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THE FIELD NATURALIST

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The Other Side of Caura Valley

Jo-Anne Nina Sewlal and Christopher K. Starr

The image that first springs to mind of most people when they hear the name "Caura Valley" is that of a "river lime". Well river limes are not the main events in Caura Valley. The Nepuyo Carib Amerindians, who originally occupied Caura Valley, gave the valley its name which means "heavily wooded area." So it comes as no surprise that this area is also frequented by hunters. Forested areas also make good sites to look for spiders and insects as well as provide a pleasing backdrop for a nature hike or walk. This collection of short descriptions is intended to give readers an idea of the potential of the Caura Valley as a destination for exploring nature, whether you enjoy long hikes or short nature rambles.

Like all valleys in the Northern Range, the Caura Valley has many smaller side valleys. One such valley is Tucaragua Valley which we decided to explore in late January. This small side valley is located 7km up the Caura Royal Road. The actual trail starts approximately 1km up the Tucaragua Valley Road. After crossing a stream one enters a wide, well maintained dirt road. This road is similar to that which leads to the Maracas waterfall after one leaves the parking lot. Here we observed a swarm of midges using an abandoned spider web as a resting site and, nests of the solitary wasp *Trypoxylon manni* dotted along the earth banks. Spiders seen included an *Araneus* sp., and an unidentified orb-weaving spider along the wide dirt road. The road ascends in easy stages and after about 1km one enters rather scrubby secondary forest. In this area we saw a subadult *Nephila clavipes*, also called the Golden orb-weaver on account of the colour of its silk. The wide path eventually narrowed and became a winding trail as one progressed uphill. The path rejoins a paved road which runs along the ridge, where we saw a juvenile jumping spider. This road appeared to be frequently used by hunters and farmers. The presence of the latter group was evident by well maintained plots of pigeon peas and tomatoes seen on the side of the road.

It was just straight walking from here on so we decided to turn back. On returning to the main road we asked some residents about where the paved road eventually leads. They said that if one were to continue and take a left one would end up in Maracas Valley. However, the road eventually becomes a trail which can be used to get to Las Cuevas and two scenic waterfalls. Therefore as a nature trail it can only provide so much, but it shows its full potential as a hiking trail.

Another visit brought us to a lovely wading stream. About 10½ km past the two recreational pools up the Caura Royal Road, the paved road bends to the left up Tumbasson Valley. One then follows an old and very rough road to the right for over a kilometre, and then makes a left over a solid bridge that goes over the Caura River. About 1½ to 2km further one reached a single-bar gate (usually locked) to a government plantation. Beyond this gate is a mud road which one follows for a few hundred metres leads to this lovely wading stream, ideally located away from the spots frequented by limers, where one could spend a few hours wading.

To digress a little, many of what Trinidadians refer to as rivers pale in comparison to those in large countries like the USA, and in South America. So what we refer to as a river is considered a stream by international standards. But we will still call it Caura River instead of Caura Stream because one cannot change the geographical name of a place.

There were many shallow areas where one could walk along the bank and take a break from the water. The stream was poor in fish life with a total of about 5 individuals belonging to 2 to 3 species. Presence of an old dam was evident by large concrete pipes now clogged with sand. Along the way we heard the distinctive call of the Bearded Bellbird (*Procnias averano*). The stream cut across several strong trails, evidently used by hunters. These provided to be a convenient way of getting back to the starting point. We did not wade to the very end but it looked to have about 1km of good wading potential.

FIELD TRIP REPORT

Lopinot – November 28, 2004

John Lum Young

The Lopinot walk included a brief history and tour of the Lopinot Complex by Martin Gomez, the "mayor" of Lopinot. In 1805 Count de Lopinot established the La Reconnaisance Estate and devoted the entire 478 acres to cocoa. In 1806 the jail house was built and it stands to this day. The museum (formerly the house of the Count) was being repaired so the exhibits were all stored away in the jail house. However we did see three pieces of furniture - table, wardrobe and dressing table – dating from 1803 that belonged to the second British Governor of Trinidad. Gomez pointed to a young cashew tree that was planted on the same spot as the cashew tree that died in 1969. The Count is reputed to have hanged slaves from that tree. On the grounds was an authentic dirt oven.

After the tour we forded the Lopinot River and followed Cantamon Trace to the top of the divide with Arima. Cantamon Trace used to be a pitched road for the first bit but this deteriorated with lack of maintenance (as with most agricultural access roads throughout the country following Colonial times). The destruction of the road was completed in the Dry Season of 2003 when it was widened by a tractor all the way to a garden at the top of the ridge. With the subsequent Rainy Seasons the road became deeply rutted by the running water.

A common herb noted on the climb was Seed-under-leaf (*Phylanthus sp.*) which was used in the treatment of high blood pressure. Interestingly, this plant has the same common name in Spanish, French, Chinese and probably in other languages too because the name aptly described the plant. Auburn Nash examined the *Coccocypselum hirsutum*, RUBIACEAE family, a vine with fine hairs on the leaf and stem. The plant was in fruit having bunches of about six small blue berries on the vine. It was fairly prominent along a section of the road embankment.

A number of seeds resembling those of the Sandbox littered the trail, having been washed down by the recent rains. However, on closer examination the seeds belonged to the *Hevea brasiliensis*. On reaching some *H. brasiliensis* trees we noticed one with a tap root that became a trunk because the soil had slipped away leaving the first set of roots suspended above ground. In order to survive, the tree developed a second set of surface roots from its main root at the new lower level.

Nicholas See Wai pointed out the Rufous-browed Peppershreik (*Cyclarhis gujanensis*) and White-shouldered Tanager (*Tachyphonus luctuosus*). Also observed was the inflorescence of the *Strelitzia sp*. Shane Ballah ensured that we looked carefully and located the ant *Ectatomma tubertculatum* that inhabited the flower.

From the ridge there was a panoramic view of the Lopinot and Arima Valleys. On the return we stopped for a quick dip in an unnamed tributary of the Lopinot River.

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MISSION STATEMENT
To foster education and knowledge on natural history and to encourage and promote activities that would lead to the appreciation, preservation and conservation of our natural heritage .

FIELD TRIP REPORT

St Ann's – January 30, 2005

John Lum Young

At the trail briefing we learnt that the walk comprised two sections: initially to the Fondes Amandes Road Reafforestation Project, the first self-help reafforestation project in the country to become a model for other communities; then to the summit of St Ann's Peak.

Akeella Jaramugee's husband started squatting in 1982 on lands belonging to WASA in the Fondes Amandes water catchment. Mr. Jaramugee soon realised that "slash and burn" agriculture yielded less and less, and the annual fires to clear the land for planting had many disadvantages including loss of valuable moisture in the Dry Season and loss of the scant top soil in the Rainy Season leading to clogging of waterways and flooding of the communities down slope. He saw the slopes change from forest cover to grass fire climax.

He thus decided to educate himself and other squatters who learned more sustainable techniques for managing the hillsides. They cut fire traces, made drains across the slopes, built small check dams to slow the speed with which the water descended to the village, planted trees like Acacia (*Acacia mangium*) that were able to grow in a fire zone and grass like Vetiver (*Vetiveria zizanioides*) with its tufted perennial roots forming large compact tussocks to hold the soil. Of course they patrolled the hills in the Dry Season to keep out fire setters and beat out fires. After his death in 1994 Akeella continued the hard work. With the vigilance maintained there has not been a bush fire since 2001. Some of the internal fire traces were replanted with Mountain Berry (*Mabea Occidentalis*), Pommerac (*Eugenia malaccensis*), Cedar (*Cedrela odorata*) and Mahogany (*Swietenia macrophylla*) and the Acacia was replaced. Mountain Berry, indigenous to the drier western Northern Range, reaches a height of 16 ft. and forms thick groves. (We enjoyed the shade of one such grove that fortunately survived the repeated fires of past years.) Fire traces still need to be maintained in the cropping areas and to keep out fires climbing over from Maraval Valley. The project covered 80 acres.

We were also introduced to John Stollmeyer who provided ongoing technical advice to Akeella. John believed that the best way to protect biodiversity was to save one's immediate environment with the flora and fauna native to that locale.

Not only had the greenery returned but the wildlife also, among them squirrel, agouti, iguana, birds and butterflies. Perched above in thick foliage was the Spectacled Owl (*Pulsatrix perspicillata trinitatis*) our largest owl at 18 inches. Though the *P. perspicillata* range from Mexico to Argentina the Trinidad owl has paler buff underparts and is a sub-species only recorded on this island. *P. p. trinitatis*, found in dry lowland forest, cultivated areas and rain forest up to 2000 ft., can be described as uncommon. It eats most small mammals, birds, frogs, lizards, grasshoppers and caterpillars. The dark brown patch around the eyes with superciliary, whitish stripe meeting between eyes and prolonged from base of bill below eyes gives the "spectacled" effect.

A Queen Cracker Butterfly (*Hamadryas arethusa*) was spotted on the trunk of a tree in its standard position facing downwards. It is not known why all the butterflies in this species face downwards. Some speculate that it is for easy take off, others for protection, but no one really knows. The Cracker butterflies are so named because of the crackling sound made when they flutter about. Exactly how the sound is produced is also unknown.

On the ridge that separated Fondes Amandes from the north St. Ann's Valley the group split, with the more adventurous aiming for St. Ann's Peak and the others continuing the tour of the project. Reg Potter warned that the trail was little used and the bush fires over the years meant that razor grass ruled the open sections. This did not deter the dozen or so who were keen to attempt the Peak.

We climbed the ridge to meet the trail from Lady Chancellor Road which hugged the mountainside just below the top and provided excellent views of Port of Spain, Caroni Swamp, Hololo and lower St Ann's Valley. This was the furthest end from which to tackle St. Ann's Peak. Walking from Hololo or Santa Cruz was shorter, the Peak being only about 2 miles from Morvant.

It was a decent bench trail once the canopy was intact. In areas of bright sunlight (as a result of tree falls, landslips and fires) razor grass and shrubs were thick and the trail had to be reopened. This slowed us considerably and we wondered when the group would have enough and decide to turn back. Bloodwood (*Croton gossypiifolius*), a medium sized tree that was quick to establish itself in open spaces, was regularly seen along the trail. Like most plants, it was in flower with the advent of the Dry Season and its characteristic long inflorescence was very noticeable.

We rounded a spur of the mountain and had a panoramic view of the St. Ann's Valley head. It was now after 12 noon and there was still some distance to even see the Peak which was being blocked by a spur off Hololo.

In the forest below, Immortelle in bloom dotted the landscape with spots of bright orange. Cypre (*Cordia alliodora*) was also in flower. Related to Black Sage, Cypre was a fairly large tree sometimes over 100 ft. in height and 10 ft. in girth. It preferred the drier hilly forests and so could be found in the Bocas Islands, the Southern Watershed and western Northern Range. *C. alliodora* was rarely seen on flat land. The Rainy Season was a time of profuse growth for most plants but, uncommonly, this plant sheds all its leaves in the Wet Season. The small fruits of the Cypre were eaten by birds such as Scaled Pigeon, parrots and doves. Cypre was a popular furniture wood of choice in the 60s before the advent of modern "fast" furniture.

The writer remembered the bureau, chest of drawers and cabinets at home being completely of cypre (unlike the furniture of today that may have a durable wood finish but with the insides, back and other hidden areas made of ply board).

Inga Venosa (Pois Doux), one of five Inga sp. (all edible), was seen. Of interest was a thick woody vine. On chopping off a piece the cross section was cream in colour. After a few minutes, the cross section changed from being a smooth cream with the resin forming reddish-brown concentric circles that resembled the growth rings of a tree. V. Quesnel noted that this woody vine, *Machaerium tobagense*, had a pair or recurved spines at every leaf node; hence its common name Gabilan Claws.

We decided to return from this point.

A NOTE ON A BIOGEOGRAPHIC RULE

In treating our relative ignorance of the biota of Venezuela (no. 3/4 for 2004), I introduced the biogeographic rule of thumb that a tenfold increase in surface area brings with it a doubling of the number of species. My purpose here is to take note of a limitation to this rule by way of an interesting little illustration from Trinidad.

Like any scaling rule, the species/area rule is not equally good at all levels. In particular, it tends to break down when we get to very small land areas. As I noted in that earlier piece, Trinidad has 37 species of social wasps in an area of 4800 km^2. Now, I have been keeping note of all species found close to my house up the Caura Valley, in an area of about 1 km^2. Applying the rule, the predicted number of species near the house is 2.89, i.e. 3.

In fact, there are 24 (Table 1).

It is not surprising that a rule that works well in predicting patterns between 1000 and 100,000 km^2 should fail when we take it way way down to 1 km^2. But why is the observed number of species so much greater than the predicted, rather than less? A simple, entirely plausible answer is that habitat and other living conditions do not differ much from one place to another at the 1 km^2 scale, so that any given non-beach locality in Trinidad is likely to be suitable for a large fraction of the total species. This is likely to be especially so in groups, such as social wasps, without highly specialized requirements and made up of mobile individuals. In some other groups the scaling rule might hold reasonably well all the way down to 10 km^2 or below.

Table 1. Social wasps in the area around C.K. Starr's house in the Caura Valley.

All 37 species known from Trinidad are listed here. Asterisks indicate those known from the study area in Caura. The two forms of *Mischocyttarus alfkeni* are probably separate species, distinguishable by nest structure and some subtle features of the male, but not yet by the female. *Polistes goeldii* is so far known in Trinidad only from this locality, although it is widespread north of the Amazon.

Independent-founding species (Jack Spaniards)	**`Swarm-founding species (maribons)**
*Mischocyttarus alfkeni (centric form)	Agelaia cajennensis
*Mischocyttarus alfkeni (excentric form)	*Agelaia multipicta
Mischocyttarus collarellus	*Angiopolybia pallens
*Mischocyttarus fitzgeraldi	Apoica gelida
*Mischocyttarus injucundus	*Apoica pallens
Mischocyttarus labiatus	*Apoica pallida
Mischocyttarus punctatus	Apoica strigata
Mischocyttarus rotundicollis	*Brachygastra bilineolata
Mischocyttarus socialis	Chartergellus nr. atectus
*Mischocyttarus surinamensis	*Epipona tatua
Polistes billardieri	*Metapolybia cingulata
Polistes carnifex	Parachartergus colobopterus
*Polistes goeldii	*Parachartergus fraternus
*Polistes lanio	*Polybia occidentalis
Polistes major	*Polybia quadricincta
*Polistes pacificus	*Polybia rejecta
*Polistes versicolor	*Polybia striata
	*Polybia tinctipennis
	*Protopolybia exigua
	*Synoeca surinama

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BOTANY TRIP

CHACACHACARE— MARCH 19, 2005

Nicholla Johnson

The Botany group started out early, all 25 people catching the boat at Island Property Home Owners. The sea was calm that morning as we headed into La Chapelle Bay and got off at the small jetty near the old Nun's quarters. The new and not so new persons to the island took a look around the abandoned quarters which have now been defaced by graffiti and the floorboards stripped for use as firewood and other purposes. Amidst the destruction of these abandoned historic buildings was a beautiful pink flowering Frangipani (*Plumeria rubra),* and a large Flamboyant (*Delonix regia),* which was not in flower but with beautiful green foliage.

Stephen the enthusiastic herpetologist caught hold of a Woodslave/Gecko (*Thecadactylus rapicauda),* from near the abandoned church and was keen to show the agitated and snapping creature in his hand. The walk to the nearby cemetery was lined with large trees of *Capparis odoratissima* with its leaves with a silver underside. Also seen was the small shrub *Iresine angustifolia* in fruit, with the fuzz-covered seeds seen along the walkway. As the group walked to the junction to meet the main trail leading to the Salt Pond to the south and La Tinta to the north, the dominant tree *Machaerium robinifolium* was quite noticeable, towering over most of the other plants, with its thorny trunk and pinnate leaves. Other trees seen included *Erythroxylum havanense* with its thorn-like shortened stems, and the beautiful yellow barked Balsam (*Copaifera officinalis),* that was in fruit at the time, and we noted how the pinnate leaves had turned a lovely burgundy colour because of the Dry Season conditions. The trail became lined with the roadside weeds *Evolvulus tenuis* with small, silver leaves, and the tall, rough-leaved *Wedelia caracasana* that was not in flower.

As we walked along the road heading south, the group noticed a tree with several dehisced capsules and notably striped bark that Mr. Johnson identified as *Coutarea hexandra*. We came across many fruiting *Pithecellobium unguis-cati* with their very thorny stems and trunk, the distinct spirally-curled, 'flashy' red pods, black seeds and white arils – the national colours as Victor pointed out. Some members noticed *Genipa americana* with its yellowing leaves, again no doubt a result of the harsh Dry Season conditions at the time. Mr. Johnson showed the group some saplings of *Coursetia ferruginea* that has lighter green leaves and no spines on the trunk, making it distinguishable from *M. robinifolium.* The pods of a fruiting *Senna bacillaris* were observed and soon the group encountered the first cactus species for the day *Cereus hexagonus,* with its four ridges, that Mr. Johnson sampled for the Trinidad and Tobago National Herbarium. At this stop we also saw *Bromelia chrysantha* - Manicou Fig - and another cactus *Pilocereus languinosus* with six to eight ridges and fine hairs at the top. A Red Rim butterfly (*Biblis hyperia),* or could it have been a Postman (*Heliconius melpomene),* flew by at the time, which reminded us of the wildlife that could be found in such dry habitats like Chacachacare. Close by, a large clonal patch (stoloniferous growth) of another terrestrial bromeliad *Bromelia humilis* was seen; unfortunately it was not flowering - at that time the inner leaves turn a brilliant red, which is quite a sight to see.

The trail at certain points were lined by the tall lily with variegated leaves *Sansivieria hyacinthoides* (Mother-in-Law's Tongue), which was flowering, and Juanita educated us about the use of the fibres from the leaves for craft making in certain parts of Trinidad and Tobago. Up above, a tall dead tree stump covered in bracket fungi stuck out amidst the dry vegetation, while on the ground the striped lizard *Cnemidophorus lemniscatus,* also known as Striped Runner and Foot Shaker, was seen, always a step ahead of us, scurrying along the path. Both forms were observed, the male (green individuals) as well as the striped brown ones (female or immature). Other wildlife observed along the trail were the birds, the Streaked Flycatcher (*Myiodynastes maculates)* and a White-fringed Antwren (*Formicivora grisea)*. Other trees that lined the road to the Salt Pond included the lush green *Jacquinia armillaris* with the leaves whorled; the fruiting Tobago Sweet Lime (*Trichilia trifolia),* and the Yellow Poui (*Tabebuia chrysantha)* that was just losing its leaves. Trees of *Bourreria cumanensis* in fruit were observed; the thorny, finely pinnate legume *Piptadenia flava* in fruit also became quite common. We observed another bromeliad (*Aechmea aquilega*) that was growing terrestrially, and the epiphytic *Tillandsia flexuosa* that had dehisced seedpods.

Remnants of the cotton farming that used to take place on the island were evident by the occurrence of several fruiting Sea Island Cotton (*Gossypium sp.)* plants along the road. Other plants seen along the way included *Croton niveus,* with its leaves turning orange with the Dry Season conditions, and the Prickly Pear cactus (*Opuntia wentiana)*, and *Acanthocereus tetragonus* - the cactus with 3 ridges and liane-like habit. Mr. Johnson was very pleased to encounter along this road a flowering and fruiting specimen of the plant *Pithecellobium roseum,* with its red filaments and fruits very similar to *P. unguis-cati*. This is a possible new record for Chacachacare but is still to be confirmed. We stopped at the cool and scenic lookout with a view to the north of La Tinta and Venezuela's Paria Peninsula; a tall *Pilocereus languinosus* and *Agave evadens* growing on the cliff's edge completed the picture.

Some of the group stopped and had lunch at the Salt Pond under a large *C. odoratissima* with a clear view of the Salt Pond, which was created by the opening of a channel from the mangrove to the sea to flood the area with seawater to remedy a mosquito infestation on the island (deVerteuil 1993). The resulting increased saline conditions led to the formation of what is now known as the Salt Pond. At the Salt Pond we saw a Southern Rough-winged Swallow (*Stelgidopteryx ruficollis)* and a Bicoloured Conebill (*Conirostrum bicolor).* After lunch we went to the beach at Bande du Sud and observed more of the mangrove vegetation around the Salt Pond as well as the littoral vegetation on the beach. The plants seen included the Button Mangrove (*Conocarpus erectus),* which was in fruit; a large fruiting *Thespesia populnea*, Black Mangrove (*Avicennia germinans*) lining the Salt Pond with its pneumatophores; and *Laguncularia racemosa* with the waxy leaves and red leaf pedicels.

Some members were given a lesson in identification of the poisonous Manchineel (*Hippomane mancinella)* which were all along the beach, as well as the succulent *Sesuvium portulacastrum* of which some took a taste of the salty leaves and the grass *Sporobolus virginicus* that was growing on the sand along with more of the *O. wentiana* (Prickly Pear). Stephen had the pleasure of catching a Horsewhip snake (*Oxybelis aeneus)* which had excreted a very pungent waste product to ward off its attackers, making it a very smelly experience for all. The group discovered a pile of bird bones and feathers, which after investigation led to the consensus that it was possibly either those of a Brown Pelican (*Pelecanus occidentalis)* or a Black Vulture (*Coragyps atratus)* a number of which were seen overhead and in the area. The sea was quite rough at Bande du Sud and the rising tide made it difficult to remain on the beach, so we headed back to the La Tinta/Perriquier Bay jetty area for a swim and to meet the boat taxi.

The walk back was quite fast, however, the group made a few stops to take a closer look at several fruiting specimens of *Jacquinia armillaris* and the finely pinnate plant *Cesalpinia coriaria* in fruit with its fat pods. *Lochocarpus benthamianus* was also seen, dominating the upper story of the vegetation along the way to the jetty. At the end of the walk we all had a good soak in the lovely water at Perriquier Bay, with a Yellow Headed Caracara (*Milvago chimachima)* flying overhead. We also caught a glimpse of a Spotted Sandpiper (*Actitis macularia).*

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Plant identifications by Mr. Winston Johnson – Trinidad and Tobago National Herbarium

Bird identifications by Lester Doodnath

Herpetological identifications by Stephen Smith

To see more pictures of the vegetation of Chacachacare email: nichollaj@yahoo.com

FIELD TRIP REPORT

Chaguaramas – February 27, 2005

Jo-Anne Nina Sewlal

Twenty-three members attended this month's trip to Chaguaramas which departed from St. Mary's College at about 7.15 a.m. We took the Western Main Road to Chaguaramas. Turning into the Macqueripe Mail Road, we then travelled past the Edith Falls road, ending about 25m after the Arboretum.

Majestic stands of Bamboo (*Bamboo vulgaris*) sheltered the trail, evidence of a waterway nearby. The smooth nests of the termite *Nasutitermes ephratae* were seen on some bamboo stalks. Chaguaramas means "the Land of Palms" so named by the original Amerindian inhabitants because of the Royal Palms (*Roystonea oleracea*) that were once widespread in that area. But the only palm observed on this trip was the Roseau (*Bactris major*).

We were given a brief history of the area by tour guide Mervyn Alleyne from Chaguaramas Development Authority, at the start of the Covigne River trail. The trail goes through what was once an old estate, which grew coffee (*Coffee arabica*), cocoa (*Theobroma cacao*) and nutmeg (*Myristica fragrans*). During World War II the Americans set up a naval base in the area displacing many of the residents. About 25m from the start of the trail we saw a series of small manmade waterfalls. After which we stopped at a small nutmeg grove. This is maintained by the Trinidad and Tobago Regiment which used it for training and mock warfare exercises.

Both cocoa and coffee need lots of shade, which is usually provided by planting Poui (*Tabebuia* sp.) or Immortelle (*Erythrina poeppigiana*) (Hargreaves and Hargreaves 1965). The tree of choice on this plantation was the Immortelle usually planted on hilly areas to shade cocoa with its diffuse crown (Quesnel and Farrell 2000). Originally from South America, this deciduous tree has a prickly trunk and can reach a height of 25m (Quesnel and Farrell 2000). It has compound leaves formed by three almost triangular leaflets, the terminal one being the largest with an area of about 29 by 21cm. Its vermillion flowers carpeted the trail in patches. Its spines can be easily removed from the trunk and float like cork when placed in water. This quality makes the spines useful as floats when fishing.

Other trees seen along the trail were Crappo (*Carapa guianensis*) grown for its timber in the former plantation and Wild Chataigne (*Pachira insignis*). The latter is preferred by the cacao beetle, a pest of the cocoa, for the laying of their eggs. Thus fresh pieces of wood can be used to encourage these pests to lay their eggs which can later be destroyed (Quesnel and Farrell 2000). This may account for its presence on the estate. Breadfruit (*Artocarpus communis*) was grown on plantations because the large fruits would provide food for the slaves (Bourne et al 1993). It is also rich in carbohydrates and vitamins A, B and C (Bourne et al. 1993 and Hargreaves and Hargreaves 1965). Originally from the South Pacific it was brought to the Caribbean by Captain Bligh in 1793. St. Vincent's botanical gardens claim to grow a specimen from a sucker of one of Captain Bligh's original trees (Bourne et al. 1993). The mature fruits are spherical and have a green skin that resembles smooth round bumps (Bourne et al 1993). Breadfruit does not have seeds and is propagated by cuttings (Bourne et al 1993). It is often confused with the Breadnut or Chataigne, the seeded variety of *Artocarpus*. They can be distinguished from each other by their leaves, where the latter has leaves that are less deeply lobed and more hairy (Hargreaves and Hargreaves 1965). In addition to its edible fruit, *A. communis* contains white latex commonly called 'lagley.' When hard it can be used as chewing gum. It is also used as a trap to capture song birds. The 'lagley' is wrapped thinly around a piece of cocoyea so when a bird lands it sticks.

Remnants of the old plantation were still present by an old road that ran parallel to the river used to transport coffee via donkey cart. We also saw bridge supports made of flat stones stacked on top of each other. These bridges would criss cross the river at intervals.

A great amount of insect life was seen on this trip including butterflies such as the Morpho

(*Morpho peleides*), Postman (*Heliconius melponene*) which is only common in Trinidad and Tobago (Stiling 1986), and the Monarch (*Danaus lexippus*). The latter is a cosmopolitan species whose distribution includes North and South America, Australia and the East Indies (Stiling 1986). Strong migratory tendencies are displayed by this species in temperate countries but not in the tropics (Stiling 1986).

Spiders seen along the trail in the vegetation were *Azilia vachoni* and *Leucage* sp. (Tetragnathidae). A minute yellow spider of the family Theridiosomatidae was observed. It builds a small modified orb-web, characteristic of this family. The middle is held up with a tight thread to form a cone. When a prey gets caught, this thread is released and the web springs back entangling the prey (Levi and Levi 2002).

After about 1½ hours and crossing two water filled gorges with sheer rock walls on either side reaching over 4m, we reached Covigne Waterfall. Quite a magnificent sight with water pouring over sheer rock wall, this waterfall stands at about 4m high. But this was easily scaled with the aid of a rope. Our final destination was the Covigne Pool located about 3m above the waterfall. Scooped out from the rock this pool measured about 9m in diameter with a depth of about 2m in the middle. The trail eventually leads to Mount Destre.

We had lunch at the pool and some members opted for a quick dip. Clusters of bright orange-red flowers of the Cooperhoop or Mountain rose (*Brownea latifolia*) were seen on the banks of the river. This small, evergreen, understory tree can reach a height of 8m and is common in moist forests (Quesnel and Farrell 2000), which explains its presence on the banks. After lunch we were treated to slices of Mammee apple (*Mammea americana*) courtesy of Dan Jaggernauth. A native to the Caribbean, this large round fruit has brown skin and a sweet orange-red pulp which could be eaten raw or cooked (Hargreaves and Hargreaves 1965). Each fruit contains 2 to 4 large oblong, reddish-brown seeds. In Mexico the seeds and juice are used as insecticides (Hargreaves and Hargreaves 1965). The 2.5cm long fragrant white flowers are used in the French Caribbean in a liqueur called “Eau de Créole” or “Créme de Créole” (Hargreaves and Hargreaves 1965). Mervyn added that it is alleged that if one were to consume alcohol after eating it this would cause an upset stomach in both the light and heavy drinker.

On the way back, quite a few species of spiders were seen along the banks of the river building their webs on overhanging vegetation or under earth banks. Species included *Mesabolivar aurantiacus* (Pholcidae) and an unidentified species of the family Tetragnathidae. *Argiope* sp. (Araneidae) was also seen. These build an orb-web incorporating thick bands of silk into a pattern. This characteristic feature of the web is called a stabilimentum but it is sometimes omitted from the web (Kaston 1972). This species made three regularly spaced concentric circles radiating from the centre. The individuals of some species were seen minus their webs, such as one belonging to the family Pisauridae which was seen on the rocks lining the river. Members of this family can walk over water by spreading their legs radially. Another was *Micrathena* sp. (Araneidae). We ended our walk past an old ammunition bunker, a remnant of the American naval base. Afterwards, some members took a quick dip in one of the manmade waterfalls we had seen at the beginning of the trial.

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Spread of the Antiguan Anole *Anolis wattsi* Boulenger, 1894

Hans E. Boos

The exotic anole, *Anolis wattsi* Boulenger 1894, first noticed and collected by Graham White in 1992 in the Waterloo area, was identified and discovered to have come from the northern Antillean island of Antigua. (Boos 1996.)

Since then it has apparently spread quite dramatically (White 2003), being sighted and collected in Couva and Carapachaima. Saiyaad Ali has seen them as far down the western coast as Claxton Bay (Ali. 2005 pers. com.)

In the first week of August 2005, Dr. Feroze Omardeen called to tell me he had seen a strange lizard on the grounds of the newly constructed West Shore Medical Center. I went to the site on Saturday August 6, 2005 and Dr. Omardeen took me to show me where he had spotted the lizards. On the southern wall of the building I saw and photographed both a male and a female of *Anolis wattsi*, and also saw three juveniles on the low shrubbery and tree trunks between the building and the sea front.

It appears that these lizards are recent colonists to that site alone, probably coming in on the landscaping plants and trees, as a survey of the properties and sites both to the west and east of the West Shore Medical Center failed to find any sightings of this lizard. Only two specimens of the other well-established, introduced anolis, *Anolis aeneus* (Boos 1996) were seen in a housing area to the west of the site.

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SEEKING *NEPHILA CLAVIPES*

Christopher K. Starr

Nephila clavipes, commonly known as the golden orb-spider, is broadly distributed in this hemisphere from Florida down to northern Argentina. It is very distinctive, as the adult female is by far the largest of our spiders that make an orb web. She is mostly black and yellow, with a body about the size and shape of your little finger. You have certainly all seen it at one time or another.

My student Lena Dempewolf is interested in finding some *Nephila* for a study of comparative defensive tactics in orb-weaving spiders. Although this spider is usually found one at a time, it sometimes occurs in aggregations of several tens of individuals, the webs so densely together than some of them touch each other. Some of you may recall just such an aggregation that covered much of one wall of the main building at Simla a few years ago. In my experience, aggregations come and go, so that a report of one a year or more ago is unlikely to be of any use. However, if any of you has come upon a cluster of *Nephila* anywhere in Trinidad within about the last six months, we would be glad to hear from you. Other communally-weaving spiders are also of interest, but this is the one that we most want to find right now.

Christopher K. Starr
ckstarr99@hotmail.com

Plate 1

Delonix regia and old Catholic Church

Pilocereus languinosus

Pithecellobium unguis- cati

Bromelia humilis

Jacquinia armillaris

Plate 2

Trichilia trifolia

Bourreria cumanensis

Piptadenia flava

Opuntia wentiana

La Vina Bay and Agave evadens

Plate 3

Salt Pond

Avicennia germinans - pneumatophores

Hippomane mancinella

Oxybelis aeneus

Bird skull

Botany Group

Management Notices

TTFNC'S RESPONSIBILITY TO THE NATION'S STEWARDSHIP OF THE ENVIRONMENT

Volunteers needed… on important Environmental Issues. Please let us have your opinion. **Extract from the Vice President's article in January-March 2005 Quarterly Bulletin** – "Members who have views on this, particularly members willing to contribute their time and skills toward the cause they advocate, should contact the Management Committee and let them know what practical actions they feel should be taken toward this aspect of our club's objectives."

VOLUNTEERS TO WORK OUR BOOTH RE TRINIDAD AND TOBAGO ORCHID SOCIETY

"ORCHIDS – A FESTIVAL OF BLOOMS" October 1st and 2nd, 2005. Ambassador Hotel. St. James.

Your 2005 Annual Membership Fees are Due!!

A HOME FOR THE TTFNC

We are still seeking a permanent location to conduct our business and house our historic records and materials. Please contact the Management Team if you can be of assistance.

SPECIAL THANKS

TO **John Cooper,** for the donations of 2 publications to our Library.

- Studies on bird feeding stations in Trinidad and their potential for the spread of pathogenic organisms.
- Setting up a field project to study the Pawi (*Pipile pipile*) or Piping Guan in Trinidad's Northern Range – Final Report.

Publications

- The 2004 Issue of the Living World Journal has been published. Please collect your copy at the next monthly meeting.
- The 2nd Edition of the Native Trees of Trinidad and Tobago is available at TT$100.00 per copy.
- Issues of the *Living World Journal* from 1892—1896 are now available on CD.
- The Revised Trail Guide is due to be published by end-2005.

DONATION OF LIVING WORLD JOURNALS

At the monthly July 2005 meeting, the TTFNC presented a set of Living World Journals (1980-2004) to the EMA for their library.

TTFNC'S CONTRIBUTION ACKNOWLEDGED

Research Candidate, Suzanne R. Livingstone, of the University of Glasgow, U.K. acknowledged TTFNC's contribution on the Marine Turtles. You can see it online on Page 6 of http://www.seaturtle.org/mtn/PDF/MTN109.pdf

WELCOME NEW MEMBERS

Roland J. Roberts
Yvonne McLean-Roberts
Peter Melville

EACH ONE, BRING ONE

Members are encouraged to bring a friend or two to be part of our Club – their knowledge, talents and skills would be most welcome.

BOTANY TRIP

Erin Savannas Plates

October 16, 2004

Compiled by Jo-Anne Sewlal

Photos by Carlyse MacMillan

Briefing by Ramesh Bissoon
(Forestry Division)

Psychotria bracteocardia.

Bromeliad sp.

Hill overlooking Seegobin's quarry

Cont'd Page 15

Vanilla phaeantha

Olyra latifolia.

Rollinia exsucca

Group members enjoying a feast of watermelon courtesy of …

Dan Jaggernauth

ALEXANDER F. SKUTCH (1904-2004), PIONEER

Christopher K. Starr

Alexander Skutch was born in Baltimore, USA in 1904 and died in Costa Rica just a week before his 100th birthday. His long and very fruitful life has a number of important lessons for us.

As a young man, Skutch did his degrees at the local Johns Hopkins University, completing a PhD in Botany in 1928. He first visited the tropics as a graduate student, undertaking a project on the anatomy of the banana plant in Jamaica. He made several more research visits to various parts of the neotropics, especially Central America, before settling in Costa Rica in 1935. In 1941 he bought a substantial farm in the El General Valley on the Pacific side of Costa Rica, which remained his base for the rest of his very long and active life. The farm, which he named Los Cusingos after the orange-billed tucanillo, *Pteroglossus frantzii*, a forest bird, was about half primary forest and half secondary forest. It was plain from the beginning that he had come to stay, as he took the trouble to build a permanent house to serve as both a living and working space. Even as he based himself at Los Cusingos, he did not stay at home all the time. Even after settling in Costa Rica, he traveled extensively in Central and South America.

Although Skutch began as a botanist, he is legendary today as an ornithologist. From an early age he had a serious interest in birds, and about the time he completed his PhD we see a decided shift in his scientific attention. The key event appears to have been his reading of Robert Ridgway's *The Birds of North and Middle America*, which illustrated a striking disparity in our knowledge of birds. At that time the birds of the neotropics were already well known at a faunistic level. That is, most of them had been collected, described and classified. In contrast, Ridgway could say almost nothing about nesting habits of tropical species. These were simply unknown. Out of this disparity arose Skutch's lifelong mission to describe the nests and breeding habits of neotropical birds.

It was a strikingly successful mission. He found 218 bird species in the El General Valley and was able to discover the nests of 90 of the species that breed there. Through single-minded, relentless attention, he worked out the life habits of almost 300 species in Costa Rica and elsewhere. This great mass of new facts gave rise to the general pattern that reproduction tends to take longer in neotropical birds than in closely related temperate species, including the processes of incubation and fledging. It is not too much to say that he brought our understanding of neotropical bird life to an entirely new level.

However, Skutch's single most original contribution to bird biology relied upon a deeper cause than a mass of new facts. He very much relucted to kill animals, even in the service of science. As far as I am aware, he rarely collected voucher specimens for his field studies, preferring instead to go to the considerable trouble of recording the detail necessary to satisfy his peers that the species in question was what he said it was. This policy arose out of a philosophical tendency more in harmony with the Buddhist and Hindu than with the Judeo-Christian tradition. He thought and wrote a great deal about relationships among organisms and the struggle for existence, and it seems to me that he was never quite satisfied with his own conclusions. Not surprisingly, he was a vegetarian throughout adult life.

This tendency to find harmony in wild nature prepared his mind for a set of observations that most of us meat-eating, conflict-emphasizing naturalists would certainly have overlooked. Soon after his arrival in Costa Rica, he published (1935) observations of several species that showed that offspring may delay nesting on their own and instead spend their first period of adulthood assisting their parents to rear further offspring, their own siblings. This arose out of his observation of a family of house wrens (*Troglodytes aedon*) that nested conveniently right in his house. This species (or group of very closely-related species) is found virtually throughout this hemisphere and had already been extensively studied elsewhere, yet the phenomenon of such "helpers at the nest" had not been reported from it before. It seems plain that it had not been reported because ornithologists were unprepared for something so strikingly inconsistent with darwinian expectations. It is now known to be widespread in birds, as seen in Skutch's (1987a) book-length survey half a century later.

His research papers on birds amounted to about 120, mostly in North American ornithology journals. The first of these (1930) clearly shows the focus that would dominate his long life. It came at a time when he already had a creditable research record in botany, and he continued to publish original data on plants, but already in the 1930s this was plainly a sideline. Even so, he was evidently highly regarded as a botanist and collector of plants, as the trees *Inga skutchii* and *Quercus skutchii* and 41 other plants are named after him.

How, then, did Skutch earn a living? Even the most dedicated naturalist cannot live off air and data. It should be noted that when he first undertook his life's work support for tropical ornithology came mostly from museums, which is to say that one could earn by collecting specimens. This avenue was closed to someone of Skutch's inclinations, and I doubt that all of those books listed below earned him much. Instead, he lived inexpensively, grew his own (vegetarian) food, and earned money with occasional botanical jobs for museums and agricultural companies. As far as I know, economic considerations never threw his way of life into question. His wife, Pamela Lankester, shared his interests and appears to have been perfectly content to live as he did. By all indications, Alexander Skutch's long and very productive life was also an extremely happy one.

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BOOK REVIEW

COMING OF AGE

Christopher Starr

The flourishing discipline of the history of science embraces a host of specialized sub-disciplines, each focusing on a particular time period or area of science. These develop at different rates, so that the history of quantum physics, for example, is very mature, while the history of ethology (study of animal behaviour) has hardly even begun.

Until about 20 years ago, the history of ecology barely existed as a serious scholarly inquiry. This has now changed markedly. A number of recent books explore in depth various aspects of the history of ecology. There were, in fact, several earlier treatments, including at least two general histories of ecology, but they were all decidedly superficial -- even amateurish -- in comparison with the new scholarship.

My purpose here is simply to make a few remarks on these books, in hopes that some naturalists will be stimulated to take a look inside some of them.

Donald Worster's *Nature's Economy* first appeared in 1977. It is by far the broadest-ranging of the books treated here, taking as its scope all of ecology. It is now, however, a general history of ecology but, as the subtitle indicates, of *ecological ideas.* Beginning in the 18th century Enlightenment, its greatest focus is on the 20th century and questions of environmental morality and ethics. This is a hefty tome, but I think many naturalists will find that it speaks eloquently of the history of your present concerns.

I have not seen Worster's *The Wealth of Nature*, which the publisher describes as a collection of 16 essays in which he "examines the interaction of humanity and the environment, and the history this relationship has produced."

Sharon Kingsland's *Modeling Nature*, which first appeared in 1985, is probably the best known of these books. The fact that it is now in its second edition attests to its impact. This deals with four broad controversies in ecology from about 1920-1970. This is the period in which population ecology developed as a highly mathematical discipline. This should not, however, suggest that Kingsland's treatment lacks the human touch. Far from it. She presents photographic and written portraits of the main players that show the very human side of these intellectual struggles.

Gregg Mitman's *The State of Nature* covers a similar period and likewise focuses on the USA, but there the similarity ends. This is a history of the Chicago school of ecology, with a focus on the interplay between ecology and social questions. The only individual who figures prominently in both Kingsland's and Mitman's books is Raymond Pearl.

Peter Crowcroft likewise covers a particular institution, in this case an even narrower one. *Elton's Ecologists* is the history of Britain's Bureau of Animal Population from its foundation by Charles Elton in 1932 until it faded with his retirement in 1967. One must be careful about institutional history, as most of it is both deadly dull and quite pointless. It is legitimate, however, when the history of the institution is tightly bound up with the wider purposes that it serves. Such is the case with the Bureau of Animal Population, which had a key role in animal ecology during its formative years.

In *An Entangled Bank*, J.B. Hagen takes an approach roughly analogous to Kingsland in treating a different area within ecology. Not surprisingly, there is some interesting overlap with Frank Golley's more narrowly focused book on the history of the ecosystem concept. It is worth noting that Golley is the only practising ecologist among these authors, the others all -- as far as I am aware -- being professional historians. This, in itself, is an indication of the sudden maturity that the history of ecology has reached, as it has now passed out of the hands of practitioners in the discipline to those whose training has been in history itself.

Neil Evernden's book is not exactly about the history of ecology, but it deals with a key underpinning of ecology, our concept of nature. In *The Social Creation of Nature*, Evernden shows that there was a time when one could not very well do ecology, because nature -- or rather Nature -- did not exist as something definable in our consciousness, and how this came to change. From there he takes up controversies about exactly what Nature is and is not.

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AN ENTOMOLOGICAL TOUR DE FRANCE

Jean-Henri Fabre (1823-1915) spent almost all of his long and fruitful life in the Provence region of southern France. He was by profession a teacher and textbook writer, but his fame rests on extensive, painstaking studies of the insects and arachnids that he found around him. He reported his findings in a series of 10 volumes titled simply *Souvenirs Entomologiques* (Entomological Remembrances), published between 1879 and 1907. The mainstay of these volumes is solitary aculeates (wasps and bees) and beetles, each group being the topic of about 1/3 of the total chapters.

Although they were written for a broad readership, the *Souvenirs Entomologiques* were based on original research and presented a substantial number of important new discoveries on life cycles and especially behaviour. Fabre is generally regarded as the father of invertebrate ethology. In France he is probably known, to one degree or another, to every educated person, and in much of Provence he is a celebrity. The other country in which he enjoys an outstanding popularity and recognition is Japan. We are informed that he is known to a large majority of Japanese adults.

Fabre spent the last 36 years of his life outside of the village of Sérignan-du-Côtat, near Orange in the department of Vaucluse, where he and his large family occupied a house on about one hectare, known as his Harmas. The Harmas -- a provençal word, meaning a dry, infertile piece of ground -- is now a public museum.

We have both been fervent admirers of Fabre for decades, and some years ago we made a pact to visit the Harmas together one day. To call such a visit a "pilgrimage" is no exaggeration. After considerable delay and planning, that day finally came in July 2002. Accompanied by the young Francis A. Starr, we undertook a motoring tour of southern France, visiting not just the Harmas but other sites of related entomological interest.

The time is especially apt for such a pilgrimage. After some decades of variable but generally declining interest, Fabre's work has recently undergone a resurgence in attention. This is seen in a substantial conference about him to take place in October of this year, and a number of serious new books, most notably those of Autié & Astorg (1999), Cambefort (1999), and Tort (2002). The first is a fascinating examination of his life and work through a study of his many consecutive dwellings. The second is the first thorough review of his published work as a whole. The third, by a philosopher, is an attack, undoubtedly provoked by Fabre's renewed popularity. This has given rise to a public debate, in which Yves Cambefort, entomologist at the National Museum of Natural History in Paris, has been the foremost of Fabre's several defenders.

It bears mentioning that something of the sort has happened once before. The ethologist Etienne Rabaud (1924) prefaced his scientific frontal attack on Fabre with an expression of astonishment that the "great man" continued to enjoy a large measure of public esteem. As one of us has said elsewhere (Starr 1986), "His object was nothing less than to dispute every single point in Fabre's favour and to set the number of his significant scientific advances at precisely zero." Rabaud's attack, while clever and stimulating, made little impact in the end. It remains to be seen how things will turn out in the present case.

Our first stop of note was the Cité des Insectes (Insect City) outside the village of Nedde, Haute-Vienne. This is a sizable set of displays about land arthropods within a large building. It is very eclectic in its techniques, employing a variety of captioned pictures, posters, models, dead specimens (including some under microscopes), beekeeping apparatus and products, audio tapes of insect sounds, and an appreciable number of live displays. Among the latter, the best is perhaps a colony of wood ants (*Formica rufa* or related), set up to let the visitor see as much as possible. The overall approach seems to be to make use of whatever is available and works. Not all displays were in good condition when we visited. Still, one is mindful of the difficulties of maintaining a large number of displays in order, and there is plenty to see (and hear), so one does not complain.

The Cité des Insectes is consciously and explicitly directed toward public education, and only secondarily toward entertainment, so that there is a righteous mixture of information about bugs and ecological lessons.

In addition to touring the museum, we were fortunate to have an extensive talk with the founder and director, Mike Evans. He told us of the purpose, history and present situation of the Cité des Insectes. It is a constant struggle to keep this non-profit museum economically viable. Although it is well situated on a farm in a very picturesque landscape, it is remote from any population center and not entirely easy to find, so that the number of paying visitors is well below capacity. Unless public or corporate sponsorship is to be found, there is no obvious answer to this problem.

We next turned to another public museum quite different in orientation and style. Micropolis is situated in Fabre's natal village of Saint-Léons de Lévézou, Aveyron. It is a large, physically magnificent, publicly-financed establishment, with a wealth of elegantly

formed exhibits. The use of video is especially effective, with various aspects of insect and arachnid life shown up close in some very fine shots. There is a good variety of live displays, including a colony of *Formica rufa*. The ostensible unifying theme of this large exhibition is the explorations of Jean-Henri Fabre, but this is abandoned very early.

Some of the displays are arguably too elegant, as the fancy, high-tech medium seems to distract from the relatively simple message. This relates to an overall major short-coming of Micropolis. Looking past the fine building and very modern techniques, the overall tone is distinctly soft-core in comparison with the Cité des Insectes. A comment in an entomological bulletin (Bocquillon 2000) characterizes the entire enterprise as a "deception". We we find this a bit harsh, but the approach to public education leaves much to be desired. This relates to the general problem of education and entertainment. Micropolis has a great deal of “gee-whiz” and “tee-hee” (some of the latter is little better than disneyfication), but it is questionable how much scientific information is conveyed for such a huge investment. However, we acknowledge that there is a good survey of the various aspects of the relationship between insects and humans, with inspiration drawn from the admirable film *Microcosmos* (Nuridsany & Perrennou 1995).

The explanatory plaques throughout the museum illustrate this problem well. The management of Micropolis, like that of many zoos, appears not to have caught on to a fundamental fact of print explanations, which is that they are very well suited to contain a substantial mass of words. Unlike with audio or video, the people can simply skip over the parts of little interest. One would expect scientific names to be a standard part of all plaques, yet they are used very sparingly. An audio guide to the various parts of the museum is conveniently available in French and English, but it has a very juvenile, simplistic approach, as if the lives of bugs are of no interest to adults and serious-minded people.

Also in Saint-Léons, we were privileged to visit Fabre's natal house, l'Oustal, now enriched by a small, intense museum. There is a fine display of books by and about Fabre in several languages, and one of us was pleased to autograph his chapter (Starr 1986) in one of them. We had a long, rich discussion with Marie-Lise Tichit, director of the museum and president of the Amis de Jean-Henri Fabre, a local amateur entomological society.

Aveyron and neighbouring departments are a favoured location for hiking and nature walks, and a map of a suggested walking tour of Saint-Léons is readily available. We were pleased to take a stroll through this extremely picturesque village and to take the botanical walk in the immediate environs. For men of our persuasion, it was a real thrill to tread some of the paths that the young Fabre must surely have known. In the French fashion, there are informative historical plaques at various points in the village, and many trees are identified on the botanical walk.

For us, the high point of this walking tour was the Jardin du Perce-Oreille (Earwig Garden) outside of the village. This very instructive insect garden demonstrates various ways to encourage and cultivate different insects in an ordinary garden, with emphasis on those studied in this region by Fabre. The fact that the garden appears to have been set up at virtually no economic cost and little labour is instructive in itself. The explanatory plaques include relevant quotations from our beloved Fabre, which makes the entire undertaking all the more righteous.

It was our good fortune that the municipal museum in the small city of Millau, Aveyron at that time had a special exhibit on Fabre. And an impressive exhibit it was, consisting of a wide variety of photographs, books and documents, of many of which we had never heard. Included in these were several autograph letters to and from Fabre. It is fair to say that the book displays are at this moment the most extensive on the subject anywhere in the world.

After Millau, we approached the high point of the entire tour. Coming over a rise before the city of Orange, Vaucluse, we saw in the distance the lofty Mt Ventoux, a locality that looms large in Fabre's legend. We planned to drive up it the next day, but we were told that it would be closed to traffic on account of the Tour de France bicycle race. Much as we love France, we sometimes have misgivings about national priorities.

In Orange we met Paule Rassat, the grand old lady of Fabre studies and founder of the Fabrianistes society. Mrs Rassat was our guide to various points of interest in the area, including the village of Sérignan. She also took us to meet Pierre Stoyanovitch on his farm just outside of Orange. Mr Stoyanovitch is an entomologist specializing in Lepidoptera, Fabre's great-grandson and a scholarly upholder of his ancestor's legacy. That evening we sat and talked at top speed with Mrs Rassat about Fabre and just about everything else that we could imagine.

The entomologist L.O. Howard (1922) had made a pilgrimage to Fabre's Harmas 80 years before, and we were eager to follow his example. Sérignan has expanded since Fabre's time, so that the Harmas would no longer be considered outside the village. The substantial house is surrounded by a tall wall, so that the place is really a compound. We knew that the Harmas was closed to the public

for renovations and would remain closed for about another two years, but charm can move mountains, and who could possibly refuse admittance to two such stalwarts who had come so far to walk the grounds? The caretaker, that's who. We got her attention by way of one of the workmen and put the case to her. She said no. Just like that. Recovering from our astonishment, we pointed out that we just wanted to take a stroll and were, after all, far from being casual tourists, but Mrs S. would not be budged. She was polite, amiable, and unbending. It was a most flabbergasting experience.

While in Sérignan, we took the opportunity to pay our respects at the Fabre family grave nearby, one of the few in the village cemetery without a cross atop it. Although he was a believer, Fabre had little use for organized religion. The large gravestone is remarkably simple, inscribed only with the legend "Family of J.H. Fabre" and a pair of terse quotations in Latin. After a very pleasant wandering on the outskirts, we went into the center of the village to visit a life-size statue of Fabre erected in 1924, the year that the government acquired the Harmas.

As in any itinerary in which not all is locked in place in advance, some desired things do not happen. Our failure to penetrate the grounds of the Harmas was the outstanding disappointment, and one does not forgive what the autorities did to Mt Ventoux. In addition, we were unable to meet Dr Cambefort, who was to leave the country just a few hours before our return to Paris. Still, all in all, our efforts were richly rewarded. We cannot even complain that we failed to visit a single waterfall during the entire tour.

In the course of our wanderings, we of course had opportunities to observe wild bugs. Our most striking observation has to do with something we did not see. We came upon few social wasps, and in particular for several days we saw no *Polistes*, Jack Spaniards. Several species are known from France, including the south, and much of the countryside that we visited seemed well suited to maintain large populations. Productive farmland with a moderate climate, diverse vegetation and plenty of good nest sites, what more could Jack Spaniards want? Furthermore, the nests are very resistent to decay and can persist for years, yet we found just one old nest and no more than half a dozen individual wasps. If this had been Ohio, for example, almost every barn and farm house would have been richly festooned with old nests and live colonies. This little puzzle illustrates how far we are from understanding just what the necessary conditions are for even some very familiar sorts of invertebrate animals. It is as if we know the requirements that are analogous to basic food and shelter but have little idea of the environmental "vitamins".

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FABRE'S *SOUVENIRS ENTOMOLOGIQUES* IN ENGLISH

Around the end of his Jean-Henri Fabre's life, the chapters from the ten volumes of the *Souvenirs Entomologiques* were very ably translated into English by Alexander Texeira de Mattos and re-grouped into volumes with more unitary subject matter than in the original. These were published simultaneously by Dodd, Mead in New York and Hodder & Stoughton in London. Despite having been long out of print, many of these volumes are still to be found in institutional and private libraries. Below is a list. Those marked [PG] are available from Project Gutenberg, http://www.ibiblio.org/gutenberg/, as is G.V. Legros's biography, *Fabre, Poet of Science*.

The Life of the Spider. 1912. [PG]
The Life of the Fly. 1913. [PG]
The Mason Bees. 1914. [PG]
Bramble-Bees and Others. 1915. [PG]
The Hunting Wasps. 1915.
More Hunting Wasps. 1915. [PG]
The Life of the Caterpillar. 1916.
The Life of the Grasshopper. 1917.
The Glow-Worm and Other Beetles. 1919.
The Mason-Wasps. 1919.
The Life of the Weevil. 1922.
More Beetles. 1922.

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At the same time, it was a relatively solitary existence. The El General Valley was sparsely populated, and Skutch's neighbours were all peasants, so that he had very little opportunity talk with anyone but his wife about matters other than crops and what goes with them. It is noteworthy, then, that already as a graduate student he had found himself able to live and work for long periods in solitude.

I'll tell you what. If you behave yourselves, I will favour you with a review of one of Skutch's naturalist-in books before too too long. Of course, if someone else feels moved to write it, please do. The "Naturalist-in" series is not to be regarded as my personal property.

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Corrections to Q1 Bulletin, 2005

Article: "A Snake in the Bedroom". By Christopher Starr.
In paragraph 5 the correct spelling of the genus in the third to last line is 'Hemidactylus.'

Editor's Note

Guidelines for Articles:
Font Type: Times New Roman. Font size: 12 point. Maximum Length : 1,750 words (approx. 3 pages). Unformatted.

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The deadline for submission of articles for the 3rd Quarter 2005 issue of the Bulletin is Sept. 1, 2005