Voluntown, Sept. 14, 1957.

Rhea Coleman, Fan.

Dear Rhea; It is a number of years since I have heard your voice. How I long to be at all the time when not feeding or sleeping singing. From a word or two sung, even though they seem to be the barest reason and I know more readily either band, or [illegible], respond "singing" consists of two elements the B33 Notes and Hopping (Hp).

The B33 is a single note, quite loud. It is quite a good transcription of the sound of the note, but the last part of it is also partly a whistle. B33 Notes are often given in long runs, but always with a definite rhythmical cadence to the notes. Bill opens & closes with each note.

B33 notes may be given from a quite immobile posture, more or less erect diagonal, without neck stretching, or any sign of ruffling. Such cases are quite common.

But most of the B33 notes are accompanied by the famous Hp. A single hop with each note, the head usually (but not always) bending on the same perch it took off from. Tail spread, usually raised as the head comes down. Also, as the head comes down, and the note ends, the feathers of crown are erected to form a conspicuous cardinal-like crest and the feathers

of the throat all also ruffled

Drawing
Costa

I am not sure of the difference in mutivation between the B33 alone and the B33 + Hp. The former may just be low-intensity. Or it may, conceivably, contain a stronger escape component than the Hp performance. It was noticable in the case of one of the mornings, that he flew off from his perch, apparently alarmed, whenever I made a movement. Then, on his return, he usually gave one or two B33 notes alone before beginning Hp again.

I have never seen any trace of Hp without B33

The ♂'s of this species may also have harsher "chuck" or "chuck chuck" alarm notes

Some ♂'s do quite a little bit of tail flicking, and probably some lifting-flicking as an alarm or flying intention movement. Almost as much as Sporophila.

September 15, 1957
Rio yr Corcodeilo

Netted several ♂'s again today, and saw a few more new things.

Ble cert can be raised during B33 without Hp.
But such cases are still very rare.

I also saw some of these B33's interrupted by preening and bill-wiping just as in Icarus. Have no idea whether such movements mean more than coincidence or not.

I could not tell if ♂'s annuy one another or not, as there are always buds B33-ing and Hp-ing all the time.

Watching the flukes a little more carefully. The wing-flukes are quite definite, but not, I think, usually as extreme as those of Sporophila. The tail-flukes are very extreme, quite as exaggerated as those of Sporophila — and very similar. One swung to one side, or, sometimes, one swung

Volatinia, Sept 15, 1957, II

to one side, a wing to the other, and back to ce[illegible] I think that there must be "push" flight intention wings as I have seen a ♂ give repeated Alarm Notes with a little tail flicking (just one twitch per note)

A little bit more about the Alarm Notes Alarm notes Relatively seldom as loud or as high-intensity sounding as the chucks" mentioned yesterday. The apparently lowest intensity type of note is a brief "tik", becoming a longer "Trick" as the intensity appears to increase.

The Alarm Note of the ♀ seems to be a "Trick" also, but much twangier

I think that Eisenmann's transcription of the B_{33} note is the best. I noticed that some Juans ♂'s seemed to "answer" the B_{33}'s of Volatinia ♂'s, and this made me realize that the latter have some suggestion of a "trill" undertone

Volatinia, I. November 2, 1957
Playa Coronado

Most of the birds seem to have disappeared from this area now. Today, I saw only one ♂, displaying rather half-heartedly.

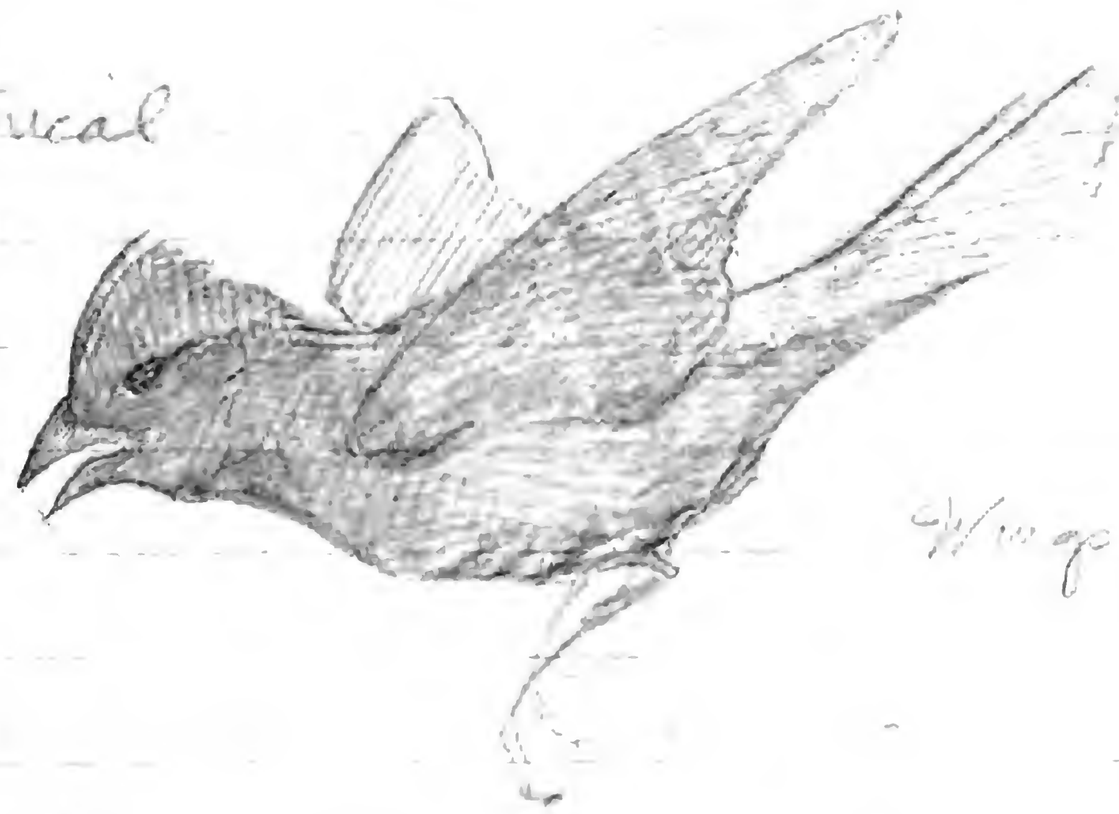
We did a lot of B_{33} without Hp, with very pronounced CR in some cases. I think I have underestimated the length of the wet feathers, and the extent to which they are raised. Can be very extreme.

January, 1952

[illegible] Bird [illegible]

[illegible] Bird [illegible] Cuckoo
[illegible] Bird [illegible] Bird [illegible] Bird [illegible]

I sometimes hear a rattling HopN or something resembling (CR) and sometimes not. I presume HopN with CR are merely low-intensity versions of the Hop performance and not the rattle. Hop without CR are of intensity still (although it is possible that some of the rattle Hop performances contain a strength of CR) sufficient for the complete performance. Might accept to measure by a FF just by seeing Hop again after having frightened (by me.)



Fairly typical coming down jumping Hop.

picture from a real

W/ no quite normal

I rather imagine that Hop must be the equivalent of "song", but I have never seen it possible any response by a ♀ or any unmistakable response by neighboring ♂'s. It is just possible that an Hop by one ♂ may induce his neighbors to Hop in turn. But there are always so many birds Hop-ing any how that this would be very difficult to prove.

Each ♂ seems to have a preferred station for Hopping, i.e. a particular perch he likes to use as home base. This is usually one of the highest perches in his "territory" (or, at least, "home range") and quite clear of obscuring vegetation around it.

Valatura, Jan. 22, 1957. III

[illegible] I may have their status within a [illegible] Blue Rock Thrush at the end of Jan. [illegible] [illegible] [illegible] [illegible] quite favored.

This 2 spent a little going out to Maya Cascade, in [illegible] there were lots of birds hopping about the place. Then, when I went back again, in late October, there were only one male still displaying. All the others had gone, apparently. It was significant, in this connection, that the 2 ♂'s Blue-gnat-catcher kept here and put in a large appearance — according to their plan — just completing a molt.

The 2 capture ♂'s are banded yellow-left and red-right.

I know this species has a CN pattern, but the 2 captive birds don't use it much.

They do, however, do a great deal of TF when dirt-walled, and this is rather extreme in form. Essentially similar to that of the other species I am studying now, it usually a single sideways-fade, but it goes quite far to the side, and definitely upwards as well. It is possible that the tail is also spread during the TF, (but the tail of the Blue-black Grosbeak always looks comparatively broad — compared with that of the seed-eaters — and it is conceivable that it is slightly spread most of the time)

It was noticeable, when I brought these grosbeaks and the seed-eaters over in a travelling cage, that the grosbeaks were less excitable, flew around the cage less, than the seed-eaters.

Volatinia, Nov. 29, 1957, I

These birds don't show me much tendency to jump than the other finches. The 2 captive males usually perch on another as well as the other birds in the aviary. They also have favorite stations about 4 ft apart; but I have not seen any signs of territorial behavior yet.

The WF's of the capture of 2 seem to be (at least in comparatively uncomplicated and little engorged (uncongested) not only with this WF is but also the WF's of most of the other species)

Volatinia, I. December 1, 1957
Barro Colorado

It may be significant, in connection with the general lack of mobility of this species, to note that the 2 captives do not fly back & forth across the aviary for hours in the early morning like the other birds (including the 2 ♀ Variid seed-eaters). They only do it a relatively little bit.

They also seem to spend a good deal more time on the ground, presumably feeding, than the ♀ seed-eaters.

Volatinia, I December 7, 1957,
Barro Colorado

Today, in connection with the study of the CN, or apparent lack thereof, of the Sporophilas (see below), I went into the aviary where the Blue-black Grosbeaks are and walked up

and down for 10 or 12 minutes, fighting the birds and causing them to fly up and down a great deal. Neither of the Grasquits called a note at all, nor CH or ALCH! (And yet I am sure I heard the 4 inquits at Playa Coronado in September utter some sort of CH, sometimes at least!)

Valentia, I.

December 5, 1957,
7 miles
SE

Watching both the Blue-black Grosquits and the Yellow-collared Seed-eaters along the railroad track S.E. of town.

A few Grosquits around, feeding with the groups of juncos. These two species certainly do seem to go around together. They do, in fact, seem to react as a single species now — except when the Grosquits become involved in Hop, when the ♂ Grosquits, at least, tend to segregate out

Hop and related patterns do occur now, but they are certainly not as frequent, or as long sustained, now as they were in early September in Playa Coronado. I have seen 2 adult ♂'s in perfect plumage do more or less Hop; and at least two juvenile ♂'s, in transitional black & brown plumage, do very intense & prolonged Hop (they were doing it as much as the adult ♂'s in Playa Coronado earlier). The juvenile performances were exactly the adult performances I have described above, and included the same range of variations. So were the performances of the 2 adult ♂'s I saw today; but I think they tended to do less of the actual Hop movements, and give more Hop Notes from a sitting position (very

after without the slightest trace of CR) Again I conclude that any response by the ♀ is to any part of the App performance but App Notes alone & individually stimulate negligible response in App Notes too. I conclude determine much about the connection of the performances; but one adult ♂ rather tended to begin App when he became separated from the ♀ with which he associated (Have record to be some Terms of year between the adult ♂'s and ♀'s. Neither of the juveniles, however, was associated with a ♀ — which may help to explain the persistence and vigor of their App.) I did notice that all the ♂'s tended to do lots of juvenile TF's and WF's in between App performances.

I was also, of course, looking for CN's and visual patterns I think it is obvious, now, that Hand Cards do not figure much in the way of CN's in flight. Perhaps none at all

But visual ♀'s did utter notes when perched on branches near me. Single, rather sharp but not loud "Tch" Notes, sometimes repeated quite frequently & rapidly. Bill opening & closing with each note. Associated with lots of TF and WF-wig; but otherwise no introduced postures or movements. I shouldn't be surprised if these notes were eventually proved to be ALCN's

One of the adult ♂'s may have given visual App movements (quite extreme and going far into the air) without any accompanying notes. I am really quite sure that this did occur, but it seems to be most peculiar; and perhaps should be left as tentative for the time being.).

December 7, 1957

Wing motion adult ♂ in full plumage doing complete Hop performance I can add to, or correct, my previous description of these patterns in one or two respects. This ♂ definitely begins CR just before he jumps up in the first part of the Hop movement, then maintains CR for a second after coming down, then wraps tail, then CR again, then jumps up again, etc. etc. etc. The Hop Note begins as soon as he goes up in the jump and lasts until he gets completely down again. Also think my drawings of the posture in which a bird comes down from the jump may be too "small-headed."

About view of CR.
Note color of lower bill coverts

CR before Hop jumps
Posture as a whole rather variable

The bill usually I think pointed quite strongly downward when a bird comes down in the jump, and the wings may be raised quite far. More like this:

December 7, 1953 I.

Volatuna

Well! Well! Well! Something new & important, which I had completely overlooked before. The first part of the Hpp Note is really a Rattle (at least 3 or 4 individual "syllables" to each Rattle). Begins just as bird goes up. Very rapid. Over when the more "cheep-like" part of the note begins. (This may possibly mean that the Hpp "Note" is more comparable to some of the Juarez vocalizations than I had thought.)

I am fairly certain now that the "Tch" Notes are ALCN's. I have observed several more "nervous" ♀'s uttering them when close to me. And I have just heard a ♂ give them, for the first time. It was another ♂ in full adult plumage, giving Hpp Notes by the side of the RR, (where, of course, it is usual to see people parked). As soon as I got off the road, however, to approach the ♂ through the grass, he stopped Hpp Notes, and began to give Tch Notes (just like those of the ♀) with very rapid & intense TF's & WF's. Quite conclusive, I think.

Watching still another ♂ do-lingeringly Hpp Performances (there seem to be a lot of ♂'s, all adults in full plumage, being very active along this stretch of Trail today), and can add to, or modify, a few of the notes made earlier today. The event is by no means al-

Valentine Dec 7, 1947 II

unexplained hyperactivity pump. Do Fs mature more quickly than the gs pretests (same). Study that same Hyp tests don't include ... Fs. Pattern at all. The boundaries of the Pattern must at least be variable (Blue's must stem that the Pattern of stim of ♂s who "can't learn it, is just like that of the other ♂s.)

Often observed, ♂ Blue black Grosbeaks tend to fly down to the ground, and then gradually ascend as their alarm increases and they assume Hyp (i.e. they tend to use higher & higher perches as a spring-board for the jump).

I notice that this ♂ does four-or-no WF's or TF's between Hyp Performances. It is my impression that only ♂'s who are nonexcitable alarmed so much flicking in the intervals of Hyp. It is possible that all flicking is confined to situations in which the escape drive is relatively more or less strong

There is no doubt but that the ♀'s tend to be quiet ASCN's much more frequently than the ♂'s. I am not quite sure why that is. It may be simply that the escape drive of the ♂'s is less easily aroused. Or it may be that ♂'s simply tend to fly away from a disturbing stimulus when alarmed, while ♀'s tend to stick nearer to the stimulus and hop around in great anxiety

Neither of the capture ♂ Blue-black Grosbeaks showed much reaction when I put a hawk in the aviary (see today's notes on Cyanespes). They flew around a bit, but this may have been because other birds were doing it. No calls or notes still

I have seen one capture ♂ supplant the other, and vice versa, but never with the slightest trace of ritualized hostile display. Just the usual flicking before and/or after.

Volatinia, I

(11)

Dem. 13, '57
Barro Colo.

One of the captive ♂'s, yellow-left, seems to have begun something, if not much. He's just sitting on a twig this morning in a more or less well-developed relaxed "Huff" posture, with a bit of CR as usual in this posture. Then began to utter a series of weak, high-pitched "Wheet" or "Peep" notes a single note, followed (in 5 to 10 seconds) by another, followed by another, etc. Then organized into series. Each time a note was uttered, the head went forward, and perhaps upward, a very little bit. Sometimes a note was preceded by the very slightest shaking, almost trembling, of the wings & tail — always very brief and difficult to detect. This whole performance looked as if it might have been the very lowest intensity, preliminary version of the Hpp complex. Also, perhaps, reminiscent of ordinary CN performances of many species, and such things as the CHN of the Variable Seed-eater.

Extreme posture, at top of the "Wheet"

Volatinia, I

December 14, 1957
Barro Colorado

Surprisingly enough, the 20's have neither amounts with

on one than we with the other females in the aviary. This would suggest that the upper is not really new, after all. On this consideration, it should be mentioned that I have seldom or never seen more than one adult ♂ Blue-black Grosbeak in association with a flock of Variable Seed-eaters on the mainland, although there may be several ♀'s (or immatures ?) with a flock of this sort.

Volatinia, I

December 28, 1957
Barro Colorado

Just to supplement the notes above — I think it would be quite fair to say that the 2 capturi ♂'s have definite home ranges; and one of them defends his as a territory, supplanting attacks

February 24, 1958
Frijoles

Volatinia, I

For the first time today, after a long long pause of months the ♂'s near the RR station have begun to display again. Just as usual. I presume this period of quiescence was due to the fact that they were moulting. My males in the aviary certainly were — and so, at least, were the immatures in the wild. ♀

March 3, 1958
Frijoles

Volatinia, I.

Caught a brief glimpse of some reactions between ♂ and ♀ this morning while I was waiting for the Town Hall to open. The ♂ immediately shut up. As the Hop-wing by himself. The ♂ immediately shut it is stopped by the presence of a ♀. He sat looking rather nervous, with lots of fluffing of all sorts (but with feet still slightly raised). Later on he flew about quite a bit, to one perch after another, down to the ground to feed, up again, etc. etc. Each time the ♀ followed him and each time, except when he was feeding, he flew away from her again. It certainly looked as if he were rather afraid of her

Volaterra, I

March 4, 1958,
Bruno Colorado

In case I forgot to mention it earlier, the ground-dwelling proclivities of the captive ♂'s are so pronounced that they even try to escape from me by running through the underbrush This is really rather peculiar, as the wild birds seem to be quite willing to fly up into bushes & low trees

I had the chance to watch a lot of these birds near Sirgoles yesterday morning & today ♂'s displaying much as usual. Some of them apparently quite unmated (including the ♂ whose reaction to a female is described above, March 3) Some ♂'s are quite persistent and apparently highly motivated, but most of them only do a comparatively little Hop for comparatively short periods. The general level of activity is certainly much

I don't think it was when I first watched the birds at Playa Coronada. Most of the ♂'s flipping around I suspect were immatures, in process of molt still.

Most of these immatures give Hop calls quite like those of adult ♂, but none of them give their calls in a particular hurry, "tinny", voice.

Volatinia I

March 18, 1958
Barro Colorado

The 2 captive ♂'s have fought with one another from time to time, mostly supplanting attacks, (with the red right bird definitely dominant); and today they have fought a lot. Today the white left bird has fought back a little. It is particularly surprising therefore, that I have never seen even the slightest trace of hostile display during any of these disputes!!! The birds do a lot of WF's and TF's (and the tail is fanned when they clung to the sides of the aviary) during these encounters, and the act is sometimes ritual, apparently as a preliminary to general fluffing and shaking out of the plumage; but I have not observed anything like threat calls or postures or movements of any sort.

It may be significant, in view of the fighting today, that both the captive ♂'s have begun to give a few Hop Notes or Calls this morning — although definitely not in close association with the fighting itself. Without any actual Hop Movements Birds just sitting in usual posture, with some CR occurring with most notes. The notes themselves sounded quite like the notes I

have heard uttered by wild birds, although somewhat softer on the whole. None of these Hop Notes was preceded by any rattle-like sound, but then I am not sure that I have ever heard this sound in the wild in more than a few cases of performances by the same single bird). Each of the 2 captive ♂'s had one bout of spirited Hop Notes this morning, but these bouts occurred at different times

Volatinia, I

March 31, 1958
Tejeles

I was around Tejeles all morning, and noticed that there was little or no Hop or any other display going on. I wonder what sets off these periods of display and non-display ??? ??

Volatinia, I

April 9, 1958
C-21

Watching some of these birds near the road here. A little Hop display early in the morning, but not as vigorous as at the height of the season. Lots of apparently territorial boundary disputes between adult ♂'s. Lots of supplanting attacks and rapid chasing back & forth with little or no display of any kind. Only some sharp CN's which may have been wholly or partly provoked by my presence

April 19, 1958
Barro Colorado

"The usual chasing back & forth going on between the capt-ive ♂'s in the aviary this evening. But this time I mean I heard a few single HAC Notes when the displaying was at its most vigorous!"

Volatinia

June 27, 1958
Rio Miguel Lake.

Lots of birds around here, both displaying ♂'s, apparently or possibly single, and obviously mated pairs.

Watching an apparently single ♂ going through an hour of almost continuous high-intensity Hopping of the usual sort. Obviously had a favourite perch, but also Hopped from time to time on other perches. Twice, a ♀ (the same one?) appeared in the neighbourhood of the ♂, certainly on his territory. She didn't do much, just hopping around from twig to twig, but unobtrusively circling nearer and nearer the ♂. He didn't seem to react at first, just continued Hopping and Hopping. But each time, he eventually broke off and flew straight at the ♀. She flew away each time and he followed and I lost sight of the bird. I think that these displays of the ♂ may have been primarily sexual or pairing, simply because he didn't display at the ♀ right away — as he would have at another ♂ (also I haven't seen Hopping as close association with territorial defence against ♂'s). If so, this would be a good indication of the primarily sexual or pairing nature of the Hopping. And I should emphasize that the ♂ came back from

Volatuna, June 27, 1958, II

one of these chases after the ♀ with M m. in his bill!! He started [illegible] quite a whistle with this material, removing WF-wg and T-F wgs, then dropped it, flew to his favorite perch, and started Hopp again.

It is possible that the "rattle" in the beginning of some Hopp Notes is "instrumental" — perhaps caused by the wings. It is my impression that it is particularly characteristic of the highest intensity Hopp performances, when the ♂ is jumping most frequently (in this case, when the ♀ was in the neighborhood).

Volatuna, I

June 26, 1958,
Pedro Miguel Lake

Went back to the same area as yesterday. Watched a number of birds not doing anything, and then spent most of my time watching the ♂ described above (and his ♀ — as he is apparently mated.)

Can confirm a few points I noted earlier.

The presence of a ♀ certainly does stop Hopp by the ♂ (at least in the case of mated pairs). And the minute she leaves, he starts Hopp again. It is my impression that ♂ Blue-black Grosbeaks do not Hopp in quite the same circumstances that a Blue Tanager, for instance, does. I think that the ♂ Grosbeak Hopps whenever the ♀ is absent, not just when she is present but too far away. (But the way these birds hide in the grass, it is always difficult or impossible to establish conclusively the fact that the ♀ really is absent.)

The ♂'s certainly respond to one another. Hopp by one bird,

after a long period when no birds have been displaying, will usually start 2 or 3 other ♂'s in the neighborhood display-ing as well

The preliminary rattle also made during the first part of the display seems to be instrumental sounds rather like the wing-beating of the Wood Pigeon

I have seen quite a few more disputes between neighbor-ing ♂'s, or between territorial ♂'s and intruders, and they have all, so far as I have been able to see, followed the usual course. Disputes between such ♂'s are actually quite common, but they are perhaps less frequent than one might expect, considering the relatively small size of the territories (sometimes less than 20 ft. long) and the general conspicuousness of the birds. This species may be more specialized in the direction of increased spacing than I thought. It is presumably significant, therefore, that I have still to see an attack pre-ceded by display. Display also seems to be taking after attack as well; although I have seen one ♂ stand in a posture with tail fairly high, much WF-ing and TF-ing, and extreme CR, after attack had been nothing more than an extreme

This may well have been a pre-flying pattern. (I have seen ♂ Variable Seed-eaters assume a similar posture before flying in other circumstances.)

The whole CN [illegible] of CN complex of this species is beg-inning to confuse me a little. There are probably a lot of variations which I can't distinguish.

There does seem to be a definite "flight call" — or more particularly, loud + utter harsh CN's (I am sure that there are what I have been calling "alCN's" previously — at least in some cases). More often uttered in series than single the commonest number of "flying CN's" (FCN) in a series is 4; but very occasionally a series may comprise many more. FCN's seem to occur whenever a bird, particularly a ♂, flies they may be uttered when a pair flies off together, when a ♂ chases intruders, when the ♂ flies away from the ♀, and when he flies back to her, (in the last 2 cases the FCN often seems to be a sort of "landing call"; the ♂ uttering a burst of FCN's when he comes in to land). I am not sure how often the ♀ utters FCN's, but she certainly does do sometimes (see below).

I have now seen several more cases of aerial chases, a ♂ following in hot pursuit of a ♀. (I have seen at least 2 different ♂'s chase at different times.) Very rapid + energetic; but always brief. Quite in the classical Elliot Howard butting style. Apparently no calls or ritualized movements involved (in the possible exception of FCN's by one or both birds.) This is the only species of normal here which seems to chase in this way so frequently. Would certainly suggest that it really is an emberizine.

I have also seen more cases of ♂'s terminating a series of Hop performances by flying straight toward the ♀. In which case she usually flies away a little distance

Similarly, when the ♀ flies to the ♂ when he is Hopping, he is quite apt to fly away a little distance

Relations between the sexes, in fact, were rather nervous and delicate

It is possible that some "FCN" s do need to attract the mate. I have seen one; just separated from his ♀, utter a series of FCN's just before beginning Hop

Flus may also be significant in connection with the following incident.

I disturbed a ♀ (the ♀ of the ♂?) have been watching intensely) and I noticed that she flew up and perched on a grass stem. There she uttered what seem to be the "real" adult FCN's. Like FCN's but thinner and weaker, and apparently always uttered singly.

I then noticed that she was carrying n.m. in her bill.!!

She just sat, WF-ing and TF-ing from time to time, making little flights - apparently toward the nest-site - and returning, and continuing to give an occasional adult FCN. Then she dropped the n.m., flew away to another perch a little farther away, and resumed BW movements, sat, started to do wing-quivering (Qu) as her belly feathers fluffed out. She uttered a series of about 3 notes just as Qu began - apparently quite indistinguishable from ordinary FCN's !! Then continued high intensity Qu a fluffing quite intently for a few seconds - with a far away look —

I am sure that this thing, see any trace of a Probably quite low

then flew off into following. must have been solic- although I didn't copulation attempt intensity or preliminary

solicitans.

Still significant. It indicates that the soliciting of this species is of the usual passerine type. And also reinforces the probability of a close connection between nest-building & sex.

I am not sure if ♂'s ever give "real" alCN's like the ♀ during this incident, but I certainly think so.

The ♀ of this pair was often feeding quite close to ♂ and ♀ Variable Seed-eaters this morning. She didn't seem to be reacting either with or against them (the apparent indifference seems to be quite characteristic of all encounters of all kinds of the 2 species), but it may still have been significant certainly the ♀ Grenadier was closer to their Variables than to a pair (♀ and ♂) of Yellow-bellied Seed-eaters which were also present in the same neighborhood at the same time.

Volatinia, I

June 29, 1958,
Trijolas

Watching a few birds around here now, lately, this morning.

Lots of fighting & chasing going on (or, at least, chasing — I am not sure that actual blows were delivered), involving 3 neighboring territorial ♂'s along the RR trails. I got a very good view of this — and there were absolutely no displays of any sort by any of the birds at any time. Not before or during attack, not after attack, not before or after being attacked, not before, during, or after escape. Quite clear.

One pair of Blue-black Grosbeaks feeding in the neighborhood of a ♀

Yellow-bills (continued) Outer tail feathers dirty white usually narrow & variable.

Valatura I

June 30, 1958
Pedro Miguel Lake

Watching the same pair as before.

The ♂ on the ♀ did a couple of days ago showing apparent solicitude was morphologically similar or identical to the quivering both sexes do when shaking out the plumage. An incident I saw this morning would seem to be highly significant in this connection.

It rained for an hour after dawn, and when it finally stopped, the ♀ flew up to a low branch and began to re-arrange her plumage with a whole host of comfort activities. Among these were lots of "wing-shaking-quivering (WSQ) movements. I noticed that when she did this her lower body plumage was also conspicuously fluffed. Just like yesterday the day before in fact (except that the ♀ was quite silent and had shown no interest in me). Just as the ♀ started another bout of WSQs, I noticed the ♂ rapidly hopping toward her through the branches. His approach was quite silent, and apparently quite unnoticed, except for CR. He then flew straight to the ♀, landed on her back, and apparently tried to copulate. She didn't respond except by struggling, and the ♂ flew off immediately. He landed on a nearby branch, and then hopped around for a bit, going from twig to twig, with CR and lots of flicking. The ♀ just continued her comfort activities as if nothing had happened. The ♂ then started preening, WQS, etc., too, and both birds continued for quite some time. The ♂ interrupted his comfort activities occasionally

to fly off a little distance, hop from twig to twig with CR and flicking. He sometimes uttered FCN's when he took off or flew back to join the ♀ - and he also occasionally uttered FCN's when perched in between bouts of flights. Once the ♀ answered him with about 2 FCN's while she remained perched a continual preening. (Is this FCN is a "real" call note.) Finally the ♂ flew away and disappeared, and the ♀ eventually did likewise.

This was an obvious case of "mistaken identity" of a sort I am sure that the ♂ mistook the ♀'s WSG for a rival's WSG!!!

The morphological similarity between WSG and GG is so great as to suggest that the former was derived from the latter.

I think that I may have heard some very soft WAC-type notes during an apparently hostile chase involving 2 ♂'s this morning.

Volaturia, I

July 2, 1958,
Baca Colorado

The 2 captive ♂'s are still chasing one another a lot. The red-banded bird still dominant. This species seems to be far the most aggressive of all the small finches I am keeping - even more so than the Goldfinches.

Again no display associated with all this aggressive chasing. I have noticed, however, that although a ♂ often stands with CR after attack or between attacks, the crest is apparently always smoothed down just before attack.

The ♀ does not seem to take any part in these disputes.

The less dominant ♂, the white banded one, spends quite a lot of

Volatinia, July 2, 1958, I (R7)

[illegible] sitting on a rather fluffed, mostly cooing, head-turning and nodding, on shoulders position. Then may be a grapeseed, and I can't be quite sure about it. Old Blue Black frequently tend to fluff out a little when sitting.

Volatinia, I

July 16, 1958
Barro Colorado

I have had a few more glimpses of Grosbeak behaviour near Rabo Mugal Falls, and am now writing the birds in the area here.

Have seen a little more Qu by ♀'s. One Qing bout by ♀ near OM. There is no doubt but that the movements themselves are apparently identical with some comfort movements. I got a good view of this ♀ from the front, and noted that the underfeathers were fluffed sideways as well as down. Also that the carpal joints were held pressed in to the body during Qu — only the "distal" ends being moved. The bill was opened & closed rather irregularly, once or twice during

caricature

this Qu. The female may have been uttering one or two brief notes, perhaps like CN's, but must have been very soft — and in any case, I didn't actually hear them.

Thus mild ♀ didn't seem to provoke any response from her mate, who was sitting in the bowels of a bush nearby, and so he eventually flew into the bush to join him.

The capture of has also seen the new buff-tips arriving. A couple of unflowered, quite silent but apparently quite like the Du of the wild ♀'s I have watched when disturbed in a bush just before going down to feed! The backed about as of the Du was a rapid flying retention movement; and how-ever the midnight hour was quite nearly, and so the cove warn't big enough for two conclusive

What seem to be perfectly-typical - sounding FCN's may be given by wild ♀'s flying away from me, when they certainly are reminiscent of alarm calls.

One of the captive ♂'s, the white-banded one, utters apparently quite un-alarmed near me, has several times uttered single weak "Soft" Notes, from quite unmistakable utters postures. These are even weaker than the "real" ACN's mentioned on June 28; and it is possible that these are the "real" CN's of the species.

The various call-notes of this species, their division and arrangement, may be rather reminiscent of the Goldfinches!!

The white banded captive ♂ has uttered quite a lot of Hop Notes at intervals this morning, without Hop Movements, right in front of the bird. No trace of the rather loud rattle-like or clapping-noise sometimes made by wild birds with Hop jumping — which showed prove that the latter noise is purely instrumental.

This ♂ does, however, provide some (but not all) of his Hop Notes with 2 or 3 very very soft "Chuck"-like notes. Given as the bill opens for the "real" Hop Note. (The bill is only opened and closed once during a single Hop performance) These notes would seem to indicate that the real Hop Note is actually a series of notes which have become "run together".