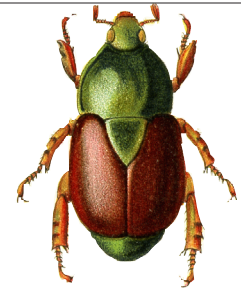


# SCARABS



JG JU TUJOLT, UIFZ XJMM DPNE.

Occasional Issue Number 49

Print ISSN 1937-8343 Online ISSN 1937-8351

March, 2010

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## Cleaning and Relaxing Packeted (and Fresh) Specimens

by William B. Warner

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As long as scarabs have not been collected in alcohols (including glycols), relaxing and cleaning them is relatively easy and can be done in the same process.

A good strainer with mesh just smaller than the smallest specimens (1 mm mesh works well for nearly all scarabs except for *Geopsammodius* [see the SEM on the next page to get an idea of how small they are] and some *Platytomus*), clean water, a heat source, and a little dish soap are all that is needed. Simply place the specimens in hot (but not boiling) water to which a drop or two of dish soap has been added, let sit until relaxed (seconds for small species, up to an hour or more for large species), agitate the container to “shake off” the dirt (or sonicate them in an ultrasonic cleaner), rinse in warm water until no soap is left. Some people like to use household ammonia in the cleaning process before or after the soapy water stage. To dry,

simply place on a few layers of paper towel to absorb the surface water. Using distilled or demineralized water throughout the process gives the best results. I use paper towels on a paper plate for drying/handling specimens while pinning up the material. With pilose species (especially species with dense, silky pile on the thoracic sternites), hair may become matted and needs to be “blow dried.” That can be done on most by blotting with the paper towel and then blowing into the hair, but an actual hair dryer also works. The fine hairs have to be clean in order to be dematted in this way, but can be reconstituted to a “nearly fresh” state.

For dry material on cotton substrate in packets, my favorite method is to remove the film cover and then spray the specimens with Formula 409® cleaner and let sit a minute before removing large specimens. This relaxes the specimens enough so that they don’t break when moving the cotton, and loosens



As our readers are well aware, we like to include photographs of the authors with their articles. Because Bill is camera-shy lately, the best we could do was to post this photo of our librarian Andrelica wearing her favorite T-shirt featuring Bill's ornate visage. Sorry we could not do better!

Scanning electron micrograph of *Geopsammodus fuscus* Skelley, courtesy Paul Skelley.



The one active ingredient in Formula 409® (a 0.3% solution of alkyl dimethyl benzyl ammonium chloride) is a pesticide. I use 409 for its cleaning properties.

the surface dirt as well. (Just make sure you don't destroy any labeling written on the packet backing in the process!) If the cotton pad is covered with small, delicate specimens, placing the entire cotton pad (specimen side down) into the hot water, and then dunking the cotton into the liquid to make sure everything is wet works best. It is best to cover the container while the specimens are soaking to maintain humidity and retard cooling of the water. Again, rinse thoroughly, and use distilled or demineralized water whenever possible.

# Sojourns to Sonora - Part II

by Barney Streit

Before we travel up into the higher reaches of Highway 16, we need to mention the necessity of owning the *Atlas de los Escarabajos de México*. Volume I, by Miguel Ángel Morón, Brett C. Ratcliffe and Cuauhtémoc Deloya, covers the Melolonthidae, which includes the subfamilies Rutelinae, Dynastinae, Cetoniinae, Trichiinae, Valginae and Melolonthinae. Volume II (Photo 1), by several authors covers the families Scarabaeidae, Trogidae, Passalidae and Lucanidae.

There is a military checkpoint at Tecoripa junction, located at km 223. They will ask you to step out of your vehicle so they can search it for drugs, ammunition and weapons. I have seen them stick long wires into the air conditioning ducts in search of bags of drugs. They will record the year your vehicle was built in a spiral notebook - why, I do not know. After being checked, take the road to the left to go to Yécora. The fork to the right goes south to Rosario Tesopaco, which we will discuss later. This general area is a good place to set banana traps for *Hologymnetis cinera* (Gory and Percheron).

Just before km 248 (19.2 road miles NW Yécora, 1,442 meters elevation, 28° 22' 20.4" N, 109° 04' 56.5" W) is what I call The Big Bend (Photo 2). There is a large pullout on the right.



Photo 1: Jennifer displaying *Atlas de los Escarabajos de México*, Vol. II, by Miguel Ángel Morón, editor.

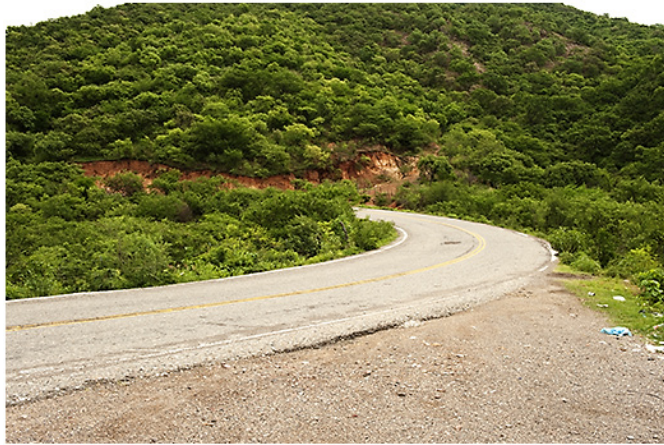


Photo 2: Just before km 248 is a great area for collecting.



Photo 3: *Hologymnetis argenteola* (Bates) has greenish legs, as opposed to *Hologymnetis cinera* (Gory and Percheron) shown in *Scarabs* 48.

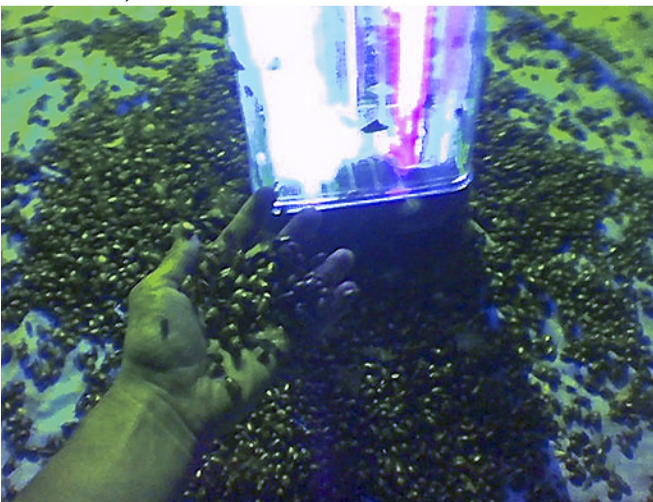


Photo 4: A phone photo of *Anomala* at km 248.



Photo 5: *Strategus aloeus* (L.)

This area is great collecting for four reasons. First, it is used by motorists and truckers alike as a public restroom. As a result, it is the best place to trap *Phanaeus furiosus* Bates. It is also the best spot to trap *Coproghanaeus pluto* (Harold). I have noticed that, like other members of the *Tridens* Group, *P. furiosus* will readily come to carrion, especially if it is in the earlier stages of rotting.

Second, rotting banana and beer traps will bring in the cetonid *Hologymnetis argenteola* (Bates) (Photo 3) - a desirable scarab. This is the only place I have collected this species. I have also seen it feeding on *Cercidium* sap here.

Third, There are canyons on either side of the road that crest on the road, creating two natural flyways. Blacklighting here can bring in *Anomala* (Photo 4) by the thousands, and *Strategus aloeus* (L.) (Photo 5) by the dozens.

Fourth, this is a nice transition area where *Quercus* (oaks) can be found. I once beat a diseased oak branch here and bagged a neat-looking cerambycid, which I handed over to Frank Hovore. Anyone who collected with Paco knows that he would never get excited about a cerambycid that someone else had collected. Instead, he would always ask the same question he then asked me: "Where'd you get *that*?" If you were asked this question, you knew you had given him a fantastic beetle.

At about km 161, or 11.7 road miles NW Yécora (1,590 meters elevation, 28° 22' 21.6" N, 109° 02' 52.7" W) a beautiful canyon crosses the road at a place we call The Waterfall (Photo 6). The "waterfall" is only a trickle of water dripping down a rock face. Truckers often stop there to collect water to cool down their brakes. Scarlet macaws have been seen here in the winter.

If the *Ceonothus* is in bloom, they can have *Trigonopeltaspes sallaei sinaloensis* Howden (Photo 7) although they have been taken on oak by Annie Ray (Photo 8). They



Photo 7: *Trigonopeltastes sallaei sinaloensis* Howden. This specimen was collected by Ann M. Ray by beating *Quercus* along Highway 16, 2.1 road miles NW Yécora, 28° 21' 30.0" N, 108° 57' 19.3" W, 1,603 meters elevation, 25-VII-2006.



Photo 6: The so-called Waterfall (at left). Behind me, this canyon originates in a scenic valley, ascends, then crosses the road and continues upward to the south, as seen here.



Photo 8: Dr. Ann M. Ray, along with the excellent company of Ian Swift, has accompanied me on many Sonoran excursions. Smart scarabaeologists always bring along their cerambycid-seeking friends, especially if they are super-intelligent and kick-butt collectors like these two! Annie recently earned her Ph.D. from the University of Illinois at Urbana. Her dissertation is titled *Evolution and Taxonomic Distribution of Volatile Pheromones in Cerambycine Longhorned Beetles*. I own a prized hardbound copy, of which I am able to understand very, very little! Annie is presently in search of a permanent job.



Photo 10: *Xyloryctes thestalus* Bates. These specimens were collected along Highway 16 at km 261, 12.2 road miles west of Yécora, 28° 22' 21.8" N, 109° 02' 52.5" W, 1,649 meters elevation, 6-VII-2007, at MV/BL/BLB lamps.



Photo 11: One of our fancier light setups with one mercury vapor and several blacklight (BL) and blacklight blue (BLB) lamps. This photo was taken in 2007.

can also have nice cerambycids on them. Blacklighting here can yield *Chrysina beyeri* (Skinner) (Photo 9) and *Xyloryctes thestalus* Bates (Photo 10). These specimens were taken just after the first rains commenced. Lighting at this identical spot later in July yielded no specimens. This is in stark contrast to northern Arizona, where this species is common in September.

A word about lighting setups. For the vertical sheet, use a sheet with a cotton or nylon cord running through a seam. This takes up no space and is easy and fast to set up and take down. This can be very important, as we have a history of being caught in horrific downpours where the only warning was wind before it hit!



Photo 9: A new species of *Chrysina*? Nope, just an oddly-colored *Chrysina beyeri* (Skinner). This specimen was collected along Highway 16 at km 295. 9.7 road miles east of Yécora, 28° 22' 20.2" N 108° 50' 11.3" W, 1,484 meters elevation, 26-VII-2006, at MV/BL/BLB lamps.

One year we encountered hail the size and shape of ice cubes. I thought the windshield was going to crack!

*Rutelisca durangoana* Ohaus can also be found here. A hint of the biology of this interesting species was discovered by Ian Swift, who collected a specimen while it was feeding on a bracket fungus. This spot marks the lowest elevation where I have collected *Phanaeus quadridens* (Say).

A little further, you will come to a shrine (Photo 13), (11.0 road miles NW Yécora, 1,712 meters elevation, 28° 22' 44.0" N, 109° 02' 57.8" W), which are common in México. Jacques Rifind experienced good clerid collecting here. This marks the highest elevation where I have collected *Phanaeus furiosus* Bates and *Copophanaeus pluto* (Harold).

At roughly km 266, there is a road leading to Mesa del Campanero (Photo 14), which is over 2,000 meters in elevation. As of this writing, the top 3/4 of this road had been paved. If you stay on the older, unpaved stretch, you can go up to the microwave tower if you keep to the right. It is a nice place to blacklight.

The Mesa consists of predominately pine forest. *Chrysina beyeri* (Skinner) and *C. lecontei* (Horn), as well as *Geotrupes cavicollis* Bates, (Photo 15) are very common here. *Phanaeus quadridens* (Say) (Photo 16) is found here also. An



Photo 12: *Rutelisca durangoana* Ohaus readily comes to light at “The Waterfall” early in the rainy season. The collecting data for these specimens are the same as given for the *Xyloryctes* on the preceding page.



Photo 13: Chuck Bellamy and the shrine. Chuck is the one on the right.



Photo 14: The Mesa del Campanero.



Photo 16: *Phanaeus quadridens* (Say) dug from soil under excrement on the Mesa. Notice the tuft of setae between the elytra - Arizona specimens lack this feature. Photo courtesy Ian Swift.



Photo 17: *Liatongus rhinocerulus* Bates.



Photo 18: *Ceratotrupes bolivari* Halffter & Martínéz.



Photo 15: *Geotrupes cavicollis* Bates is common on the Mesa, as well as lower elevations.

interesting pastime is searching the forest floor for mushrooms. *Liatongus rhinocerulus* Bates can be found in live and decaying mushrooms. Look especially for toadstools that have fallen over, and dig out the soil beneath. *Ceratotrupes bolivari* Halffter & Martínéz (Photo 18) can also be found on mushrooms here. Occasionally, both these species will come to dung traps. I have taken *Liatongus* as low as the 1,712 meters elevation spot mentioned above (and shown in Photo 13), but it seems more common at the higher elevations.

Our adventures will continue (and conclude) in the next issue.



# An Interesting Coastal Population of Dung Beetles in the North of France

by Olivier Décobert

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In spring 2009, I was searching dung beetles in the dunes of the region of Boulogne (North of France) when I found a curious *Onthophagus* (Photo 1). Using a determination key, the choice was between the species *O. vacca* Linné (Figure 2 - female) and *O. nuchicornis* Linné (Photos 3, 4, 5). These two *Onthophagus* are found in the same area but with this specimen, the final determination was difficult. At first, I decided that the correct determination was *Onthophagus nuchicornis* because of the shape of the head and its carina, and some other details associated with this species. But it was a really curious form, compared to typical specimens of this species (Photos 3, 4, 5).



Photo 1: *Onthophagus vacca sublineolatus* Mulsant (minor male).



Photo 2: *Onthophagus vacca* Linné.



Photos 3, 4, 5: *Onthophagus nuchicornis* Linné.

As the reader can see from these images, there is a great variability of the black area on the elytra of *O. nuchicornis*. But normally, the head and pronotum are always black for this species. Moreover, *O. nuchicornis* ordinarily has a small black spot on the base of the fifth elytral interval, next to the pronotum. These characters do not fit the strange specimen of Photo 1.

After discussing with the dung beetle specialist Yves Cambefort, he convinced me to dissect this scarab to determine its sex (I thought it was a female). It was a minor male! The final identification of this scarab, with its red pronotum and the black lines on the elytra, is *Onthophagus vacca sublineolatus* Mulsant (Photo 1).

As the reader can see by examining the head of my atypical specimen (Photo 6), it is not easy to accept that it is a male which habitually has a long horn prolonging the carina of the vertex! The female of *Onthophagus vacca* (Photo 2) ordinarily presents with two short horns on its head (Photo 7).

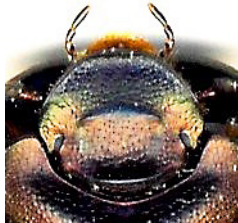


Figure 6 – Head of unusual *Onthophagus* male.



Figure 7 – Head of *O. vacca* female.

The area where I found this scarab is also rich in other dung-beetles. Three other species of *Onthophagus* are present: *O. similis* Scriba, *O. coenobita* Herbst, and *O. ovatus* Linnaeus. See *Scarabs* #45 for photos and a discussion of these three species.

The geotrupid *Typhoeus typhoeus* L. is rather common. I already discussed this species in *Scarabs* #28, but a new specimen I found dead on the sand is particularly spectacular in the development of its horns (Photo 8).



Photo 8– *Typhoeus typhoeus* male.

I found several species of *Aphodius*, with a curious form of *Aphodius fossor* L. (Photo 9) I had never seen before: *A. fossor silvaticus* Ahr. (Photo 10). There was also *Aphodius rufipes* L. (Photo 11) which has a similar size (10-12 mm).



Photo 9 – *Aphodius fossor*.



Photo 10 – *Aphodius fossor silvaticus*.



Photo 11 – *Aphodius rufipes*.

More tiny *Aphodius* were also present, like the common *A. prodromus* Brahm (Photo 12), *A. fimetarius* L. (Photo 13) and *A. haemorrhoidalis* L. (Photo 14).



Photo 12 – *Aphodius prodromus*.



Photo 13 – *Aphodius fimetarius*.



Photo 14 – *Aphodius haemorrhoidalis*.

The richness of this coastal area in dung feeders is easy to explain: there are cows (Photo 15) and horses in the dunes!



Photo 15 – A rustic “Highlands” cow introduced on the Northern French coast.



Olivier at home with his beetles. October, 2009.

## In Past Years - XXXII - 1987

by Henry F. Howden

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June of 1987 found us headed to southeastern Manitoba. Originally Bill (W. J.) Brown, who I worked with during my time at Agriculture Canada, had aroused my interest in the area by telling me about Norman Criddle and his farm called "Aweme" (The history of the Criddles of Manitoba is described in a book entitled *Criddle-de-Diddle-Ensis* by Alma Criddle, 1973, Standard Book No. 0-919212-80-8 published by the author).

Norman had collected many insects on his farm and Bill had described a number of them. It was an interesting area according to all reports, being a mixture of open prairie and scattered woodland with a nearby river. We flew to Winnipeg (nearby view - Photo 1), rented a car and then looked up Robert Roughley, University of Manitoba, who showed us the University collection and told us of possible nearby collecting sites. He later took us to the Criddle farm, and proved to be very knowledgeable about its history.

First we drove south to Ile des Chênes, near where our daughter, Barbara, and her husband lived (their business - crop dusting). After collecting locally on some oaks (Chêne is French for oak) we drove southeast to the Woodridge area and spent several days collecting in the nearby provincial park (Photo 2) and along some sandy roads. Except for finding



**Photo 1: Manitoba near Winnipeg from the airplane, makes one believe in the flat earth theory!**

a specimen of *Eucanthus greeni*, the most notable part of the day revolved around Diptera. Our rental car was a medium brown in color and the horse flies mistook it as a large animal. All day they attacked the car, moving or not; from inside the car it sounded like a hail storm - most impressive!



**Photo 2: Sandilands, southeast of Winnipeg; wonderful place for horseflies and mosquitoes, if you are collecting them and not the other way around!**



**Photo 3: The one car ferry on the Assiniboine River needed to reach “Aweme”, the Criddle farm.**



**Photo 4: Anne and Rob Roughley near the Criddle home, “Aweme”, Manitoba.**



**Photo 5: Landscape near “Spirit Sands”, not far from Glenboro, Manitoba.**

Fortunately, we did not seem too attractive, and were rarely bothered while collecting during the day. One night we set up our black light about 9:30 PM (it was just starting to get dark at that time) in the middle of a small, sandy field near the forest. A few small beetles started to come to the light, when we heard a most unusual humming noise. At first we didn't know what caused the noise, but then we noticed a misty wall about thirty feet high coming out of the woods. There were a few outriders which turned out to be very hungry mosquitoes! We never had seen such a hoard of mosquitoes and did not spend any time to let them sample us. A speed record was set in picking up the black light and departing the area.

The next day we departed to see the Criddle homestead near Glenboro, Manitoba. We crossed the nearby river on a small one-car ferry (Photo 3) to get to the homestead, saw the old, unoccupied home (Photo 4) of the Criddles and also the small graveyard where Norman was buried. Collecting was reasonably good and included four species of “*Aphodius*” (before Gordon & Skelley) on deer dung.

In the late afternoon we returned to the Glenboro area and our motel; later going to a nearby (Photo 5) sand dune area known as “Spirit Sands”. Three days were spent in or near the dunes (Photo 6), with a number of scarabs and weevils keeping us happy. Two pairs of *Eucanthus greeni* were collected on the dunes (Photo 7), along with

several *Serica*, *Aegialia*, *Hoplia* and others, including one lucanid. I was also glad to add to my tiger beetle collection, both on the dunes (Photo 8) and along the nearby river banks. Reluctantly we left and briefly returned to Ile des Chênes, picked up several flight intercept traps and the next day returned to Ottawa. It was a fun trip, but it also showed us that, in general, it was less expensive to collect in Central or South America than it was in Canada!

In early August four of us, Monty and Grace Wood and Anne and I, left for three weeks in Costa Rica. All went well except that in Montreal they insisted that we couldn't carry our large 6-volt, head-light batteries in our hand luggage, so we spent some time repacking. In Miami we were told that the batteries should not be in our checked bags. That bit of confusion did not add to my opinion of the sanity of some rule makers!

Since most of the places we visited have previously been described, they will not be repeated here. After landing in Costa Rica we spent a day renting a car, getting supplies, etc., before driving to La Pacifica. This time we didn't have any heavy rain, but still collected many of the same species, including *Neothyreus* and *Bolbelasmus*. After two days we went to Monteverdi and back to the Pension Quetzal. The Pension had not improved, there was no hot water and no other guests. The owner was even more morose



**Photo 6: Edge of "Spirit Sands", showing partial cover of old dunes by vegetation. A fair number of beetles including *Hoplia* were collected on some plants.**



**Photo 7: *Eucanthus greeni* burrow on the top of one of the dunes. It is easier to collect them in shallower sand!**



**Photo 8: The side of an actively moving dune, showing the height of some dunes.**

and anti-social than he used to be, if that was possible. Part of the problem was that Monteverdi had suddenly grown to be an ecotourist “Mecca”. There were half a dozen new motels and, at the park headquarters, ten or so large tour busses were parked. Collecting was good, but we often didn’t get far before we were stopped and told we shouldn’t be collecting and killing those poor insects. I sometimes answered by asking if they found a roach or scorpion



**Photo 9: Forest near Monteverdi, Costa Rica; it might be called a “cloud forest”?**

in their room, would they kill it? I was told that was different - I made no new friends. I did find out that the park building at the entrance to the reserve had a back porch overlooking a thickly wooded valley (Photo 9) that looked like it was built for black lighting. I also found that, in an adjoining room, there was a ping-pong table set up and every evening some of the staff played. One evening I joined the game and asked if I could run a light on the porch. Since I held my own in the ping-pong, I was told the light was OK as long as I didn’t collect moths - beetles were allowed. Some great collecting resulted from my being able to play ping-pong!

One reason for the trip was that Monty had purchased a large piece of land adjacent to the reserve and was building a two story biological station on it. The steeper parts of his land were forested and were contiguous with the forest of the reserve. Adjacent to Monty’s property there was a new motel called the “Belmar” and when rooms became available late in our stay, we moved there to enjoy hot water and some different collecting on Monty’s land. All the development had not, at that time, influenced the collecting; the scarab collecting was great and I collected some species not taken before - several species of *Chrysina*, *Heterosternus*, *Euphoria*, a number of ceratocanthids and others, to list them all would make this look like a nearly complete check list of montane Costa Rican genera of scarabs.



Near the end of August we left Monteverdi, stopped for a day (Photo 10) to collect on Volcán Poás before going to San Jose. A day was spent in San Jose, including a very pleasant evening with Bill and Mary Jane Eberhardt. We were up at 4:30 AM the next morning, left San Jose at 8:30 and arrived on time in Miami. It took two hours to clear customs (even though we had left our large batteries behind), then on to Dulles International Airport and we finally landed in Ottawa at 10 PM.



Photo 10: *Calomacropsis haroldi*, not uncommon in parts of Costa Rica on flowers of *Inga*; the flowers attract many other beetles as well.

## Scarab Red Beer



Thanks to Brett Ratcliffe, who is shown with a bottle of this beer in *Scarabs* 22 (November 2007) for sending this in. The Oasis Brewery, which originated this beer, closed in 2002, and now operates as a marketing company. Their beers are presently brewed by Rockies Brewing.

# Bug People VI

## from the Secret Files of Henry Howden

This photograph was taken in Smoky Mountains National Park in the fall of 1956 at an old cabin set up for tourists. The woman and child in the shadows are actually dummies wearing traditional period clothing. Can you guess who these entomologists are? The answer is at the bottom of this page.



**Left:** Received his Master of Science degree in Oklahoma around 1927 on scarab dung beetles. He then worked at the Canadian National Collection in Ottawa. There he described many beetles, mostly Canadian, in many families such as Elateridae, Chrysomelidae, etc. Head of the Collections unit, he retired in the 1980s, and is now deceased

**Right:** Holding a jug full of sand. Originally from British Columbia, worked on fleas and was Director of the Canadian National Collection for many years, now deceased.

Answers: Bill Brown, George Holland.