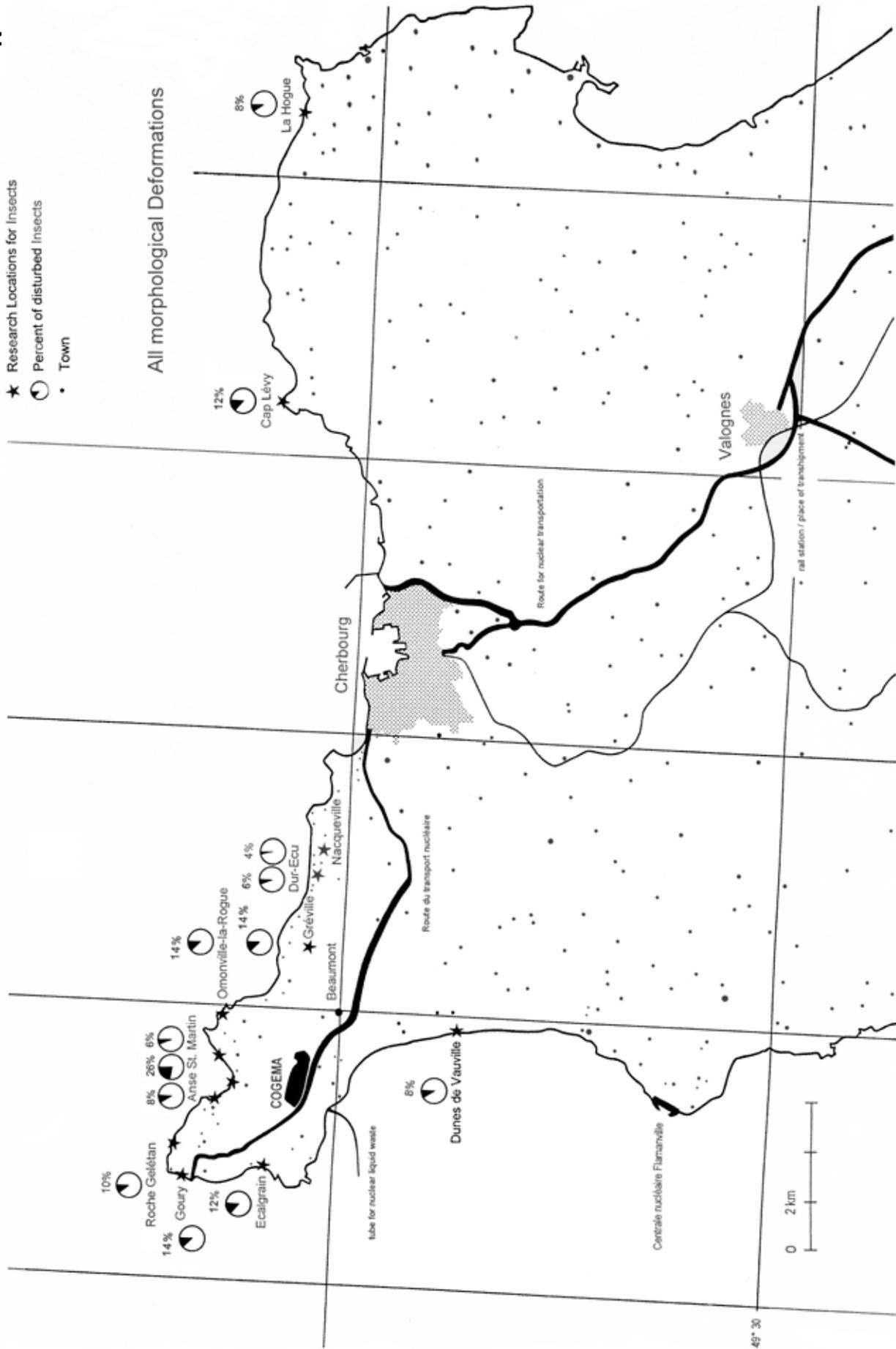


Anse Saint Marin Les Sablons Nr. 23

Maps and Profiles



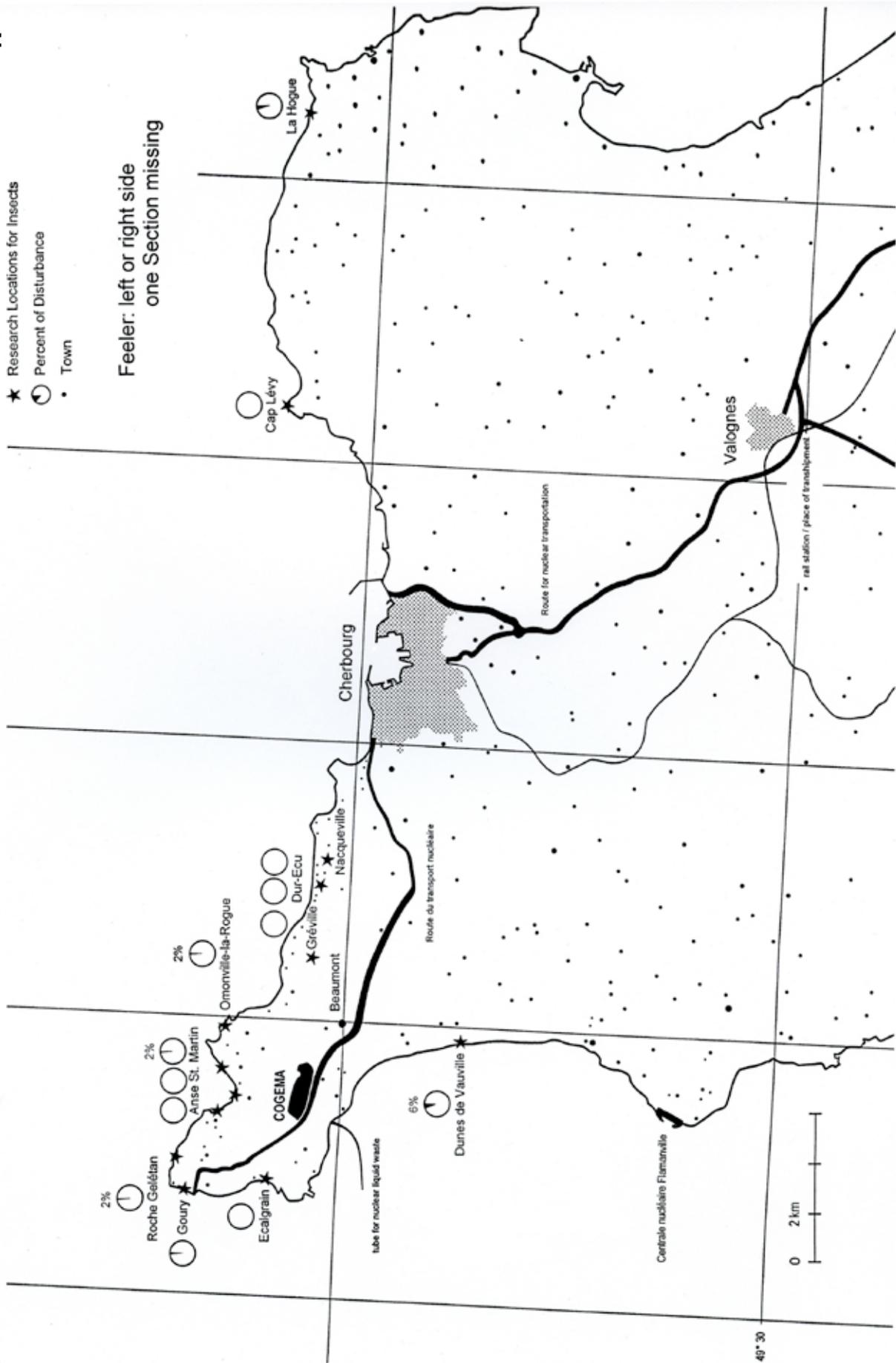
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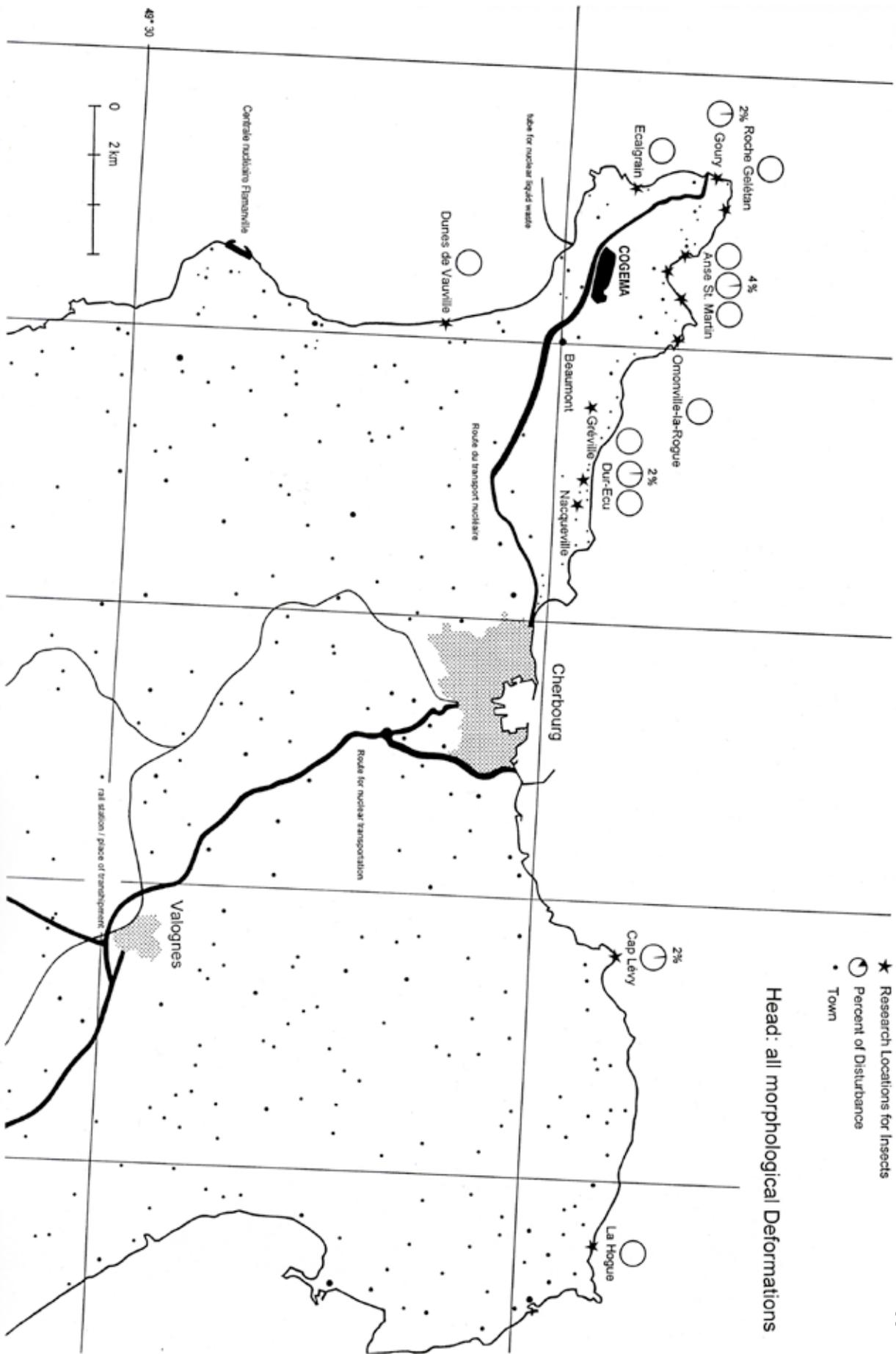


N

- ★ Research Locations for Insects
- Percent of Disturbance
- Town

Feeler: left or right side
one Section missing

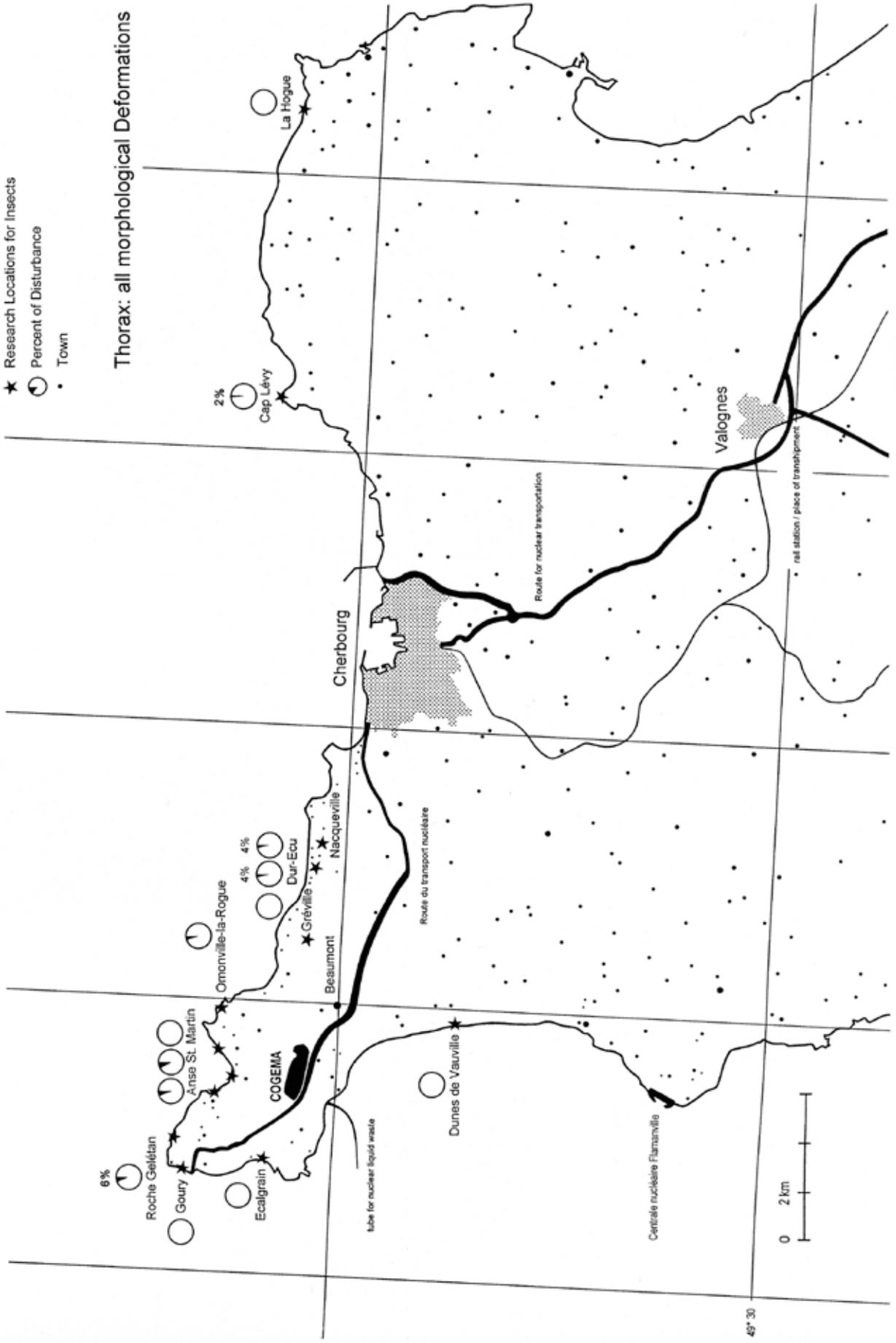




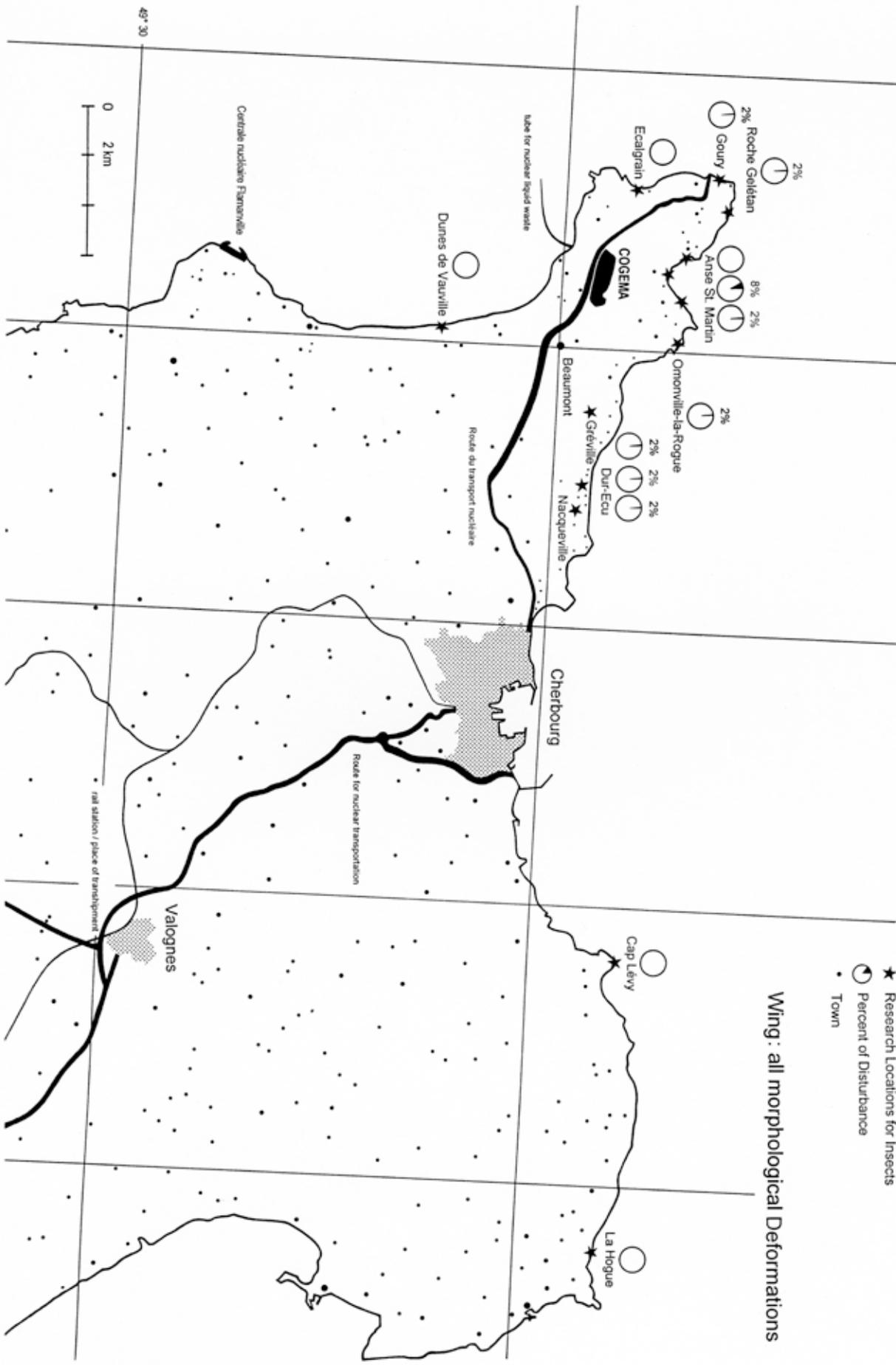
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- ★ Research Locations for Insects
- Percent of Disturbance
- Town

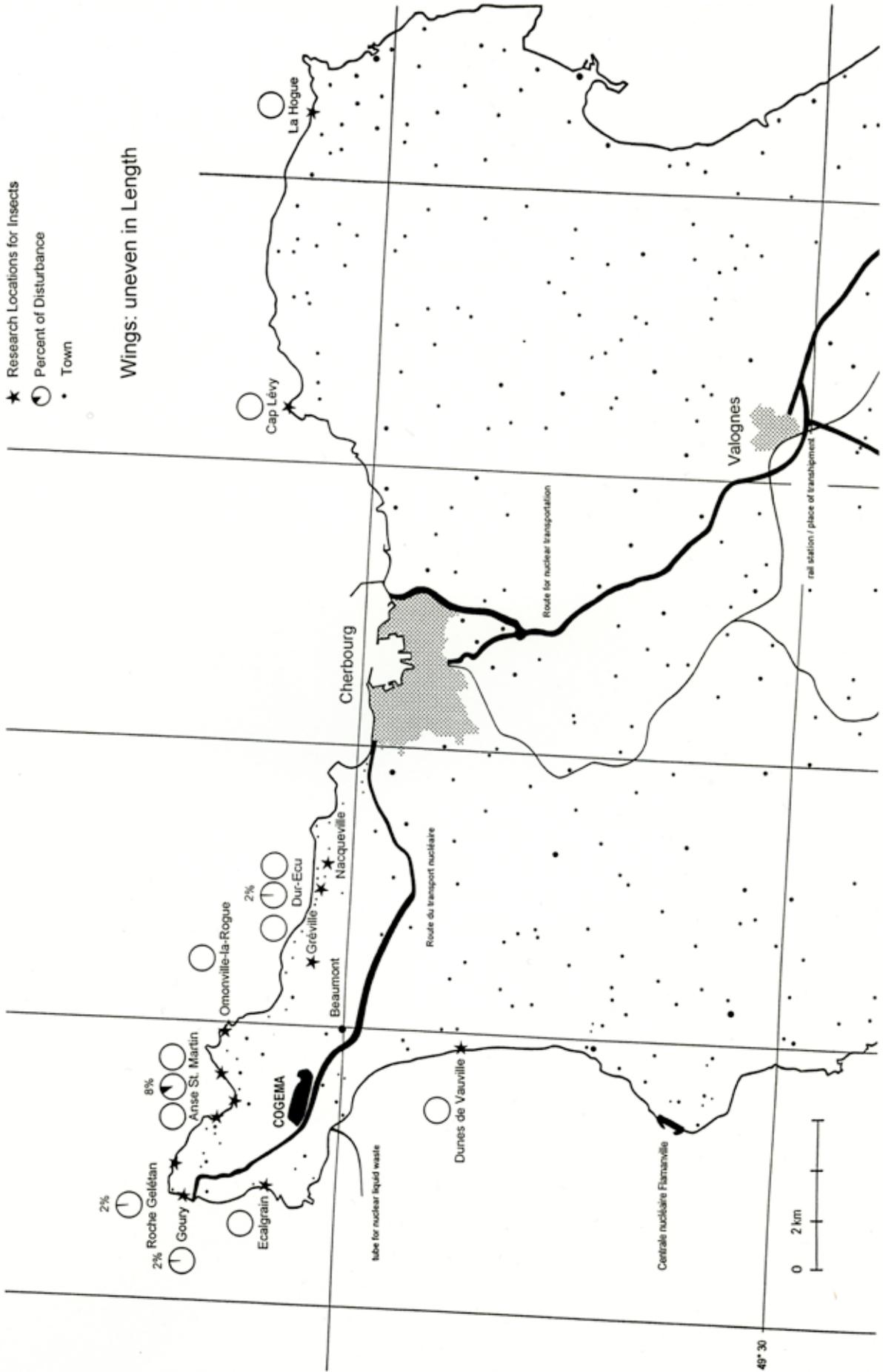
Thorax: all morphological Deformations

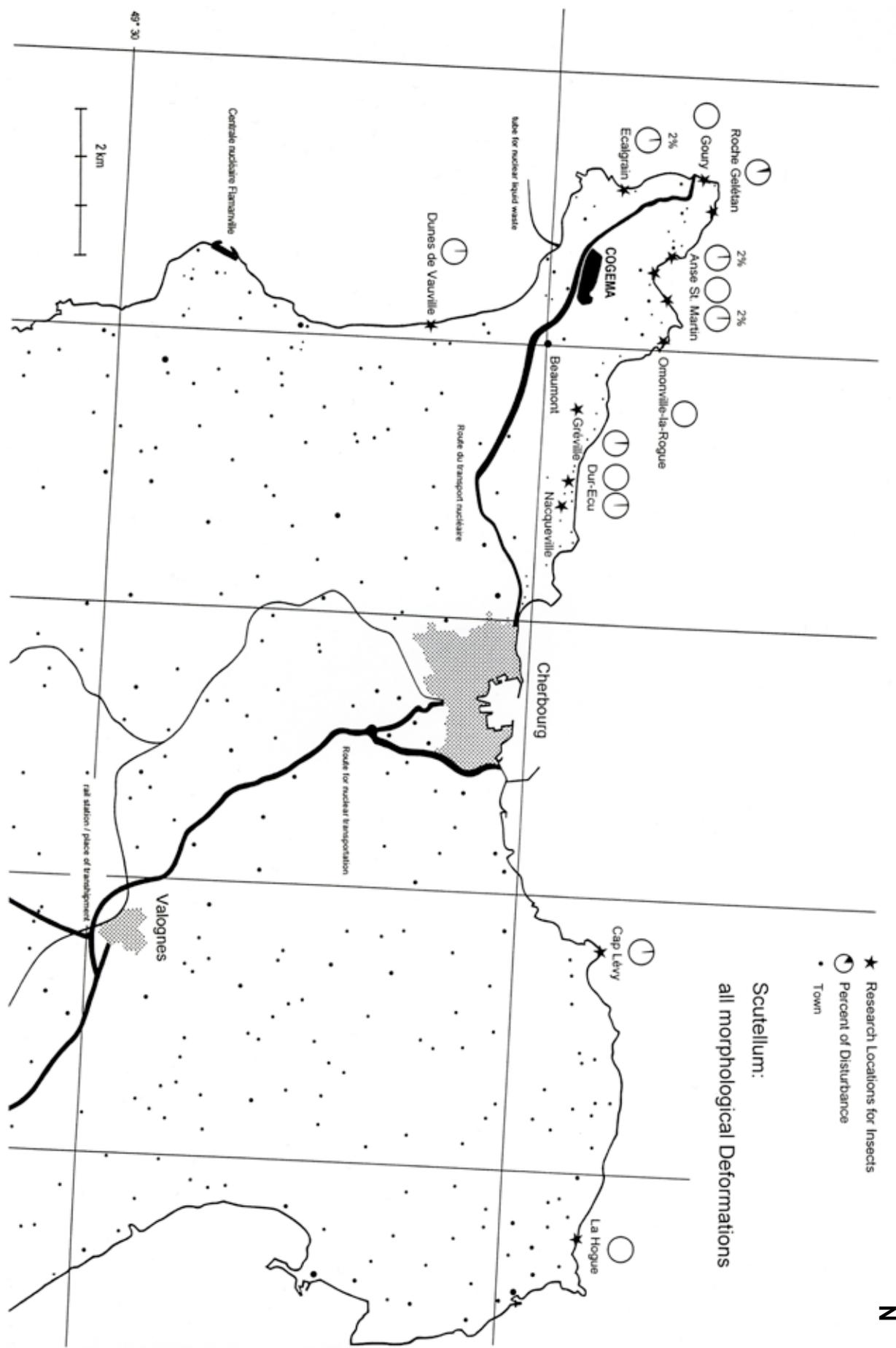


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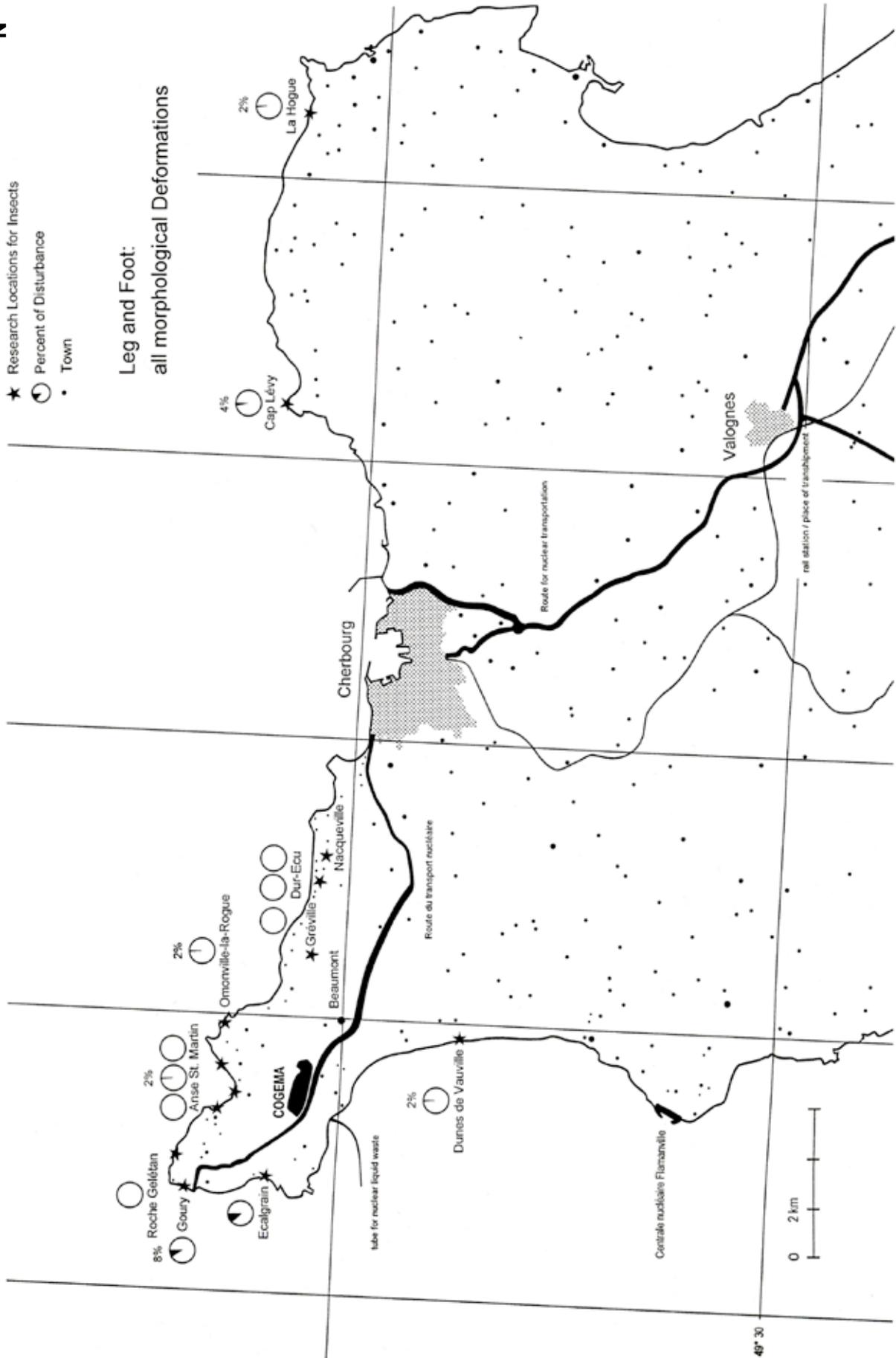


N

N

- ★ Research Locations for Insects
- Percent of Disturbance
- Town

Leg and Foot: all morphological Deformations



N ▶

COGEMA



Anse St. Martin, Pointe du Nez

ar

all morphological disturbances
several per insect possible

morphological disturbances of:

leg and foot

feeler

one limb missing in a feeler

head

thorax

scutellum

wing

wings uneven in length

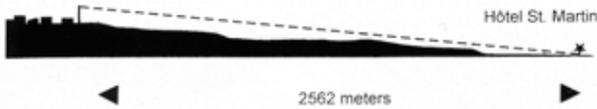
abdomen

blister

growth

N ▶

COGEMA



Anse St. Martin middle of Bay

ar

all morphological disturbances
several per insect possible

morphological disturbances of:

leg and foot

feeler

one limb missing in a feeler

head

thorax

scutellum

wing

wings uneven in length

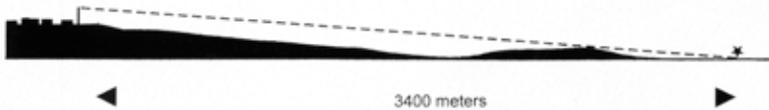
abdomen

blister

growth

N ▶

COGEMA



Anse St. Martin, Les Sablons

ar

all morphological disturbances
several per insect possible

morphological disturbances of:

leg and foot

feeler

one limb missing in a feeler

head

thorax

scutellum

wing

wings uneven in length

abdomen

blister

disturbance of material

growth

* Research Locations for Insects

250 meters



Roche Gelétan

all morphological disturbances
several per insect possible

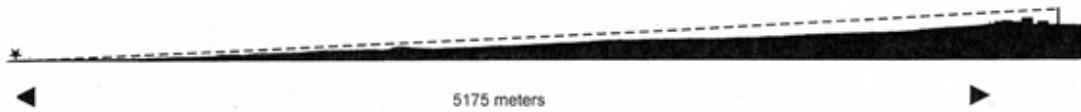
morphological disturbances of:

leg and foot

- feeler
- one limb missing in a feeler**
- head
- thorax
- scutellum
- wing
- wings uneven in length**
- abdomen
- blister**
- growth

◀ NNW

COGEMA



Goury

all morphological disturbances
several per insect possible

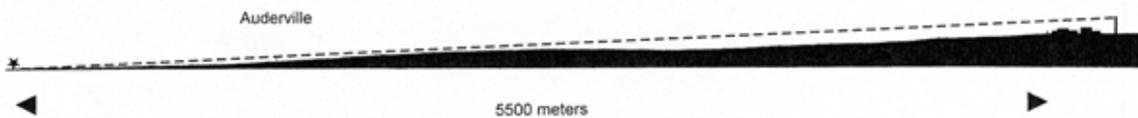
morphological disturbances of:

leg and foot

- feeler
- one limb missing in a feeler**
- head
- thorax
- scutellum
- wing
- wings uneven in length**
- abdomen
- blister**
- growth

◀ NW

COGEMA



Ecalgrain

all morphological disturbances
several per insect possible

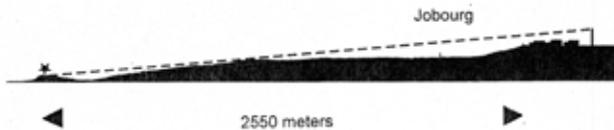
morphological disturbances of:

leg and foot

- feeler
- one limb missing in a feeler**
- head
- thorax
- scutellum
- wing
- wings uneven in length**
- abdomen
- blister**
- growth

◀ WNW

COGEMA



* Research Locations for Insects

250 meters



* Research Locations for Insects

250 meters



NNE ▶

COGEMA



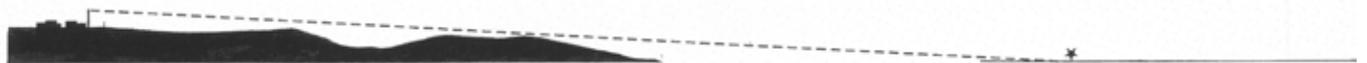
E ▶

COGEMA



SSE ▶

COGEMA



Omonville la Rogue

amount %

all morphological disturbances
several per insect possible

morphological disturbances of:

leg and foot

feeler

one limb missing in a feeler

head

thorax

scutellum

wing

wings uneven in length

abdomen

blister

growth

Gréville-Hague

all morphological disturbances
several per insect possible

morphological disturbances of:

leg and foot

feeler

one limb missing in a feeler

head

thorax

scutellum

wing

wing uneven in length

abdomen

blister

growth

Dunes de Vauville

all morphological disturbances
several per insect possible

morphological disturbances of:

leg and foot

feeler

one limb missing in a feeler

head

thorax

scutellum

wing

wings uneven in length

abdomen

blister

growth

* Research Locations for Insects

250 meters



Dur Ecu

all morphological disturbances
several per insect possible

morphological disturbances of:

leg and foot

feeler

one limb missing in a feeler

head

thorax

scutellum

wing

wings uneven in length

abdomen

blister

growth

COGEMA

La Quiesce



7175 meters



Urville-Nacqueville

all morphological disturbances
several per insect possible

morphological disturbances of:

leg and foot

feeler

one limb missing in a feeler

head

thorax

scutellum

wing

wing uneven in length

abdomen

blister

growth

COGEMA

La Quiesce





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