

JACK R. HARLAN EXP. SUMMARY NO. 7: NOV 1, 1969-JAN 13, 70 (2 ½ MONTHS)
EAST AFRICA: EGYPT, SUDAN, UGANDA, KENYA, ETHIOPIA, EUROPE

SUMMARY EXP. No. 7 (East Africa – Nov. 1, 1969 – Jan. 15, 1970: 2 ½ months) Narr.

INDEX TO CITIES VISITED ON EXP. NO. 7

Champaign to London (Nov. 1-2: 1 day)

London (Nov. 2-7: 5 days)

Egypt (Nov. 7-9: 2 days)

Sudan (Nov. 9-14: 5 days)

Uganda (Nov. 14-26: 12 days)

Kenya (Nov. 26 – Dec. 11, 1969: 15 days)

Ethiopia (Dec. 11, 1969-Jan. 6, 1970: 26 days)

Europe (Jan. 7-13: 7 days)

Puerto Rico (Jan. 13-15: 2 days)

Total Days: 76

This was to be the third phase of what I have called the African Trilogy. For Jack Harlan the pace of expeditions was picking up. Expeditions 5, 6 & 7 were all to Africa. Exp # 5 was to West Africa, November 24, 1967 through March 13, 1968 (3 months and 19 days); followed, 6 months and 7 days, later by an expedition which began in East Africa and swept across the savanna to West Africa and lasted from September 20 through December 22, 1968 (3 months & 2 days). The third and final phase, after a break of less than a year, Expedition # 7, was to be concentrated in East Africa. It ran from November 1, 1969 through January 13, 1970 – a total of 2 1/2 months. From the beginning of the trilogy to its end Jack Harlan was away from home one third of the time.

Expedition No. 7: East Africa

After about 11 months home after the African sweep (Exp. # 6) Harlan set out again. This time the objective was East Africa. Towards the middle of the previous expedition (See journal for October 28, 1968) he had speculated that the center of origin for Sorghum might lie in East Africa. When he got this revelation, he was already finished with the East African phase of that expedition. He was in Nigeria and when he was making his evening journal entry for October 28, 1968 he just – out of the blue – asked himself: “Is sorghum East African?” He had spent the previous five days at the herbarium at the Institute for Agricultural research (IAR), in Samaru, Nigeria. He took notes from the herbarium directly into his journal, but then on Oct. 25 through 27 there are no dates. There are no any pages missing. What he did was he spent those days in the herbarium taking notes in his journal and did not enter any dates; but he entered the herbarium on Oct. 24 and emerged on Oct. 28 with the question: “Is sorghum East African?” When he got back home, or before that, he began to adjust his schedule to return again,

as soon as humanly possible to East Africa to look for the origin of domestication for the No. 4 world crop: Sorghum.

London (Nov. 2-7: 5 days)

Jack Harlan flew out of Champaign, Illinois on November 1 and arrived in London November 2. He spent some 4 days in the Kew. He is 52 years old. He worked on Cynodons at the Kew for two days and sorghums for two days. Since he does not mention Cynodon on this expedition, he must have done this work to try to clean up some questions he had from his previous work on them. Therefore, having finished his preparation Harlan took public transport to the airport on November 7 and boarded Japan Airlines to Frankfurt, Rome and then Cairo.

Egypt (November 7-9, 2 days)

On November 8 Harlan toured the museum in Cairo, met the curator and was able to access every part of the museum. Then on the ninth of November he toured Cairo. The next day he packed up and departed for Khartoum, the Sudan.

Sudan (November 10-15, 1968: 6 days). He had been to Sudan the previous year but he was collecting millet and sorghum. There was little rice in this part of Africa. On this expedition his target had been narrowed to sorghum. He arrived in Khartoum, the capital of Sudan on the morning of Monday, November 10, 1969. The following was transcribed from Harlan's journal:

“Mon Nov 10: To Khartoum: Dawn spectacular with two planets¹ one over Venus & brilliant yellow horizon & the plane turned lavender for some reason.”

The first place Jack Harlan visited was the Herbarium at the University of Khartoum. After that he writes: “Hiked from University to Hotel – farther than I had remembered from last year & took about 40 minutes. Beer, lunch & sack out. Trip is shaping up thanks to Ali Kambal². We shall see.”

He finally left, with Ali Kambal and some others, on his first Sudan sorghum exploration about 2 pm Tuesday, November 11. They traveled in a southeasterly direction along the Blue Nile, then veering off to the east toward EL Gadarif (Al Qadarif) and the Simsim mechanized farming project³. Harlan reports: “Very, very flat country with flat-topped trees, overgrazed & small villages for miles & miles. Touched the Blue Nile from time to time & there was green & crops & larger villages. A sugarcane scheme that isn't doing too well. Cane is thin. Then southeast & ruts got deep & sorghum more common & taller as

¹ The other planet was Jupiter. Harlan could not see it, but Mars was between Venus and Jupiter.

² Harlan met Dr. Kambal on his previous visit in 1967. Dr. Ali E. KAMBAL, (aka Ali Alkhidir Kambal), was a young Professor with the University of Khartoum, where he worked from 1958 to 1979 in various positions, including Dean of Faculty of Agriculture and Head of the Department of Agricultural Botany; he was afterward an agricultural advisor in Yemen, Pakistan and Somalia.

³ According to “Canada in Sudan: War without Borders”, 2009 by Peter Pigott, Canada was responsible for the Simsim project. This is verified by Nicholas Coghlan, in “Far in the Waste Sudan: On Assignment in Africa”, 2005

we went. Finally, dark & some jackals, a tea break, bread & cheese break, great expanses of grassland in the headlights, more jackals, more grass & finally lights in the distance. Gadarif; 1st day of Ramadan & I fasted⁴ with the boys. The hotel food had given me a stomach ache. Stars incredible brilliant at night. Could see spiral nebula of Andromeda without, and other than, my glasses (binoculars). Arrived ca 12:00 midnight.”

Wed Nov 12⁵: “Up at 6:00 waited. Tea; Ali had none. As it was after sunrise. Waited. About 9:15 finally off in a Mr. Walsh (N.M.)’s land rover. He is UN planning officer for the Simsim Project. The “Simsim Mechanized Farming Project” was one of 8 projects in Sudan conducted to test out different aspects involved with turning Sudan into the breadbasket for the Middle East and Africa. The locals were to provide transportation that day, but the driver didn’t want to go, because of Ramadan. Harlan noted that “Sorghum fields here have a different combination of characters than I have seen before.” He then goes on to say what he thought was going on with the crossing of the cultivated forms with wild and weedy forms of sorghum.

He, Ali Kambal and some others, left on Harlan’s first Sudan sorghum exploration about 2 pm Tuesday, November 11. They traveled in a southeasterly direction along the Blue Nile, then veering off to the east towards EL Gadarif (Al Qadarif) and the Simsim mechanized farming project. Sudan has long been considered a potential and underutilized “breadbasket” for Africa. Although first proposed in 1963, the full Simsim project only became operational in 1969. The purpose of the project was to explore the effectiveness of modern mechanized farming techniques in Sudan. Sudan has a huge amount of fertile clay soil and adequate rainfall, let alone access to the Nile River for irrigation purposes. The Simsim Project was started by Canada⁶ with a loan from the World Bank. Over the years the Simsim project has been plagued by a number of difficulties, not the least of which is the fact that the Sudanese government claims ownership to all the available land. People or countries may lease tracts of land but they have to pay the government a certain amount each year. This is similar to the system of “sharecropping” suffered by ex-slave in America after the Civil War. Another difficulty suffered by the Simsim project was the rain cycle. The heavy rainy season tends to saturate the soils with water, making it very difficult to plow. During the dry season the soils are too hard to plow. So, the plowing and sewing need to take place soon after the end of the rainy season.

Harlan collected a few sorghums & a little millet seeds. At Simsim he left Ali with friends and he and Walsh toured the project. Harlan noted later: “The wild S. up to 15’ tall in wadi bottoms only. Much wild X cult monkey business.”⁷ Came back ca 2:00 for beers & lunch⁸. “Worked on collection through

⁴ The Ramadan fast is a strict prohibition of letting any kind of food or drink pass the participant’s mouth from sunrise to sundown every day during the Muslim month of Ramadan. This year’s Ramadan began on November 11 and ended December 10.

⁵ This entry (Nov. 12) corrected and edited by Adi Damania, 11-14-13

⁶ According to “Canada in Sudan: War without Borders”, 2009 by Peter Pigott, Canada was responsible for the Simsim project. This is verified by Nicholas Coghlan, in “Far in the Waste Sudan: On Assignment in Africa”, 2005.

⁷ According to a report on Simsim, in 1969 (the first year of the project) cotton was the main crop; however, there was some sorghum. See: <http://archive.unu.edu/unupress/unupbooks/80042e/80042E04.htm>, Table 2.

⁸ Note: Walsh is not a Muslim, so he and Jack can indulge during daylight hours during Ramadan.

heat of the day, then more beers, and next door to a 'Ramadan breakfast' at 5:30, after the sun went down. The Indian food was only so-so. Then another beer & a whisky while waiting for the car to come with Ali." It eventually came and they were finally off. Back at Gadaref about 10:00 they had to eat again at the home of a friend of Ali's. "To bed after 11:00, tired, but late meal did not set well & mosquitoes gave me fits. Not much sleep." The Ramadan schedule takes a little while to get use to.

On Thursday, November 13 the group was off again. This time going to the northeast. Harlan wrote, "The land is like a table & wadis may be 20 miles or more apart. Sorghum is a dominant grass all over here – at first rather good [thornbush savanna](#), later the trees dropped out & solid stands of S. for mile after mile as far as the eye can see ... the general picture held all the way to Kassala". He was now in the heart of sorghum country. There were cultivated, wild and weedy forms everywhere. Could this be the area of origin of domestication for sorghum? "Got to Kassala a little after 12:00 & I broke fast enough to have 1 Pepsi cola, 1 Fanta, and 1 Camel beer. Ali & driver staunchly stuck to Ramadan. Back we went & across the length of the Kassala irrigation project." They made several stops to investigate interesting varieties. "Made only one collection because it was important to get out of project before sundown – roads & canals too complex to negotiate at night – bad enough in daylight. We made it & emerged on the Botan Plains where all vegetation was removed by nomads. Sundown & welcome water!" Later he writes: "On we went through the dark. Got lost a little & drove the wrong way for a while. The driver & I both noticed about the same time. I was watching the stars which are fantastic in Sudanese nights & should have picked this up sooner. Anyway, we finally made Khartoum & I checked in about 1:30 am." Jack Harlan was an amateur astronomer. Back in Stillwater he had made his own 6-inch reflector telescope and his son, Harry, was absolutely fascinated at what they could see. Actually, they could not see much because the magnified stars and planets raced past the field of view too fast to enjoy. Dr. Harlan never could get the telescope to move in the right way to compensate for the rotation of the earth. At any rate, looking at stars with a telescope or binoculars is a far cry from navigating by the stars in a strange country. This author does not understand how he was able to do that. He had done the same thing on a moving train in 1964.

November 14 and back in Khartoum at the Sudan Hotel, Harlan is still struggling with the Ramadan discipline. "At Sudan Hotel – nothing to eat since 11:00 the night before – but I cheated on the fluids. This author does not know if this story goes here, but in a 1996 taped conversation Jack Harlan told this author: Ramadan can be "a tremendous ordeal in full summertime. This was November and it wasn't that hot and it was more endurable. But it was still a trial. And something of a trial for me. They didn't stop where you could get a beverage. Beverages were rather ... what they call a restaurant - where I managed to get a bottle of beer delivered under the table wrapped up in newspaper by a little kid, couldn't have been more than 12. He understood the situation and delivered the bottle. It was opened under the table and facetiously consumed. On another day I managed to get a soft drink somehow but it was not easy for any of us."⁹ Going back to the Journal: "Ramadan can be rough! Nineteen ½ hours on the road – and what roads! Three of us in the cab of a small truck. It takes patience, endurance + stupidity, but it was a good day. I learned something. Too tired to sleep well. Got up at 7:00, breakfast

⁹Wait! I thought that if you were traveling you were excused from the Ramadan fast. HVH2

at 8:00¹⁰ & the first food in 34 hours. Walked up town to get a map & instead got exactly the same run around I got last year. Khartoum Bookshop said they were out; go to Sudan Travel Agency; they said they don't have maps; go to Survey Dept. tomorrow. I did that last year & they don't have them either. Around the Oasis hotel. It has no sign on it in English but the locals call it Funduk al Naliah. It does look nice and next time, if any, I'll try it. Cab back to Sudan (Hotel). Wrote letters, packed, fussed like an old hen. Lunch & then sack out, but not for long." Aside from another Ramadan Breakfast that evening, including some interesting sorghum dishes, his brief excursion into Sudan, 1969 was over. The next day, he set off for Uganda.

Uganda (Nov. 15-26: 11 days) (9/1/16 now at 3 pages, need to get it down to four paragraphs)

Harlan will go on 7 different side-trips on different routes in Uganda. He is collecting Sorghum, Millet, pigeonpea and whatever shows up. He had come to believe that the center of origin for sorghum can be found in East Africa. It is his mission to find it if it is there. The following is from his travel notes, flying over Uganda:

"A vast region of hardly any settlement. Surprisingly few trees – endless rolling grassland of few roads, a few clusters of houses near them & endless nothing, empty, empty, empty. Wonder why? Is this a real barrier? Finally nearing Lake Victoria evidence of considerable population, but the agriculture here is tropical in aspect. Home gardens, well separated from the cereal culture of the north." At the Kampala airport he picked up a message from Hogett with instructions. He followed them & arrived at the Mekere College¹¹ guest house and there he found a message from (Ken) Rachie¹², saying that he would meet him in the evening. Rachie came that evening and they toured the farm and saw his work ***"with pigeonpea, pearl millet X P. purpureum¹³ crosses, campens, maize & etc."*** After the tour they met Collin Leakey, a son of Louis Leakey, the great archeologist who had been uncovering very ancient human ancestors in East Africa. Harlan saw Colin's bean breeding. ***The Rachies then fed me, gin & tonic made of local waragi (banana base). Delicious & then took me out to an Italian restaurant. All very nice & back to rest house 10:ish."*** He flew to Kampala, Uganda on Saturday, November 15 and stayed at a guest house at the Mekere College. A man named Rachi met him there that evening and they toured the facility. The next day P. G. Davis picked him up and they drove to the home of Dr. Leroy Peters in Serere. There he met David Andrews. The next day, Monday, November 17, he saw Andrews again briefly and Dean Barry. They left Serere about 9 AM and drove to Chobe in Murchison Falls National Park, where they found lodging in the - well, in the lodge. He wrote in his journal, ***"The pattern consistent the whole way – S. vert¹⁴ scattered & in small stands the entire route. Not much sorghum, but most field show effects of S. vert. F1's & backcrosses to cult more or less identifiable. Not much else & very different from Sudan. The pattern uniform. Entered the Nat'l Park***

¹⁰ He is now off the Ramadan fast, being on his own back in Khartoum.

¹¹ Makerere College Kampala, Uganda

¹² Ken Rachie, a plant breeder working for the Rockefeller Foundation. He served in several countries in his career.

¹³ Pennisetum purpureum also known as Napier grass (Wikipedia)

¹⁴ "S. vert." stands for *Sorghum verticillatum* Kuntze (a wild relative of cultivated *Sorghum bicolor*) Adi Damania, personal email.

& drove slowly to lodge. Saw buffalo, giraffe, wart hogs, baboons, antelope (prob. Kob), vulture nests, turtle, etc. Settled at lodge & worked up specimens. Took short ride in dusk. One group of >50 elephants & many others & took photos in fading light. On return the herd was crossing road & we treated them with respect. One threatened us twice & we gave way. Many small ones. Back for a shower, working up notes, etc. A good day, but I wonder why Hugh Doggett is at Serene – this is NOT a sorghum belt.”

On Tuesday, November 18 Harlan sets out from the National Park on his first side trip in Uganda, collecting along the way and searching for some kind of center of origin or center of diversity for sorghum. Route: Starting at Murchison Falls Nat'l Park, near the northern tip of Lake Albert and traveling to the north and east. This trip covered the area to the west of Gulu. At the end of the day he would write in his journal: **“The Nat'l Park deferred w. evident restricted burning. Grass tall, trees dying – they say from too many elephants. Maybe, lots of elephants, some buffalo, Uganda Kob (harems & bachelors) hartebeast (hartebeest), giraffe, etc. No S. vert in natural vegetation. This is found scattered, sometimes in fair abundance in fields, apparently a weed only – did not see it at all as a really wild plant except possibly a few plants in P. max stand in creek bottom. Otherwise a weed here.** The variety of sorghum which Dr. Harlan signifies as S. vert is *Sorghum verticillatum* Kuntze. It is a weed in this part of the world and has infested many fields and crossed with the crop varieties, *S. bicolor* decreasing its value as a crop. A weedy plant is one which grows in and around a crop plant. It tends to mimic the crop plant and can infest it – grow among it. Its seeds are inferior to the crop plant, in that they cannot be harvested and utilized in the same way as the crop plant. A wild plant, on the other hand will grow in areas away from the fields of the cultivated varieties. The farmers encourage the weediness of weedy plants with their farming activities. The wild plants are unfazed by the farmer and his activities. They may, however, represent wild precursors of the crop plants. The party stayed the night in Gulu and made that their temporary headquarters for the next few days.

The party set out again the next day, Wednesday, November 19. This day's route to the north of Gulu **“The general picture the same. Same sorghum, mostly; some of the S. vert was a bit different ... The whole trip very pleasant & interesting, but Uganda is no center of sorghum & we are out of range. The whole region is in cassava country now. What did they do before? NO YAMS at all. Probably inhabited by gatherers only with a little sorghum & millet. Neither are staff of life & more sorghum for beer than for food. Finger millet a possibility in first rains, especially, but the present agricultural system new & probably little or no agriculture in N. W. Uganda until lately. Finger millet widely used for beer also.”** That evening at the hotel in Gulu Allen Tilman a student from Oklahoma State University and a Mr. Ledger came by and they had a long visit rehashing OSU.

The next morning, Thursday, Nov. 20, they set out again; this time to the southeast all the way to Serere. Harlan's report: **“From Gulu to Durango not a plant of S. vert seen”.** They spent the night at Dr. Peter's in Serere.

The dawn broke on November 21, 1969 in Serere with a persistent rain. Their goal today was to make it to Maroto about 200 km to the northeast. This was their fourth collecting trip in Uganda. **“Breakfast w. Tatum & Co. at Peter'. Off 10:ish in rain. Toured about in rain, not getting much & then on to Maroto.**

S. vert sporadic, mostly near villages, but no intro populations collected. Got a few weed & a few cult. Saw S. vert at Katakwi, but did not collect. Got run out of a field in IRIRI¹⁵ & then entered Karamoja country¹⁶. Interesting people dressing & acting something like Mosai. Near naked, arm bands, anklets, beads, labrettes, feathers in hair, carrying stools, bows & arrows & longs spears, v. colorful, but wild & they say they spear other people rather often. The DC (African) said that in the two years he had been there, there were seven spearings in town. Rainfall low – acacia – and the town & roadsides seem to be covered with cola aridus – at least that is my diagnosis. Easy day & not dusty because of the rains & feel a bit rested. Bought Karamoja handicraft 1 stool, porcupine necklace, banana seed necklace, snuff box & stone figure.” They made it to Moroto, found a hotel and stayed the night. The night must have been uneventful, because Harlan didn’t make any note of it.

Nov. 22 Sat. *“Tried to get off early. Made it by 7:45. Just 12 miles to East is Turkwell Irrigation Project¹⁷ & return.”* According to Google (2013) the only road from the Moroto Village to the Turkwell Irrigation Project takes you around Mt. Moroto to the south, through Tororo, across the border into Kenya, then thru Kitale and across the Saiwa Swamp and then northward to Turkana: 760 km, a 14 hr 43 min. run on today’s roads. The distance, as the crow flies is about 120 km at the most. Jack Harlan’s own notes on this journey say that they went from Moroto to the Turkwell Project and returned in one day. If this happened he must have taken roads that are not on Google’s map. Nevertheless he reports: *“Road very rough for 38 miles, then just washboard – beautiful views – acacia desert shrub – mts all about in the distance – a big sky w. lots of clouds. The Turkana (people) look like the Karamoja but apparently aren’t since they raid each other for cattle & spear each other. The whole lake Rudolph¹⁸ basin out of range except for the Omo R. delta¹⁹ & a few patches along the rivers. The people profess not to like pearl millet & don’t grow it – not much in Uganda either. At the project (Turkwell Irrigation Project) only 50 acres irrigated & water enough for only 100. A Peace Corps worker was attempting to grow sorghum bread by Doggett and got a fairly respectful yield, but “the stem borers clobbered him. Only two applications DDT & there should have been 3 at least. Everyone blames everyone else. Near disaster. He had some collections from Omo R. Delta & some Turkana material also specimens of the borer & we got more. The hybrids he was growing look good otherwise & full of F1’s with S. vert contamination in the production fields. Saw one S. vert plant on the project but only in bloom. The locals grow cowpeas – they are going to try soybeans developed in Belgian Congo. Not much else.”* They returned to the hotel in Moroto for the night.

The next day, Sunday, 23 November, they set out again, this time to the west and they drove back to Serere. This was their 6th Uganda collection trip. Harlan is taking some fairly technical notes on what he

¹⁵ (JRH Note) Village between the mountains on Moroto Rd. Nr. Lothaa of the map.

¹⁶ Eastern Africa, including Uganda, and especially the Karamoja country has in recent years descended into collapse and degradation. See: <http://www.state.gov/j/tip/rls/tiprpt/countries/2016/258884.htm>.

¹⁷ The Turkwell (Turkana Irrigation Project) is in Kenya but maybe as much as 60 miles from Moroto.

¹⁸ Lake Rudolph is now Lake Turkana

¹⁹ The Omo River begins in Ethiopia and meanders into Kenya to become the primary discharge into Lake Turkana, forming a fertile delta as it discharges. The flows vary considerably on a seasonable basis; however, in recent years several dams have been constructed to control the flow of the Omo River and reduce the variation. In 1969 there were no dams.

is seeing, as they travel along, stopping frequently to examine an unusual specimen and, if possible collect some seeds. That night they arrived at Serere, tired but successful.

On November 24, Harlan, LaRoy Peters and Doggett all had lunch at Doggett's house, followed by a very fruitful discussion about millet and sorghum agriculture in Uganda and the rest of the world. That evening it was dinner with the Doggetts and the De Silvas and more discussions.

25 Nov. Tues ***"Repacked & reshuffled to get the loot in. To office & visit until car ready. Got off about 11:00 am. Driver did very well in the Peugeot until nr. Kampala & flagged by a pair of over officious cops. He is to go to court, but I think the cops were wrong & he'll be O.K. Arrive Makerere College (Kampala) rest house after 4:00 pm. Room booked & message for driver to stay until Thurs & pick up Shumaker. Reviewed notes on the R. F. collection in Ethiopia. It doesn't jibe with my notes from Puerto Rico. We shall see if we can straighten it out. Maybe I could get off Thurs. instead of Fri. Now at 6:30 pm it's raining so I'll probably stay in tonight."***

26 Nov. ***"Took seed to US Embassy & got them in the pouch (I hope). Got letter fr. Home & one about Wener Gren, Went to Mekerare & did the herbarium (not much) & then out to Kamando herbarium (still less). Booked passage to Nairobi & finished off the red tape. More done than expected."*** Werner Gren is the foundation which will sponsor and host Harlan's world seminar on the origins of African agriculture which will be held in 1972.

Kenya (Nov. 27 – Dec. 11, 1969: 14 days)

November 27 (Thanksgiving) was a travel day to Kenya: "Visited w. Rachie briefly in morning. He is very vague about the wild Sorghum & said he never went to Tessenei – very little about that expedition jibes. Had an anxious moment over the late cab, but bus also late & no hurry. A WARAGI & tonic at airport to use up the coins not good in Kenya – an excellent drink that should really sell in US with promotion. The usual except no customs at all at Kenya frontier. Got to Norfolk Hotel in Nairobi & a room without bath – the place is jumping."

28 Nov. Fri. "Set out to find the herbarium & eventually got there via the Univ. Herbarium. Met J. B. Gillett & introduced to the grass section. Lots of work ahead. Worked until late & hiked down hill to Norfolk. Called Allen Tillman & made date for tomorrow." For the next two days Harlan will work in the Herbarium, visit the Nairobi National Park and the museum, meet people, be taken out to dinner, etc. Note that the people Harlan is working with in Africa all have western names. They are probably British in East Africa, since East Africa was colonized primarily by the British. Since independence, a remnant of British scientific types have remained in the experiment stations and universities. Will the next generation of experts be African? Is the education system, from elementary school to post-graduate university level capable of recruiting and training indigenous people to fill these posts? I am sure this crossed Dr. Harlan's mind.

On Monday, December 1 he began to scout around for plants of interest along with other business. "To embassy & picked up mail. Three messages re: Less House, who wants to join me here – 'taint worth it. Wandered to US/AID & got little help, but they found RF for me & I went there & sent Lee a wire & a

letter. Arranged to rent a car (got run-around from British High Commission) the morning shot. Aft to herbarium & finished it off. Hiked stream valley to find the S. indicated & found a few spears, very green. Plotted distr. S. & made some plans to get some of it."

The next day, December 2, 1969, Harlan starts off looking in earnest for plants. (In Nairobi (A)) "Got the rented car - went to British High Commission w. letter trying to locate Less Picard. Probably wasted effort. Toured to thick of town, now & photographed the waterfalls, collected some wild (weed) S. Back to Nairobi, lunch & off on Arusha Rd (B). Vast plains with *C. nlemfuensis*²⁰ v. common great herds of Massai²¹ cattle w. Massai carrying long spears. A very tall, very handsome people, proud & self-reliant, self composed & confident. A fine looking tribe – plains also dotted with zebra, wildebeest, hartebeest, ostrich & other. The amount of *C. nlemfuensis* is amazing & probably artificial induced by grazing & burning activities of Massai. The S. in & about Nairobi is different from standard S. vert. Short & stocky, heavy stems w. much wax, few leaves, rather wide, few branches in panicles but recemes long & heavy, splits fairly large & mahogany, awned – may be the macrochastium race, always in disturbed habitats & not out in the ranges. Found in Nairobi, in Athi, in Thika & at muchek disturbed sites between. How can I get time for both Kitole & Momassa, where the brevicarinatium is?" Back to Nairobi (C)

The next day, December 3, he takes a day trip into the Great Rift Valley to Magadi Lake, about 120 km to the south of Nairobi: "Off in the rented car at 8:00 to Magadi Lake (D), with stop at Olorgesailie²² (sp.) the site of fantastic numbers of Acheulean handaxes. The rift v. dry & dusty. Massai moving out & into high ranges. Although S vert reported I could not find it & it is hard to believe it would be part of the natural vegetation. Massai very attractive & colorful people. Taller than Maramaja & Turkane, but otherwise very much like them. Friendly & serenely self-assured, they look at you with amusement and are the only people I've seen in Africa who 'twinkle'. They seem to be amused at everything. There must be something satisfying about Massai life. Got back to town (Nairobi) in a shower & went to RVP taxi service & bought a ticket to Kitale 30/-. Then to RF. No word from Lee House. Then to Ivory Safari & paid them off. Booked ticket to Addis & arrived at Hotel ca 4:00. Two messages: (1) call British High Commission. (2) Mr. Pickard will call at the Norfolk at 5:15 and 9:00. The reason for the times is that Mr. Pickard is playing in "Kiss me Kate" & is only free between performances. Showered & changed & met Les at 5:15. He hasn't changed much; looks the same, same mannerisms, still single & still spends all his money. A very charming bum. Still building roads & running around a lot. Has been back to Lapland & says they now herd with snowmobiles, but the up county is still tough. I'll have lunch with him tomorrow. Went to Padoda & spent too much on dinner²³, but upcountry should be cheaper."

²⁰ *Cynodon nlemfuensis*, African Bermuda grass. In Kenya it is called Nakuru. (www.cabi.com)

²¹ Massai is now usually spelled Maasai or Masai. Massai must have been the correct spelling in 1969, however, because Jack Harlan was an excellent speller.

²² **Olorgesailie** is a geological formation in [East Africa](#) containing a group of [Lower Paleolithic archaeological](#) sites.^[1] It is on the floor of the [Eastern Rift Valley](#) in southern [Kenya](#), 40 miles (64 km) southwest of [Nairobi](#) along the road to [Lake Magadi](#). Olorgesailie is noted for the large number of [Acheulean hand axes](#), associated with animal butchering, discovered there.^[1] According to the [National Museums of Kenya](#), the finds are internationally significant for archaeology, [paleontology](#), and geology.^[2]

²³ Unlike Lee House, Jack Harlan is pretty careful (tight) with his money.

JACK R. HARLAN EXP. SUMMARY NO. 7: NOV 1, 1969-JAN 13, 70 (2 ½ MONTHS)
EAST AFRICA: EGYPT, SUDAN, UGANDA, KENYA, ETHIOPIA, EUROPE

Back in Nairobi he is preparing for a paid excursion to Kitale, Kenya 400 km to the northwest across the Rift Valley. "Spent morning writing letters, bringing up notes, packing & reshuffling. Les came & took me to Allan Bobbe's Bristo. Excellent, despite what the Tillmans said & not outrageous for price. Good visit with Les & back to hotel. Rift Valley Peugeot came a little early & I got a back seat with an African professional girl. Six hours in one position. A nice ride but my butt was sore. Arrived at **Kitale** Hotel about 8:30 – rather dismal – no doubt flourishing at one time. The white highlands impressive with sheep, dairy, wheat & forestry. Sacked out as soon as I could."

5 Dec. Fri. (In Kitale) "Called the Agric. Research Station as soon as I could get through. Not much enthusiasm from the Director, but Dr. Pevery, Iowa State corn man came & got me. Got little from either the Director or the African in charge of forage work. Saw the 'living herbarium', of a few of the grasses Bodgan had collected. Not much help – only one K-number usable. Checked the specimens & got a few locations but almost no K-numbers. The numbering system is : (1) K for Kitale (2) two digits for the year of collection i.e. 51, 52, 59, 66, etc. (3) the accession number for that year. It looked hopeless, so saw Perey for a bit. Went to town & changed \$50 & made reservations at RVP for return to Nairobi. Decided to cancel Kericho. Lunch at the Perey's & at 2:00 a Mr Boomman, a Dutchman doing grass seed work came & we looked at things. After hours we prowled through Bogda's files & got a number of locations & some fairly sure identifications – also some chromosome counts of Scotty Forbes from letters in the file. Baouman was put out with the Africans, but the situation is very typical. It will be at least another generation before they can do research.²⁴ (emphasis mine – HVH2) The training is O.K., but the attitude impossible. At Boomman's had bar & sandwiches & to hotel by 8:30-9:00. Concerned about election eve, but the place was relatively quiet."

The next day Harlan went back to Nairobi and stayed in a different hotel: New ?venue Hotel, where he spent the night and then went back to the Norfolk. "Better room, but w/o bath." After lunch , he went to East African Airways & asked to be booked at GHION hotel (in Addis Ababa). He returned to the Norfolk and prepared for a trip to Mombasa the next day.

On Monday, December 8, Harlan drove to **Mombasa** and made the following observations about the trip: "The Nairobi race of *S. vert* found along the roadside for some 50 miles then faded out. Some race abundant from about 100 miles from Nairobi to 150 miles from Nairobi then no more to be seen. Dropped off at Castle Hotel, Mombasa , hot & sticky. Thought the *S. brevicarinatum* would be all over town & hiked about. All I got was a sweat bath. Wound up at Aceamic Hotel, had a couple gin & tonics & hiked back in the dark, still sweating. Dinner at Manor Hotel (in Mombasa)." Then he has to go back to the Castle hotel.

The next morning, he hikes around Mombasa and later wrote: "9 Dec. Tue. Hiked north across the toll bridge & through villages beyond. Lots of gardens, low spots, shady & sunny, every usual habitat, but no *S.* to be seen. Gave up & hiked back bathed in sweat and not feeling too well. Stopped nr. Bank of Baroda & had a couple of orangeades to recover, dry off a bit, then changed another \$50 at the Bank &

²⁴ An Internet search shows that as of 2013 the Research Station at Kitale is very much active and, seemingly, doing very good work for the agricultural community in Kenya.

hiked back to hotel. About 3:00 hired a taxi & went to Mfwapa where the *S. brev* was once collected. Hiked all over Mfwapa, woods, shore, nearby gardens, etc. Not to be seen. Mtwapa ferry now discontinued & this may be the reason²⁵. That eve bought 3 Makonde carvings & that's all to show for trip to Mombasa." I ended up with these carvings and I gave them to my son, David, who majored in anthropology in college.

His luck is continuing the next day. "10 Dec. Wed. RVP to **Nairobi**. This time it took the detour through Voi and I finally saw *S. brev* (?) in the distance. A weed of gardens & very localized. I should have had the taxi stop, but thought, again, it would be all around town. The taxi stopped in 'downtown' & I hiked furiously about through gardens, etc. but bad luck, it just wasn't in that section. Well I think it was just in block anyway, but I know one place it is and it is a garden weed, but not a very good one. These may have been more important when sorghum was grown more in Kenya. Back in Nairobi I dashed to Embassy & got the news I am a grandfather & all is well. Back at hotel & assembled suitcase, laundry & all that. Les had a ticket to 'K & K' that started at 6:00, so cleaned up, lifted a glass & went. A very well done show. Lots of enthusiasm, music excellent – a remarkable job for amateurs. Les took me to dinner at the Simba Club after & thence to bed by 11."

On December 11 he is in **Nairobi**, preparing to leave Kenya and fly to Addis Abba, Ethiopia and begin the next phase of his adventure. As is his custom he documents all his expenses: "Paid bill to see how many shillings left. Then down to art shop to spend them. Got my devil and a witch doctor for 190/-. List price 240/- & he made plenty at that. Too big, but I like them. Five Makondes & v. small suitcase (fortunately expandable). Wrote Bob & Sue (congrats about the new baby) & J. M. J. - then the usual at Nairobi airport & Addis do²⁶. Taxi to Gihon hotel – found banking hours unusual in Addis (to 6:00 pm) so got \$300 changed on letter of credit (+ 50\$ at airport). Feeling stuffy and tried for a light snack at the Chinese place, but no will power."

Ethiopia (Dec. 12, 1969-Jan. 6, 1970: 25 days)

Harlan's first full day in Ethiopia was "a day of frustration." He spent a great deal of time calling ahead to various places in Ethiopia that he wanted to visit. That night he wrote in his journal: "Tried calling BOTH Debra Zeit and Alamaya. Enormous amounts of pushing & prodding. No results after an hour & a half, so took cab to U.S. Embassy. No mail. Found out that US/AID was back near hotel. After waiting a while for a taxi enquired about a bus and came back right to the doorstep for 15 cents Eth. – It cost \$5 Eth to go up. At US/AID got help from Ethiopian secretary. All morning no go. Got to Dire Dawa (by phone) but not to Alemaya. Finally got to Debre Zeit²⁷ and went down for \$1 each. **(Google distance about 60 km to the south east from Addis.)** Dr. Dagnatchew is no longer there – working for some enterprise in Arusha. Tesfaye Tessmann is in U.S. on training. The present acting director was in Addis with a toothache. So cancelled the calls. No news from Lee so slacked off activities. Hiked to town &

²⁵ Google shows a short but wide river just to the south of Mtwapa, separating it from Mombasa. It has a bridge now, but in 1969 it may have had a ferry that has since been discontinued.

²⁶ "do" is short for ditto.

²⁷ This was probably the Bishoftu Agricultural Experiment Station.

bought maps, etc. Ate in Chinese place again. No progress at all.” **(Apparently, Harlan returned to Addis from Debre Zeit and spent the night of Friday, Dec. 12, 1969, but he is getting frustrated.)**

So, having done all he could to prepare, but with little or no progress, Harlan attempts to begin his first trip into the interior of Ethiopia since he was last here in 1960. Note this: in 1960 he was escorted by the good people at the Alemaya College and things went a lot better. This time he is on his own to make things happen. The following is his report on how it went: “13 Dec. Sat. (in Addis) It started no better. Went to US/AID for more help or at least a visit w. range management men. Nobody works Sat. So, took bus to H.I.H. Haile Selassie I Univ. Wrong campus. Trouble finding second campus because no signs. Eventually located Botany building, but locked solid & nobody there. **(Hay, Jack. It’s Saturday. HVH2)** Back to hotel and at door met with **Lee House**²⁸. We discussed situation & then walked to bus park near RR Station. Found bus for Debre Zeit. There we hired a horse cart and after much wandering found the place. Nobody there **(Still Sat.)** A Frenchman at the Veterinary Station very helpful. Took us to the assist. director of his station who directed us to an Ato²⁹ Solomon. Solomon not there. Went to Ras Hotel for lunch. Tried Solomon again. After much misunderstanding through three intermediaries we met at Ato Zewudu who works at Debre Zeit & has MS from Kansas State. He took us to the boss, Ato Kebede, the one with a tooth ache. He took us to the office & tried to call Melak. No go, but ordered up his landrover & a young man named **Bekele Tullu**. Eventually we drove back to Addis in the L. R. & set to go off tomorrow. Later Kebede called on phone & said all was O.K.; he had contacted Melak & Melak would call. Immediately after hanging up was Melak from Alemaya; connection not very good, but all O.K. for takeoff. Things began to break after pushing a bit.” So, Harlan spent another day in preparation, with much pushing on a Saturday, to depart - and made a little more progress.

First Ethiopian Collection Trip (Dec. 14-18, 1969): Harlan spent the night of Saturday, Dec. 13 with Bekele Tullu and Lee House in Addis Ababa. The next day the three of them went off on a 5 day collection trip to Debre Sina (183 km NNE from Addis), Karakore, (90 km NNE of Debre Sina), Dessie (110 km to the north & NW from Karakore), Kombolcha (To the south & then east a total of 21 km from Dessie), Bati, (44 km to the east from Dessie). back to Kombolcha, then Karakore, Kombolcha and back to Addis on Dec. 18. Bati seems to be the farthest they went. It is about 407 km from Addis. They seemed to make Kombolcha their temporary home base. Lee House used his mechanical skills to nurse their very sick Landrover on their way back to Addis. As soon as they arrived in Addis Lee House departed and returned to the Rockefeller Foundation office in ??? Evidently, this side trip was taken expressly to investigate Ken Rachie’s theory about

First Ethiopian Collection Trip Details: Finally on Monday, 14 December they are off to collect seeds in Ethiopia. “Checked out & off by 8:00 across the high plateau, **stopping often to see**

²⁸ Harlan had met Lee House in Delhi in 1960 and tried to contact him in Nairobi on this expedition (Dec. 3)

²⁹ Ato means “Mr.”

crops – emmer, wheat, barley, chickpea, tef, etc.³⁰ Familiar & nice to see again. Very dry and people in trouble.³¹ Finally the ‘Mussolini Pass’ & down to Debre Sina (C) (**Google dist. 183 km NNE from Addis: Google maps shows some pretty rugged territory just before you get to Debre Sina. This might be what Harlan calls “Mussolini Pass”.**) A little beyond found weed sorghum & it soon became abundant. Abundant along roadside, that is. Got dark about Kanakarrie (**Karakore, 90 km NNE of Debre Sina**) & we drove on to Dessie (D)(**Google distance about 110 km to the north & NW from Karakore.**) - unnecessarily it turned out. The Hotel Crealsy & almost deserted – also very cold & shower water miserably cold. Otherwise ok. Long trip & tired.” (**Google: 390 km, 7 ½ hr drive in a northerly direction, from Addis in 2016).** (**night of 14 Dec. in Dessie with Bekele and Lee House**)

15 Dec. Mon. “Tried Dessie Market, but too early. Pushed on to **Kombolcha**³² (E) (**To the south & then east a total of 21 km**) & thence eastward to Bati (F) (**44 km**). No wild S anywhere. Stopped at several threshing floors & found great reluctance to part with anything at all. The people very suspicious & there seems to be a superstition about taking grain from the threshing floor. They say if any goes, all will go. There is something special about the floor.” This is what Harlan wrote in his notes. What he did not seem to understand is that the rains failed that year (1969) and the people had a feeling that a new and terrible dry period had set in. In fact, the drought would last, through a combination of decreased rainfall and increased government ineptitude, along with a simmering war with Eritrea, from 1970 to 1985 – a very long drought which resulted in famine. He had written earlier in the entry for December 14 that it was very dry and “the people were in trouble.” This was just a foretaste of disaster to come.

“At Bati a fantastic market on top of a hill looking about to the plains on one side & towards the escarpment on the other. Desert folk with camels + women camel drivers dressed in topless style & many other kinds of people, very dense crowds, very colorful, the public gallows, etc. We went on to the plains & **found nil**. Everything overgrazed anyway. Agriculture gave up about 15 km east of Bati. **We tried to get S. at extreme edge, but only boys home & got nowhere.** **Bekele** says they are an Adar tribe & they used to practice the genital trophy bit. We stayed more or less at my insistence at Bati. Nice little hotel in the middle of nowhere, irrigated citrus orchard (& other fruits). Hiked the town in evening. S. going out by the truckload at \$16 Eth/100kg³³. Good day.” (**In Bati for night of 15 Dec. with Bekele and Lee House**)

16 Dec. Tue. “Up & off to (**back to?**) **Kombolcha** (F) & reserved rooms at Agip Motel, then south along Addis Road (probably Google highway 2, to Addis Ababa). At 22 km **we picked up little Kilo and big Kilo**. Little kilo is small inoffensive roadside weed, sometimes in the fields gives no trouble, not competitive with cult S. & for livestock fodder when abundant enough. **Big Kilo** is something else again. As tall as cult & about as robust, tillering and branching considerably, produces lots of seed that shatter. Most

³⁰ I am going to highlight in bold **blue** certain passages which the reader should notice.

³¹ 1969 was a dry year in most sections of Ethiopia, but the rains were good in 1970. A real and intense drought began in the late 1970’s and developed into a severe famine by 1984 – 85. In December, 1969 most areas of Ethiopia, except the western area, had had at least one dry year. Source: RECENT CHANGES IN RAINFALL AND RAINY DAYS IN ETHIOPIA, found in: <http://onlinelibrary.wiley.com/doi/10.1002/joc.1052/pdf>.

³² Kombalcha (Google spelling) will be their headquarters for several side trips.

³³ The coming famine had not yet started.

conspicuous as volunteer in maize fields. Vast amount of it. A fair amount of variation in it but no intermediates seen. **You have little kilo, big kilo and cult and nothing else**³⁴. Followed the pattern southward to Karrakarrie (**Karakore; 95 km south of Kombolcha**), which is about where we stopped collecting on Sunday. Had Wat & injera for lunch & visited the market. On way back (**to Kombolcha**) had a blistering hot motor. Filled radiator with water, but motor missing a lot. At Kombolcha cleanup, dinner, walked the town & to bed.” (**night of 16 Dec. in Kombolcha with Bekele and Lee House**)

17 Dec. Wed. “Off to the north on Osmara Rd. Passed Desie & dropped down to **Sorghum country**. Found fierce resistance to taking samples, but it is all the same as we had been getting anyway. **No kilo at all** – probably too high. Motor got worse & worse. At Mersa we cooled it, saw the market & **decided to go back (to Kombolcha)**. Didn’t get far. Started taking the machine apart, **Lee the mechanic**. All combos of fuel line & screens fr. tank to carburetors & fuel pump. Everything in order. Ran about 1 km & stopped. Took carburetor apart, cleaned everything, put back together. Ran another km & stopped. Started an electric circuit. Cleaned battery posts when we could not get starter to work. Checked line & fuses, pressed it to start & ran about 2 km & stopped. No answer. **Lee pushed & pulled** all electric connections to brighten them & feeling very discouraged tried it once more. Ran fine except for cooling system. The whole thing due to a faulty connection somewhere. Stopped at Dessie market & Lee made some purchases. Nice blanket for very little (\$8.80 US) Kombolcha for the night.” (**night of 17 Dec. in Kombolcha with Bekele & Lee House**)

18 Dec. Thurs. “Paid bill of \$96 ETH. Drove more or less directly to Debre Sina (A) (**Google 183 km southward**) adding water every 50 km, but lost much time due to (1) smoke from a swamp fire so dense we had to creep very slowly. Buses on the road had people trotting ahead to guide them. Very, very slow & very dangerous. Finally negotiated them and then (2) blew a tire. Not serious except that our lug wrench simply wouldn’t turn two of the lugs. In Ethiopia, people stop to help each other. Busses, trucks et al. A gentleman in a landrover was the most help. He had a low jack that would get under the spring and a long pipe to put leverage on the lug wrench. So, changed the tire, finally, added water & on to Dabre Sina for refreshments & quick look at market. Nothing much except great numbers of donkeys & some nice basketwork. Then over the pass to the plateau **& on to Addis (another 183 km southwest)** adding water every 50 km. Lee wanted a leather dinner pail so went to Addis market. Found a nice pail, but on return to the car found we had not locked a door & **Lee’s suitcase had been stolen**. It’s a wonder everything else wasn’t gone, too. We could have lost passports, my letter of credit & everything. Nothing to be done, so back to hotel & check in. I got my jacket & suitcase I had left at hotel. Lee went uptown to buy a shirt & tie & some info about Ethiopia & I started to catch up on notes & etc. (**18 Dec. in Addis, with Lee and Bekele ?**)

Reflections: “So what did we find in **Rachie’s gene center**? (1) Sorghum and tef are the only major field crops. There are little patches of sesame, lathyrus, maize, safflower and home gardens, but people live on S. and teff. (2) The S. is nearly all big-headed, bold seeded *durra* of many colors. The yellows predominate, but orange, red, white, chocolate, brown purple (violet) are all common. All very

³⁴ That is, there is no wild or weedy sorghum. These are signs of a center of origin.

tall & very long season (planted in April & being harvested in December) (3) There are a few other S-types – one field of *candatum* much as in Uganda – a fair amount of *feterita* – like varieties and a fair amount of what may be a *nevosium* & some sweet stalked ones. Not much else in cult line. (4) Big kilo weed and (5) little kilo weed. Variation is impressive alright, but doesn't quite rate as a center of anything much unless it is tall, long season, large headed bold seeded *durras*."

Thus, it appears that the reason for this first Ethiopian seed collection trip was to check out Rachie's theory in the field. His conclusion was that, although there seems to be a center of some kind in Ethiopia it is not enough to call it a gene center for sorghum.

19 Dec. Fri. "**Lee left early.** The car was put in the shop. I wrote: Home, Wenner-Greu, Ali Kambal, LeRoy Peters, Hugh Doggett, Allen Tillman, Ken Roche. Went to Univ. herbarium. Not much. Met Mrs. Gillbert (sp), Sue. She & her husband may work on flora of Ethiopia. Car ready in eve. \$45.00."

Second Ethiopian Collection Trip: Summary of Dec. 20 thru 24: After spending 2 days in Addis, Harlan and Bekele set out in Bekele's Land Rover – now repaired and working fairly well – for Debre Zeit, some 60 km southeast of Addis. **He is not spotting much sorghum, but does see some kilo.** They go past Debre Zeit and on to Nazreth and then Awash, off to the east southeast of Addis and all the way to Dira Dawa, where he spent the night in Ato Melak's house. Harlan had met Ato Melak in 1960 on his first visit to Ethiopia. When Harlan finally found his house Melak was away at a Christmas party. Someone was at the house, let him in, served his dinner and showed him to a guest room where Dr. Harlan, very weary from the journey, found quiet rest.

Dira Dawa is the home of Haramaya University. The next morning Harlan visited the campus with Melak and noted that it looked very well cared for. **He was impressed. He had a long and fruitful talk with Melak and noted in his journal that "Melak serious about a germ plasm center in Ethiopia & it is a logical thing. Maybe it can be generated."** Harlan does not say, but it looks like he spent the next night or two at Melak's house.

Harlan gave a few lectures at the university and at some point seems to have relocated to a hotel. Meanwhile Bekele took the Landrover, with Harlan's seed collection and suitcase back to Addis. Harlan would meet him there in a few days time. Harlan visited the herbarium at the university but did not find much to help him. He picked up a copy of H. F. Mooney's book: *A Glossary of Ethiopian Plant Names*, (Dublin Univ. Press, 1963) and took some notes in his journal.

On December 23, Harlan flew to Addis Ababa and got a room at the Ghion Hotel. He was supposed to be traveling with Berhane, but the airline tickets were for standby and they only had one seat, which Harlan took. On December 24, Harlan visited the university and met the director of Ethiopian Studies who told him about C.R. Hallpike, who lived in the Konso area for 2 years, learned the language & will publish a work on Agriculture of the Konso in January 1970. Harlan noted that he will have to write Hallpike to get it. In the afternoon Bekele took the landrover back to Dire Dawa and Berhane arrived. They planned their next move in a different landrover.

Second Ethiopian Collection Trip Details (Dec. 20-23, 1969): 20 Dec Sat “Checked out & off 7:30ish to Debre Zeit **(with Bekele?) (60 km SE of Addis)**. Got Ato Kebede **(Bekele?)** out of bed & after some faddle & indecision went up town & bought a tire & tube \$100.00, had it mounted & took off after 10:30 with two spare tires, two jerry cans of petrol and one of water. Did not see kilo in Debre Zeit area, but picked it up east of Nazareth **(Adama, Nazret or Nazareth 89 km SE of Addis – 45 km from Debre Zeit, in the middle of Ethiopia)**. Cult left off ca 30 km E Nazareth. We found a wild kilo in Awash **(132 km NE of Nazareth)**. At 21 km E. of Awash a little patch of S. then no farming until 43 km E Awash where we climbed the first bench on the east side of the rift. From there farming more or less intensive the whole way. Did not see kilo on east side although it is there. Lunch at Awash at Pleasant Tirny Oasis of the R R Buffet. Drove much of the Chercher Highlands by moonlight. Arrived at **(Haramaya?) campus (Dira Dawa, 232 km NE of Awasa) ca 8:30 (PM)**. Found Ato Melak’s house, but they were at a Christmas party. Supper was served us + finally I went to bed in his guest room w/o seeing him. It turned out to be alright. Long & dusty day.” **(Night of Dec. 20 in Ato Melek’s house in Dira Dawa. Melak did not know he was there. They hadn’t seen each other in 9 years (since 1960).)**

21 Dec Sun. Harlan had been to the Alemaya campus in 1960. “Walked around campus before breakfast; toured it later w. Melak. Trees have grown tremendously. Upkeep seems good. A Bisrat had turned over a landrover after the Christmas party so much faddle & went to see. The LR a mess but the boy reported O.K. Saw the little zoo, toured the farm w. Ato Barhane (1 yr at OSU). Met a Dr. Taye, Head of Plant Science, etc. Much talk & visiting & little else. Very pleasant, but only a little along the road. Melak serious about a germ plasm center in Ethiopia & it is a logical thing. Maybe it can be generated. The Izmir experience³⁵ may knock out FAO, but there must be other ways. Should consult Sir Otto.” **(Night at Melak’s again?)**

22 Dec. Mon. “Breakfast supposed to be at 7:45 but nobody stirred until about 8:20. Relaxed anyway. Went to Herbarium & met Dr. Tedesse Ebba. Checked specimens. Almost none I had not seen. Saw the ‘Damon’ collection, but it was only 35-40 & all ‘subglabressems’. Not much Cynodon; no Oryza & no Pennisetum of interest. Toured farm again & got the weed S. – in fact two of them: one small seeded, the other w. medium sized sphts & popery glumes. Very poor condition & they may be the same. Talked to Plant Science majors in aft. Then changed clothes & went to Harar Markets; got some reference samples only & bought no souvenirs. Dinner at Taye’s (bachelor) & gave lecture to general group. Bekele had taken off in L. R. with my collection and suit case. Supposed to meet him in Addis. Melak gave him a hard time about **Lee House’s suitcase**, which had been stolen Dec. 18 – unnecessarily, I thought – but Melak is a leader.” **(Night of Dec. 22 at Melak’s or Hotel near Haramaya U at Dira Dawa.)**

³⁵ Not sure what the “Izmir experience” refers to, but Izmir is both a city & a province of Turkey. It must be that there was some attempt in the past to start up something in Ethiopia and it had something to do with Izmir and the FAO was to fund it. But, it blew up and they can’t go back to FAO for any more money.

23 Dec. Tues. "Slow start then appears normal. Visited Tedesse again. Got two items from the Harar market identified. The round fruit is *Oncoba spinosa* & rather pleasant taste & odor: other is *Tamerindus indica*, the tamarind.

MOONEY, H. F. *A Glossary of Ethiopian Plant Names*, Dublin Univ. Press, 1963 & noted the following name transfers:

Surf (A) – Safflower and sunflower

Duht (A) – *Gossypium herbaceum* and *G. hirsutum*

Ater, Atter etc. (A) – *Cajanus cajan* and *Pisum sativum*

Ankerad (A) – *Avena abyssinica* and *Lolium temuentum*

Ater – Khijeh (T) – *Cicer arietinum* and *Arachis hypostan*

*Dinich (A) – *Coleus edulis* and *Solanum tuberasm*

Gwaya (A) – *Vicia stiva* and *Lethyrus sativus*

Wushish (T) – *Coccinea abyssinica* and *Cucurbita pepo*

*Note: Dinich-shuga (A) = sweet potato

Also the 'Trungo' we ate nr. Debre Berhan was *Citrus decumana* the sheddock or pumelo.

Tedese says the Wallaga Prov. **Lowlands almost completely dependent on sorghum**. His home is there but he contributed only two collections to the 'Damon' Collection. **They have very large seeds – durra type w. bicolor type heads – perhaps modified feteritas³⁶. – got quite a number of small samples from single heads recently collected by the staff – some toward Jijiga (Jijiga is 154 km east and a little south of Dira Dawa, past Harar) & some on road to Addis. Of particular interest a striped-seeded one mutating & rectoring like dt or something.** Lunch at Berhane's; picked up loot + Ato Josef (Harry's friend from OSU days). Drove us in a new VW to Dire Dawa – also Bisrat (?) who spilled the landrover at 2:00 am last Sunday. Got to DD on time to go back & change another US\$300 & to plane. It was full, however, & I got on but Berhane was bumped. This will set us back a day, but I can use the time. I hope Berhane doesn't mind. Nice flight in DC 3. Bekele not there to meet me so took taxi to Ghion & will wait for him." **(Night of Dec. 23. Harlan is at the Ghion Hotel in Addis waiting for Berhane and Bekele.)**

"24 Dec. Wed. No Bekele. Went to Embassy for mail. Got none. Bekele came eventually. Had fuel pump problems & had to stop at Awash overnight. Finally made it in about 10:30 with my suitcase etc.

³⁶ Feteritas: A Sundanese Arabic name for sorghum. Harlan must be referring to the particular variety grown in Sudan, or similar to it.

Too late for laundry so did it myself. Went to Inst. of Ethiopian Studies at HSIU³⁷ campus. Saw curator, Stanislaw Chojnachi³⁸ & he told me about C.R. Hallpike³⁹, who lived in the Konso area for 2 years, learned the language & will publish a work on Agriculture of the Konso in January 1970. Must write to get it. Then went to National Museum. Not much. Berhane came in eve & we made plans to leave in a.m. A different Land Rover, etc. Bekele went back to Debre Zeit. Much repacking for trip. Found a sack at a local store that may hold the Ethiopian collection. Late getting things arranged because of slow drying of clothes.” (Still at hotel in Addis, night of Dec. 24)

Summary of Dec. 25 – 29 into Konsoland; may have found a center see Dec. 29

When Berhane finally came on Christmas morning I pulled my suitcase, bag of seeds out of the Landrover and stored them at the hotel and we were off by 8 am. It was a smooth ride of some 250 km southward to Shashamane. That’s when the tire blew on the Landrover. We put on the spare, but the pressure didn’t hold. Down it went and we were stuck. Berhane took both the flat tires off the car and rolled them toward a nearby town. When he returned by bus in about 2 ½ hours, we put the tires on the LR and were off again. We reached Arba Minch at about 7 pm and it was dark. Arba Minch is a town on the west shore of Lake Abaya just north of Lake Chamo. These are two of the Great Rift lakes in Ethiopia.

They had just settled in a cheap motel when a man named Lago, or Laho – Jack was never sure, showed up. He had heard that they were looking for him and he was happy to help. However, Lago, or Laho, who was an Alameda grad and principle at the local high school, had just suffered a disaster, when he was attacked by a group of students and the school had to be closed. Nevertheless, Lago, or Laho, told them that a student – from another school – could help them. He name was Chako and he was a little hard to track down; but once he was he climbed on board the Landrover and four other Konso boys climbed on top, too. We were now loaded up pretty good and off we went. This was the next morning. Meanwhile the Landrover was acting up again and they got it to the Community Development Farm shop, where it was repaired. They “filled up the LR with petrol & 2 Jerry cans & at long last at about 3:00 p.m. took off for Konsoland”, about 85 km to the south of Arba Minch along the west shore of Chamo Lake.

Over the next X days they collected all over Konsoland. They made their base as a tin shack which they called “the Konso Hilton” in **Bock’auole**. From there they drove around and the hiked around.

³⁷ **Addis Ababa University** (**Amharic**: አዲስ አበባ ዩኒቨርሲቲ?) is a [state university](#) in [Addis Ababa](#), the capital of [Ethiopia](#). Originally called the **University College of Addis Ababa** at its founding, it was later renamed **Haile Selassie I University** in 1962 after the Ethiopian Emperor [Haile Selassie I](#). The institution received its current name in 1975. (Wikipedia). For more on the Institute of Ethiopian Studies see: <http://www.aau.edu.et/ies/> So, in 1969 it was called HSIU.

³⁸ Stanislaw Chojnachi was originally from Poland, but lived, worked & loved in Ethiopia from 1950-75 as the curator at the Ethiopian Studies component of HSIU. See: <http://www.ethiopianreview.us/28323>

³⁹ C.R. Hallpike was a noted Anthropologist and author who lived in a remote village in Ethiopia for 2 years. See entry for Dec. 28. For more on Hallpike, see also: <http://hallpike.com/author.htm>

(Note: in a 2011 report on the land rush in Ethiopia we see that the “unused” land is being acquired by big industry and turned into mechanized farming, displacing local farmers, with no compensation or regulation. See:

http://www.oaklandinstitute.org/sites/oaklandinstitute.org/files/OI_Ethiopia_Land_Investment_report.pdf.)

25 Dec. Thurs. “Christmas. Berhane came late – but I expected him to. Put Jacket, suitcase & bag of seeds in Hotel store & we got off ca 8:00. Very smooth to Shashamane. (250 km south of Addis) We then hit the gravel & a flat tire. Put on spare & within minutes it went down. Stuck! I waited with car while Berhane went to next town w. both tires. Waited 2 ½ hours. Finally he came back w. tires on a bus. Remounted & on our way. Road graded gravel & pretty good to Arba Minch (Google: Arba Minch(A)) (another 255 km to the southwest of Sashamane.) which we reached 7:00ish or so. Rented room at ‘the Best’, had injera & wat at a crummy place, but food pretty good. Messages finally located a Lago (Laho)?⁴⁰ Alemaya⁴¹ grad, who went on in Education & Principal of the local high school – the only one in Gamu-Gafe. He was upset. He had been recently beaten up by students & the school closed. Disaster. High School students, too! Anyway he said our problem would be solved by a student named ‘Chako Auto.’ He would get him in the morning & why were we stopping at this crummy place when there was a good hotel across town? We went to the good hotel & let the \$5.00 Eth. go. Hot shower! Great!” **(with Berhane in Arba Minch for Dec. 25)**

26 Dec. Fri. “Off to the High School to get ‘Chako’. Ominous squeal in the motor. Red light. Generator bearing frozen; belt slipping. Trouble at H. S. No Chako. Much talk & no action. Finally after much prodding got L. R. to Community Development Farm shop. They took apart generator & put in used bearing. Fiddled, **collected weed sorghum** & played ping-pong. Finally finished. It worked! Back to H. S. Chako had been found & sent to get ready. We followed & finally flushed him. He wasn’t ready, so we went to hotel for lunch & came back for him. Looked for film for Berhane, filled up on petrol & 2 Jerry cans & at long last at about 3:00 p.m. took off for Konsoland **(85 km to the south of Arba Minch along the west shore of Chamo Lake.)** Took on a cargo of 4-count ‘em 4 Konso boys on top of all the junk. Road a bit wild – up mountain to Gedole (CF) – but fun. Late & didn’t collect. Regretted this later. Arrived at Bock’auole (CF) long after dark. The Konso Hilton has 2 rooms – a tin shack, dirt floor + no shower. We took it.” **(Night of Dec. 26, Konso Hilton at Bock’auole with Barhane, Chako & 4 Konso boys. I think the Konso boys went to their homes. They were just hitching a ride on the LR.)**

27 Dec. Sat. “No bugs. No mosquitoes, good night despite a very strange & lumpy mattress. Chako supposed to come by 7:00. Did not show by 8:00, so we went to Sub-governor’s office. A police officer fussed at us. Why didn’t we let them know we were coming? & all that crap. Eventually the purpose of the trip was recorded & we piled in the L. R. – Berhane, Chako, the police officer & me & drove to Fasha (C) – a village some 15 km west. A spectacular drive up mountain roads. **(Chako is to be some kind of**

⁴⁰ This ? is Harlan’s ?.

⁴¹ Alemaya is home to [Haramaya University](#) (formerly Alemaya University). The University was originally established as an agricultural technical college, with assistance from Oklahoma State University. Although classes started 5 November 1956, the University was formally inaugurated by Emperor [Haile Selassie](#) 16 January 1958. By 1967 Alemaya had telephone service. (Wikipedia)

guide, but the policeman seems to have joined the party, too.) This was market day but not until 2:00 p.m. – so we hiked the area & collected. Then westward to the village of Burjo. Thence to Kasorgo & back to Farsha. Long hike for me, but the villages fascinating: neat, trim with fine community center, etc. We saw a grave being dug & effigies in graveyards. Collected a number of sorghum types. Sorghum & cotton are kings. Men, women + children spinning. At Fasha, got some talla to quench thirst & then collected in the market. Rather colorful & interesting but nothing like Bati market. A few samples of Tej with the policeman, then back to Buik'oule & the Konso Hilton – and more drinks at the officer's expense. To bed a bit soggy." **(Dec. 27 may be the same setup as Dec. 26.)**

28 Dec Sun. "Chako came & we hiked through several villages on way to Bousso (CF) – the village where Hallpike stayed for 2 years. The hike gave a good feeling for Konso country. Up & down the terraces huffing & puffing. Women working the fields. Village large trim, pleasant. Many community centers, which are cool & comfortable & always have superb views of the mountains. Finally made Boussao & were escorted to the house where Hallpike stayed. The people remembered him well & it is a beautiful house. Chako got us some 'local drink' & some bananas. Finally started back & on way passed a house with very strange wailing – Ho ho, he he sort of thing. Chako said someone had died & it was not polite to pass by so he stopped for a few minutes, climbed back up the hills & to Back'oule. I was corked. The Konso Hilton was a furnace. We tried to sack out. Berhene succeeded; I got a case of heat prostration. Very uncomfortable, nausea, sweat pouring out, weak, thought I would faint. Thought I would chuck up. Finally, did none of these, got some air & hailed the bar boy for water which I poured over wrists & head & neck & recovered. It was a bit rough. Then came the forever policeman & drinks at his expense. Dinner of watt⁴² & injera as usual. To bed feeling rocky." **(Dec. 28, ditto)**

29 Dec. Mon. "The idea for today was to kill time until market at 2:00 pm. We had a little spare petrol, so drove the road south toward Sagan River. Didn't go far, not only because of the petrol limitation (none to be had S. of Arba Mintch) but because agriculture gave out in some 10-15 km away. The Konso Hilton could provide no breakfast because 'they couldn't find eggs' but promised Doro watt for lunch. We got back about noon and the Watt was ready. Excellent! The best food we had. The forever policeman showed. More drinks. Then to Dakatu (CF) village almost next door, where the market is held on Mondays. Not much & a disappointment. Great crowds of people pressing in at all times. **Got a collection** & left a bit after 3:00 pm. Took a low road this time & glad we did. **The most impressive sorghum of the whole trip is grown by Galla about due east of Gedole (Google: Gīdolē (D)) in the Rift Valley. Tremendous size of heads & thrifty plants. May have something here. Weed S. vert appeared & then dark.** Seemed like long drive but finally reached Arba Mintch by 8:00. Big invasion of tourists & we barely got a bed at all." **(with Berhane at Arba Minch, Dec. 29)**

⁴² This is usually spelled "wat", or "Wat". Harlan keeps using two t's. I will be faithful to his manuscript. HVH2

30 Dec. Tue. **(Back to Addis)** “Got a thirst I could quench only with water. They just didn’t seem to have any so I finally drank great gobs from a faucet they use to water the garden⁴³. Breakfast & then brief visit to Leko (Logo?)⁴⁴ & on our way. Berhane wanted to try the new road to Addis via Hosana (E). I didn’t care. It was a sort of fiasco. We went the wrong way for a while. The unfinished road was rough. The ‘New Road’ wasn’t finished & dust so deep we scraped it with the bottom of the Land Rover. It was fantastic & we chewed dust for over 12 hours. No real trouble & we finally arrived in Addis. Berhane is pretty dark for an Ethiopian, but we arrived at the Ghion Hotel exactly the same color – Gray. The boys at the hotel fell out laughing. They really enjoyed the sight. It was a good day, though; only a broken fan belt & a skinned knuckle fixing it. Any trip you can walk away from in Africa is a good trip. It took a shower and a bath to get the dust off & all I own is gray.”

31 Dec. Wed. “Wrote Jean re Puerto Rico & Fred Miller likewise & walked to the P.O. to get the letter off ‘express’. Then back to ETO & bus to US Embassy. Still no letters from home. Saw a Mr. Yost, Deputy of Mission about sending the seeds. He referred me to Lane Holdcroft at US/AID, so I went down but he wasn’t in. Back at Hotel entertained Berhane for lunch. After saw Holdcroft & we may have a deal about the seeds. He has a problem because of the ‘cutbacks’ in US/AID etc. Berhane sent over my Konso live {?} & a sacking needle. I put in for a trip to Lalibella for 2 Jan – up & back the same day which all Ethiopians say is ‘impossible’. We shall see.”

1 Jan. (1970) Thurs. “Had sat the new year in with most of a bottle of Arake as they call raki’ here & felt a little raki myself. Sacked up the seeds anyway & took US/AID since Holdcroft said he would be in. He told me about Allan Temple & it dawned on me that he was the guy that started all this by flying me & Hugh Rouk⁴⁵ over southern Ethiopia 9 years ago. Not in, of course, & a little to do so walked to market & back. Quite a hike. Bugged by the hustlers but found I could bug ‘em back & it wasn’t so bad. Got a pair of earrings for holy ears & that’s all. A very quiet night at the hotel after the night before. Decided to give it a try. Very expensive & not much good & will not do that again. Bad night with the stomach too.”

2 Jan Fri. “The Lalibela thing fell through for lack of confirmation. Decided to try for Sunday. Went to US/AID to see Temple. Not in, but visited with Harlan Tulley, Range Management. They are trying to settle the nomads in Sidamo⁴⁶. I wonder why. I can’t really see the point, but he thinks of this as ‘improvement’. Walked about a while & decided the hell with it & settled down to read Max Dimon’t ‘Jews, God & History’. Read all through the aft, eve & into the night. Cheese & crackers for supper & slept better.”

⁴³ Excessive thirst could have been caused by the heat prostration (heat exhaustion) 2 days previously, but drinking from a hose in Ethiopia shows how desperate he was.

⁴⁴ Jack Harlan’s ?

⁴⁵ See Exp # 2, 1960. There is definitely a “Hugh” who played a big role in Harlan’s Ethiopian phase of this expedition, but no mention of Allen Temple.

⁴⁶ Sidamo is the name of a people with a long history in Southern Ethiopia and also the name of an administrative district in 1969. The political map was completely changed following the Revolution of 1974.

3 Jan Sat. "Torn with ambition & worked on expense account. Hour after hour of stupidities. Finally couldn't stand it any longer, wrote Dr. Melach, Dr. Grahaue, Ato Kebede & Les Pickard thank-you letters & took to P.O. Lunch at the Ras which is at least cheap. Back at hotel found the Ethiop Airlines guy doesn't work on Sat. So, trudged up town again. They had me No 1 on standby so bought the ticket. Addis is not much of a city despite its size & setting & wish I could move on. The planes don't fly every day & it looks like a possibility of going with Temple on Tues, so I'll stick it out. Stupid, stupid, stupid!"

4 Jan Sun. "Up by 5:30 & ready by 6:00 No bus. Finally got someone to call Eth Airlines & they said 'coming'. It arrived 6:30 & they said they had no driver at 6:00 OZX! 6:30 about right, but why don't they say so? Anyway I waited for 'standby' formalities although there were plenty of seats on the plane. DC 3 stops at Dahu where it looks like C. aeth at airport & probably O. longistaminata in the swamps. Not certain, of course, but lots of papyrus, etc. Stop at Gandor & then Lalibella a little after 10:00. Much fiddle w. tourists & off in landrover at 10:30, arriving at hotel by 11:00. Paid for & got a special tour of the 5 churches in Lalibella. Just about what I had thought they would be like from photos & Popper's descriptions. Impressive all the same, especially St. George. A very pleasant town despite beggars, lepers, pilgrims & an overly attentive boy who wanted money. A pilgrim entered St. Georges church in ecstasy, fell to his knees, rubbed the floor with his hands & then rubbed his face to transfer the magic. Repeated many times. Much kissing of doorways & crosses. The medieval magic still there. All churches built in XII, all in Lalibella by king Lalibella who had made a pilgrimage to Jerusalem and wanted to create a New Jerusalem in his kingdom. Churches understandably small, square & dumpy. Priests ragged & dirty. Decorations disappointing. Apparently, much painting lost to peeling & weathering. Still, the labor & devotion impressive. Finished by 12:15, had lunch & took L.R. back to airport. Got a few local seeds but unlikely to help Miss Donbrowsky much. Ride back very bumpy to Gondar, otherwise quite nice. A pleasant day's outing & why Eth Tour Org does not push one-day excursions I don't know. Started cleaning up my suitcases, washing & repacking. Will try carrying the 2 big Makonde's to save weight. Hope it works. Dinner at Ras. The young set seems to hang out there.

5 Jan Mon. "The idle day I had planned for seems to have arrived. Packed as far as I could. Washed shirts & handkerchief. Went to P.O. & wrote Croizat a 2-page, not very polite, letter, but nowhere near as vitriolic as his. Was going to write Les House but didn't have his address with me. Left sweater to be cleaned, ate lunch at Ras & since stores then closed, read the rest of Dimont. Spotly, but a massive & impressive history of the Jews – something I should have known more about." {THEN HE DREW A MAP OF AFRICA SHOWING NOTES ON} **"Speculations on Sorghum" and then, he writes: "Assume 1st S. produces a basic Roxbugh I; type Went East to India early & west where it became guinease & eventually margariferum. But Durra is a Red Sea race. Where did it come from? Distribution in India may tell us something. Maybe Roxbuglium did not go along the coast from Ethiopia but directly from East Africa to India in later times.**

This map was his first, and perhaps original, thinking about using a map of Africa to capture and depict the various domestications and movements of ancient sorghum. A must more refined map (Map 5, page 473) appears in "Origins". NEED TO LOOK AT INTERMEDIATE PUBS FOR MAPS.

What happens if you cross:

JACK R. HARLAN EXP. SUMMARY NO. 7: NOV 1, 1969-JAN 13, 70 (2 ½ MONTHS)
EAST AFRICA: EGYPT, SUDAN, UGANDA, KENYA, ETHIOPIA, EUROPE

Rox X verticilliflora in E. Africa?

Rox X virgatus (Sudan) ?

Rox X arundinacea – W. Africa?

Rox X prosoletum – China?

“If Durra has been the Red Sea race since ancient times, why did sorghum not reach the Mediterranean until Roman times? Egypt might well be bypassed because of the time of the flood, but how could the Near East escape? (Winter rainfall? – no irrigation?) We can at least make the crosses”.

Jan 6 Tues. “Supposed to have an appointment with C. Allan Temple at US/AID at 8:30. He had not come by 10:30 even though he knew I was there, so I left. Too late to fly anyway. Went to bank & bought \$200.00 traveler’s checks. Did a little searching for things. No flute. Finally read Zeki Eskender’s ‘Ancient Egypt’. Frustrating & will be glad to get out. Thought of going to midnight mass since it is Christmas here, but when I turned on radio found services already begun before 11:00 pm (read later that they often start at 9:00 pm & last to 3:00 am). Decided to listen to it on radio & sure enough it went on to 3:00 a.m., ending with 9 gun salute. Very little spoken, nearly all chants & hour after hour chants get a bit monotonous. Yet, it built into a very impressive crescendo with the full congregation, choir, drums & solo voices soaring over the top. Well worth hearing but glad I didn’t try to stand up 5-6 hours for it. Imagine learning 6 hours of music!”

(Europe Jan. 7-13)

Jan 7 (Wed. – flying out of Ethiopia to Athens) “Paid bill as I would know exactly how much money I had. Wasn’t much because I had forgotten one day & actually had to cash \$10.00 traveler’s check to make it. Took bus to Embassy. Closed! (Christmas Holiday) One lone marine on guard. Couldn’t check mail. Hiked to market. Closed! No chance to buy flute. Was picked up by a student who was a great pest, but probably desperate. I finally gave him some old clothes that I was going to jettison to save weight. Finally got rid of him, cleaned up & put on traveling clothes & killed time until bus came a little before 3:00 pm. Burned up the Eth \$ at airport with no trouble. Shop opened just before plane time & I bought, unheard, a record of Ethiopian music \$6.00 U.S. which I thought a bit too much, but hope it’s good. Then at last out! Khartoum (thought of Ali Kambal & our good trip together) – Athens; bought a string of Majorica pearls & \$100 traveler’s checks & ½ Scotch - Golden Beach Hotel arriving after some fuddle at airport at 11:30 pm local time. Guest of Alitalia (airlines) – nice of them.”

Jan 8 (Thurs. Madrid) “Found hotel not on beach, but within sight of it. Rather nice Roman style. Started day nicely by pouring the scotch into the baby bottles & drinking the overflow. A coffee & roll on Alitalia & transport to airport. Changed another \$10.00 traveler’s check to make the airport tax. Very little time to spend the excess, but quickly bought a bill fold & on board finished the lot with a tin of pipe tobacco. Caravelle to Madrid where it was raining⁴⁷, windy & cold. Located a hotel Gran Via,

⁴⁷ Although Spain is usually pretty dry, if there is a rainy season it would be from November to February.

changed \$40.00 cash & took cab because of the rain. A long ride & change only about \$4.00, so glad I did. Hotel just about right, small back room away from the roaring traffic out front. Reasonable. Recovered a little & hiked to the Prado. I've wanted to go to the Prado for years & finally there it was! As usual it was overwhelming & I couldn't take it all in. El Greco, Velasquez, Goya, Rubens & Bruegel featured. Tremendous collections of Bruegels – more impressive than even the El Grecos. The whole thing was too much & I'll have to go again. Cold & blustery. Booked out on the 12th to San Juan on Iberian. Supposed to get to SJ 11:00 a.m. & should made Mayazing if all goes well. Got 12 El Greco slides.”

Jan 9 (Fri. Madrid) “Still raining. Went window shopping & bought collapsible umbrella. Looked at things for gifts & more or less decided on more pearls, a wine skin for Robert & another set of earrings. Booked tour for Escorial⁴⁸ in aft. Cold, dark & pouring rain. Tour dismal. Too dark to see anything much. Groped around in the dark peering at tapestries in the gloom, etc. Franco's memorial to the end of the Civil War included on Tour. To think of all the guys who spilled their guts for that! A tremendous basilica in a tunnel inside a mountain, but sort of disgusting sheets of rain. The great cross above the monument sometimes out of sight because of the clouds. The tour pretty much a bust. Still pouring in eve so ate at hotel.”

Jan 10 Sat. “Rain continued & decided I had best do my shopping since tomorrow is Sunday. Bought two pearl necklaces, a wine skin & a pair of earrings as decided. Blew about \$50.00 in the morning. Went to Prado again in aft. Got more out of it this time, but about 2 hours is all I can take. The El Grecos strangely a little disappointing. Don't know why. Hiking in the rain in eve finally found Spanish Food – of sorts. Food in Madrid simply not up to Rome or Paris. A little hole-in-the-wall serving muscles on the half-shell. Counter service. You stand at the counter, eat the muscles & throw the shells on the floor. About 8” shells next to counter. A small beer or a small wine goes with it. Two sauces available & poured liberally over all – lemon & picado – hot pepper. I managed to get the picado without knowing what I was doing. Delicious! Had one plate & stood & had another. Great! The total cost two plates & two beers 40¢ U.S. The restaurant across the cobble street only so-so. The wine in Spain is great, but the food nothing like Rome. More rain.”

Jan 11 Sun. “Had booked a morning tour to Toledo. At 8:00 a.m. pitch dark & raining. Left the camera because there seemed no point in it. Left promptly at 8:30 with only 6 people & it began to clear. Toledo declared a National Monument so that all new construction within the walls must be in 16th C. style. The Alcazar destroyed in Civil War is being restored & almost finished. Very cold & windy but sun shone from time to time. This time the El Grecos were impressive. Saw the house where he lived for 34 years (He rented it.) Many paintings in the museum attached to his house. Most of a set of apostles unfinished & others. The cathedral very impressive also & in the sacristy a full set of completed apostles, a Christ, a Madonna et alia by El Greco, plus paintings by Goya & others. Toledo still the religious capital of Spain & the Primate Cardinal resident there. Portrait of all the cardinals since 6th C in a fine chapel with Moorish ceiling. Much Moorish influence everywhere & especially noticeable in the synagogue. This built under Hilel & made into a Catholic church after the expulsion of 1492. Queen

⁴⁸ El Escorial is the Royal palace of the King of Spain

JACK R. HARLAN EXP. SUMMARY NO. 7: NOV 1, 1969-JAN 13, 70 (2 ½ MONTHS)
EAST AFRICA: EGYPT, SUDAN, UGANDA, KENYA, ETHIOPIA, EUROPE

Isabella, the Catholic, was a real bitch. The Synagogue was eventually abandoned as a church also & made into a museum in 1912. Except for being miserably cold, the tour was a good one. Toledo is impressive – not too much original perhaps, but kept in 16th C style & in good taste. Modern Toledo is across the river & looks as bad as any with blocks of apartments & factories etc. Went back to the muscle shop for a late lunch & then up the street a bit farther than last night & finally found a restaurant with good food. Really great! Back in the rain, stuffed, spent evening packing, paid bill etc, etc.”

Jan 12 Mon. “ Up early & to airport in the dark. Still raining. Met Lee House & Bill Young at airport & we flew to San Juan together W. stop at Los Palmsa. Cleared customs about 2:00 pm & after much indecision rented an Avis & drove over. Saw Henry Holby & Roy Quimby at S. J. airport & Dale Weibel, Chada, Dolms, Starlier (family in Uganda), Dogget, Eberhat et alia at Hilton. Finally found I was to be at La Palma & got there eventually. J M J also at La Palma, so good visit, but lousy night. Little sleep after 1:00 a.m. Stomach in trouble.”

Puerto Rico (Jan 13 -

Jan 13 Notes on a meeting on Sorghum in Puerto Rico:

S. meeting – Jan 13, Tues. –

RACHIE

Nucleus of WC (World Collection?). started in Mexico prior to 1957 by L. B. Pitner & K. O. Raeline – Then to India & more systematic assembly. India stocks on hand – then 1959-62. Indian collection made on a ‘systematic’ basis. 7 collectors, 100,000 miles & 2463 collections in 3 years – The Ethiopian collection 1500 items 1967-68.

Recommends: maintenance in 3 locations – India, Africa, the Americas & cold storage in 2 locations. Needed collections: Hinterland of Ethiopia – fringes of Sahara areas of E & S Africa, across the Himalayas – Mainland China.

MARMKE (subst. for Sporgues)

Early H dwarf in S for non-veurrent parent ca 1963 stated. Plant in Oct. produce F1, Plant F1 right away & send F2 to Texas. Large F2 pops not required. 4 genes for height & 3 for immaturity – but (non-segr?). Dwarf (4) ♀ – F1 planted individually F2 sent to Texas where early dwarfs are relisted & returned to P.R. for second cycle. 4 bachsevnes as ♀ to recover the cytoplasm (cytertmana) of original.

”World collection Notes Jan 15

Royburghii #1 open, verticillate, fairly short branches

Rox-Shaller #2 more spots/branch, branches a little stiffer, some moderately compact

Consprcimen #3 v. flat seeds that are large verticillate heads – guinea

JACK R. HARLAN EXP. SUMMARY NO. 7: NOV 1, 1969-JAN 13, 70 (2 ½ MONTHS)
EAST AFRICA: EGYPT, SUDAN, UGANDA, KENYA, ETHIOPIA, EUROPE

large spelts, seed peeping out

Glumeanse #4 (1790 = Cond) too young to see well not a good selection

Margointiform #5 3 all doubtful

Membranaceum #6 oversize glums like tunicate

Nervosum #7 one ascension – stubby branches small spelts, well nerved glumes

Nevosum – broomconn # 9 broomson

Bicolor (sorgo) # 9 Theirs tend to be semicompact

kafir to rut-tailed w. small spelts \pm symmetrical

some open – not consistent

Bicolor / Kafir #10 J.M.J says = Rex can't see this group.

Dochma #11 Mostlylike Bicolor or more open – some about like kafir

(ON PAGE 87 THERE ARE SKETCHES OF THREE PLANTS)

(LAST PAGE OF NOTEBOOK: WE HAVE THE FOLLOWING NOTES (UNDATED)

Left side:

S. aethiopicum Homan region

P.I.330 300

299

298 – Kimple

297

296

294

292

290

276 different S. vert Awash Valley

271 small –seeded “Kilo” S. vert – Robi

JACK R. HARLAN EXP. SUMMARY NO. 7: NOV 1, 1969-JAN 13, 70 (2 ½ MONTHS)
EAST AFRICA: EGYPT, SUDAN, UGANDA, KENYA, ETHIOPIA, EUROPE

Note: the note: "different small-seeded 'Kilo'" refers to both 276 & 271

Right Side:

Leslie Stuart Pickard / Sir Alexander Gibb & Ptns. / Box 30020 / Nairobi, Kenya tel 22544

Konso Crops⁴⁹:

Sorghum (Prima)

Cotton (Important)

Barley

Yams

Coffee

Cowpea

Pigeonpea

Flax (little)

Banana

Hyacinthbean ?

Cabbage

Boabab

Anaranth

Finger millet

Amorphophallus

Gourd

Safflower

Tef (little)

Also:

Sweet potato

⁴⁹ This list is the list of crops that JRH saw on the 1969-70 Expedition.

JACK R. HARLAN EXP. SUMMARY NO. 7: NOV 1, 1969-JAN 13, 70 (2 ½ MONTHS)
EAST AFRICA: EGYPT, SUDAN, UGANDA, KENYA, ETHIOPIA, EUROPE

Maize

Beans

Peppers

Potato

No ensette

No lentils

No chickpea

No hoog