September 14, 1937
Playa Coronado, Pan.

Saw my first Fak today in brushy wall field, in mid-morning. Faked almost content as it played, "suing" whenever not blown on ground feeding. "Suing" usually from tree or bare tall brush.

The "suing" can be divided into two distinct calls: Tule (Tk) and Till (Tl). These are obviously closely related, but I heard nothing at all resembling an intermediate performance.

Tule is quiet, quite mechanical sounding and even — no obvious difference in pitch between successive "notes." Usually quite a long burst. Sometimes 20 or 30 notes, sometimes one or two introductory and terminal notes slower (i.e. separated by greater intervals) than the rest. Bill opened a closed multi-echo note, given from all sorts of unorthodox postures, although usually when the bird was sitting more or less erect (without stretching neck up). It seems the yellow speckles of the throat were sushed during Tk as well as Tl.

The Tk was also a remarkably uniform pattern. A series of little uniform, high-pitched, neat "notes" like or whistle-like "syllables." Bill kept open throughout a whole bill. Chin feather definitely sushed. Given from...
the same posture at all times, quite rigid, but possibly not ritualized. Body and tail more or less exact diagonal. Neck not ritualized. Head and bill horizontal or inclined slightly upward. Tail vibrating with the "syllables."

Difficult to tell what the difference in motivation between Ike and Ile is. Ike was rounder of the 2 performances might suggest that Ike is merely a low-intensity version of the Ile, but it is also possible that Ike is more strong-willed than the Ile. It was my impression that this led a relatively greater number of Ike's when I first disturbed him than later on when he grew accustomed to my presence. Also, once he flew to a brush where there was another bird, a \& (I think of another species) and gave a whole series of bursts of Ike...
without any ill — the only time he did anything like this.

She did quite a bit of Bill-wiping (Wp), one side one side, one side the other, in the intervals of Ick. And lots of preening, sideways over shoulders or under wings or just linear feathers, in the intervals of Ill.

Another thing about that I noticed was that he did no tail-flicking or wing-flicking like *Sporopithula aurita* (or *Valentiana*).

Jenna, I

September 15, 1957

Playa Coronado

I watched several more Ick's today

Behaving much like yesterday.

Relating much more ill and much less Ick.

Why?

Saw one or two very slight wing-flaps as intention

moved of flight, but obviously very rare and unusual. At

Much more conspicuous was lots of Wing - quivering by

one Ick, apparently also as not mov. of flight. Sometimes

when silent, occasionally with Ill, once or twice, I think,

with Ick. Sometimes one wing held out further and quivered

much more than the other. No obvious accompanying

visualized posture, except that the quivering tended to

lean forward and down, sometimes very far.
Ill can also be given in flight.

I saw one X carrying a small bell, but still no sign of any response to any vocalizations, or even any sign of paws.

One or more of the X Ills tended to answer B33 notes of Volantina. 3's by Ill's.

Travis, I

November 2, 1957

Playa Coronado.

... All the kinds (certainly all the 3's) seem to have gone from the area now.

Travis, I

January 21, 1958

Playa Coronado.

I finally saw a flock of these kinds again, for the first time in a long long time. Including one adult X in full plumage and 4 or 5 X's, and 3 or 4 immature X's feeding on ground by side of road, or moving low through the adjacent hedges. Definitely skipping - in more or less the same way as may Blue-black jacquins during the season when the X's don't display. None of these kinds did much in the way of display either.

Lots of flashing generally very reminiscent of both Volantina and Xopalex. X's incl. a strong lateral component. Perhaps usually D-V, but perhaps often D-X (and usually, I think, within 'figure of 8').
I am not sure if these birds made any vocalizations or not (there were so many other species chirping in the background), but I think they gave a few (although probably much less, at least, than the captive Gold-finch). Perhaps N of the usual sort – perhaps actually just *Ida* Notes. It is possible that the *I* also gave a few, rather broken *Ids*, but I am not sure of this.

_Jan., 1958 II_

_Jan., 1958 II_

Mrs. Morning gave me a *?* of this species a couple of weeks ago. Seems to be in fine health, but it has done little behavior.

Finally, about 3 or 4 days ago, apparently it began to give *Ids*. Quite rare, usually at fairly long intervals. Usually, I think, from a relaxed rather flattened sitting posture, sometimes associated with a little apparently normal preening. All the *Ids* up to now seem to have been just about as long as anything the male *?* gave last year (i.e. including as was distinct syllables), but are very much softer. This is presumably an indication of low-intensity motivation. (This also seems to be true of all or almost all the low-intensity "songs" or "WS"s of all the species I am studying. They all begin with full-length but only a fraction of the volume of the high-intensity vocalizations.)

This afternoon, the *I* also began giving *Ids*. Just a few *Ids* notes in succession, usually just before a *Id*. These notes were quite loud, much more so than any of the real *Ids*. This bird is going
Sometimes the Jek notes were greatly accelerated (while remaining loud) just before a Tull. Almost seemed to be a "tail" of another sort. The difference in loudness between the 2 types of vocal patterns may indicate that the real "Tull is a sort of a long rapier series of Jek notes."

**Jirre, I**  
April 19, 1958  
Bans, Colorado

The capture is giving quite a bit of Tull's now—just as before. The interesting thing is that he doesn't seem to be losing any Jek, unless one or two preliminary notes before some Tull's could be considered such. Certain no Jek like the wild bunts I watched last fall.

**Jirre, I**  
July 16, 1958  
Bans, Colorado

The capture is a lot more active these days. Doing quite a bit of Jek, sometimes more or less by itself, sometimes before Tull.

Almost all the Tulls are accompanied by a form of Qn. The carpal joints kept close to the body but the distal ends held out and relaxed rapidly. They are probably not, however, held out as far as the distal ends of the wings of a Valantina during "soliciting" Qn.) The tail may be relaxed also. Thus Qn comes as if it were just the mechanical result of forcing out the sound.
This bird also seems to have a form of silent fall (SFall).

The bill held open, and the wings quivered, just as in the ordinary fall. But apparently absolutely no sound. I saw this once immediately after an ordinary fall, and once occurring more or less by itself.

Harry, I.          July 16, 1958

Playa Colorado.

Quite a lot of Yellow-jacks around here now.

A few by the road, giving almost no display. But I have

seen two fights between a #7 Blue-black and a #7 Yellow-jack. Obviously by different birds involved each time. Once the #7 Blue-black seemed to be the aggressor (his # was nearby); the second time the #7 Yellow-jack seemed to be the aggressor (there were apparently no #s at all around then). Each fight largely consisted of jousts and clashes and brief supplanting attempts, but the second one also involved a brief but real aerial fighting struggle.

Neither #7 Yellow-jack during either of these fights showed any trace of ritualized displays, no ritualized postures or movements or calls.

Two or three times I have flushed a # Yellow-jack, and then had them perch or keep about quite close to me doing quite a lot of display.

Most of all, however, the # Yellow-jacks, especially the #7, have been particularly aggressive. I've gotten a lot of display of the #7 after the #7 had been directed at me. In some cases the #7 was preliminary to the fall — looking almost like a low-intensity version of the #7.

I find it very difficult to interpret the motivation of such calls. There's definitely no longer seems to be directed at me, but...
also then Jck's), as a result of provocation from me. So, this would suggest that the Jll and Jck must be primarily hostile. (Quite unlike the Pip of the Blue Jck, which is certainly not usually either provoked by or directed toward me.) I rather agree with this hypothesis. But both males were apparently separated from their females, and it is possible that they were attempting to "call in" the females.

This species is not particularly gregarious (hardly gregarious at all), but it certainly is related to a mobike. Each river bird or sparrow is known to range over a very wide area, I only get a few seconds glimpses of them - and then they go quite away from my immediate neighborhood.

Jans, I

July 18, 1958

Glenwood, Colorado

I went out to Playa Colorado yesterday, to look for more Yellow-Jacks. Quite a number of Jck's around, but they certainly didn't do much.

Jck's, Jll's, and almost no Jck. Lots of these Jll's were done by. At some distance from me, and apparently quite unalarmed by me. This seems quite definitely to be the "song" of this species.

Today I have been watching my single capture of Jck and have perhaps got a little more.

I am beginning to think that Jck-Jll-S Jll may be merely a series of increasing loud intensity. There are certain intermediates between Jck and Jll, i.e., calls in which the notes have a Jck quality, but uttered with my Jck-Jll rhythm and
there are all sorts of contact & frequent integrations between Jill and S Jill. A phrase will often, for instance, start out as Jill and gradually shift into S Jill before it ends.

This captive J has also developed a new call, three or four syllables "mewt mewt mewt ..." Associated with Jill's (and S Jill's). Can be given either first before or just after a Jill phrase. I don't have the faintest idea what it means.

In general, I am tending to the conclusion that this species is quite a dwarfATTLE.

The picture from which my J comes has Jill performances v much more flushed (around the breast & belly) than the one drawn on Sept 14, 1957, p. 2. Perhaps he has really escape driven that wild levels?

Janes, I

August 10, 1958
Anna Campana

You are a lot of these birds around here — more than I have ever seen before anywhere else. Most of them migratory.

I haven't seen much that's new as yet. Lots of Jills of course, but also lots of Jke — more than I have ever heard before. Apparently the Jke given by both F's and F's (although I am not sure that it takes exactly the same form in the two sexes). App-apparently functions as a CN or "contact note" in some cases, but prob-probably more than this as well.

In one case, the F and F of an obvious pair were sitting in
There was a small low-bare tree. The 2, and possibly the 3, were uttering a lot of 'Tuk Notes.' The 2 trunks flew and landed very close to the 4 and "peered" into her face. Once this "peering" developed into a definite poke "at the side of her face." I presume not, since or invitation???

The rhythm of the Tuk Notes is quite variable. Sometimes uttered as single notes, with appreciable and variable intervals between successive notes. Sometimes uttered in accelerated series of variable length. Some of the series probably contain a long and rapid notes as Tuk's, but lack the whistle-like quality of the latter.

One of which apparently flashed from the node gave a most elaborate vocal performance. Perched on a twig near me, apparently not too greatly alarmed by my presence, gave bursts after bursts of accelerated Tuk Notes. A few of the latter bursts were followed by ordinary Tuk's, but most of them seemed to culminate at Tuk's. The whole thing might be diagrammed somewhere: Burst of Tuk's - Still - Burst of Tuk's - Still - Burst of Tuk's - Still - Burst of Tuk's - Still - Burst of Tuk's - Still - Burst of Tuk's - Still - Burst of Tuk's - Still. Very little or (usually) no pause between successive vocal patterns. The Still's that seemed to be the climax of the Tuk's were relatively loud. I thought at first that they were sort of single "exhalations," perhaps sounding very faintly as "HaAAA..."—quite like the "silent flur's" of some entituties!—but I finally decided they were Still's merely because I saw the bird's tail vibrating in the characteristic manner during them.

The 2 gave all his vocal patterns from an apparently quite
I noticed that her yellow throat feathers and eyebrows were very fluffy. Top of her head from the front looked more or less concave.

I still can't decide what is the causal difference between Jelk and Jell. The Jelks of Jelk given by the orchard immediately above certainly didn't seem to be very low-intensity, and neither call seems to be more often used as an alarm pattern than the other. The fact that I have seen so many more Jelk's associating with Jelk's today than ever before, and also heard so much more Jelk, might suggest that the Jelk contains a larger sexual or pairing component. Certainly I don't think it's ever given Jell's when they are paired and very close to their females.

One Jelk gave a few Jell notes – ________

It appeared as a “flight call” when she flew away from a Jell.

Jelk Valentina was perched in a tree quite close to a pair of Jell's, without any signs of hostility, between the species. The Jell's of one Jelk certainly provided an answer to the Jell's from others in the neighborhood.

Later on, as I walked back along the road, I saw fewer Jell's, and heard almost no Jelk! Quite good supporting evidence still lots of Jell's, however, and I saw again confirm some things about the pattern which I have noticed previously. This is certainly the usual pattern quickly. It's separated from their Jelk's still rare, possibly given also occasionally in these circumstances – although I can't be sure of this. If either the Jelk or the Jell is given as a hostile response to my presence, it is certainly the Jell – but I
am not sure that even the most restless-seeming Jill's are not also the result of strong, frustrated, or just frustrated strong pairing motivation. One day I watched from the roadside, sat in a tree near me and did Still as well as Jill - so if the Jill can be restless, the Still may be also.

I have seen one & carrying u.m. in her bill. Unfortunately she disappeared immediately and I couldn't follow her.

Then I came upon a very active pair, & and q. The q. spent most of her time feeding peacefully on the ground. The pair is little feeding also, but he spent most of his time flying from twig to twig some distance from the & but usually circling more or less irregularly around her, uttering lots of Jill's every time he perched, and also a few Jill's. Also gave Jill's whenever he flew away from the & to a more distant perch. Then rubbing the & few away, about 20 yds, uttering "flight call" Jick Notes, starting with a few slow ones and then accelerating to a rapid burst. (Jick Notes are thinner, more "cut-like" than the usual Jick N's or displayng J's - but I don't know if this is just a characteristic of q. J's or a characteristic of the flight notes. Although actually I don't think I have ever heard a Jitter bird "flight" Jick N's - which I shall call F-Jick N's. The F-Jick N's, by the way, sound quite a lot like the FcN's of Blue-black Grosbeaks.

Anyhow, the & followed the q. and landed right beside her, and then so much happened so fast I couldn't follow it. All I am sure of is that the & performed the elaborate "semi-hovering" display described by Hume. Jick beside the q. with wings extended out horizontally and终身ing up and down very rapidly. Apparently still holding on to perch with his feet. In post
Bill opened appen but probably utter catches &'s response this semi-hoovering (SH)

I should add that I have seen a lot of ordinary J & by J 1/2

today. During J &'s or just before or just after J &'s. Observing a real
flying intention movement (in spite of the fact that it looks quite like
the quivering movements of some species during comfort activities). Often
immediately precedes flying. Sometimes accurately interspersed with one
or two ordinary WF's. There is no doubt but that this species (at
least the J &'s does Q) much more often than any other species I have
mentioned. And I imagine that the wing movement, averaging SH are prob-
ably a further development of Q.

It would certainly appear to be the height of the breeding season
for this species now.

Jearis, I.

August 15, 1958

Cerro Campana

I spent most of yesterday here, watching the yellow faces
from time to time, and am now starting in again today.

Yesterday I saw much the same things as before (although
not the extreme SH) and managed to confirm a lot of things.
There is no doubt that the Jill is "sandy". A first nesting from the nest, from perches to perches, giving Jill after Jill. I have to agree with Jill when she is very close to the nest, fadon gives it when she is a few feet away. I am now sure that the Jill can not be primarily "lady".

The Vck is apparently always on the ground. In a few feet when his her with a few feet behind. Probably not, or rather below, given when a few feet behind the nest. I have noticed pairs feeling side by side, for instance, and they are usually very silent.

What I am calling Vck may eventually have to be divided into patterns: "Vck N's" and "Vck T's" — although every example of intermediate is very common.

The Vck T's, T's, and T's are shining very close together, and I am still not very happy with my analysis of them.

The Jill is the easiest to analyze. It is shining the result of thwarted sex or (more probably) genuine drive.

The Vck (both N's and T's) is probably the same thing in a slightly different way. I suppose, because it were internal motivation as the pure Jill, and the difference between the two patterns or complexes of patterns might be purely a matter of external circumstances, i.e., distance. More probably, the Vck contains a stronger sexual component and/or a more or less thwarted sexual component. It may be that the Vck patterns are the result of less thwarted sex than the pure Jill. Or it seems to be commoner with the pure Jill than with the Vck patterns although it does occur with both — and T's giving the pure Jill are probably more apt to fly around than T's giving the Vck
Well, well! I was just getting a beautiful view of St. - and it was rather surprising in some ways.

The q of a pair flew near me and landed on a stalk of grass where the q sat. The q was a few feet behind her, on another stalk.

She gave a few ordinary pure Till's and then flew to the q, landed on a nearby stalk, then below her, and went into the St. performance without preliminaries. More or less as before, as far as the movements were concerned. Wings held out, quivered rapidly. But the wings were also uplifted. This lifting is presumably purely a matter of balance, as first one and then the other went higher as the q shifted her position on the stalk a little. Its head was pointed up toward the q.

(The angle of the head is presumably purely a matter of orientation)

Her feathers of the head and lower body were somewhat ruffled or fluffy, but this was probably not a sign of ritualization as they are more or less like that most of the time anyhow. Surprisingly enough, the q uttered at least 2½ pure Till's during this St.!!!!

Definite intervals between these Till's, and he usually kept his bill open during these intervals. This looked much like "silent calling or singing", but it definitely was not a Till as his tail didn't quiver at all during these intervals.

The q didn't respond at all to this. She just sat and
stated. The 7 flew off eventually (actually the whole S+ performance couldn't have taken more than a minute), gave a few jells from another peak, flew further away, and then followed.

It should be noted that there wasn't a trace of any of the Jek patterns during this performance.

I presume, incidentally, that the CN-type of Jek's are just lower intensity than the Jel-type of Jeks.

Thinking it over, I can't be absolutely sure that the S+ encounter described above was between mates. It is possible that the 7 was unmated, and this might have been an attempt at pair-formation — but I seriously doubt it.

Yesterday when I was watching the flock of several 7's and 9's (see below), I saw a lot of chasing and supplanted attacks between the 7's from time to time, all quite silent. Also no ritualized postures, except that the 7's occasionally stood facing one another in quite an erect posture. This may only have been an intention movement of flying or even have been ritualized at all.

I began to think that the Yellow-feet may really be related to the absence of any FAC and supplanted attacks. The notes on Zonotrichia (notes on Zonotrichia) may well be significant in this connection. It is also conceivable that the Fill may be related to the Zonotrichia. Both seem to have taken the place of more elaborate and melodious songs in most other finches. And both the Fill and Zonotrichia notes, of course, are accompanied by flight or flying into mow.
The "FCN" of the 2's are certainly quite different from the 2's of the Sn. Much sharper and thinner in normal flight I think of a Fall - or R-type. Usually quite doublets or triplets.

One of sat on a stalk several feet from a 2, and did several al Fall's with 2's of the Sn type! Wings held far out. Then he flew to the 2, she flew off, and he chased her in the air, in a very fast twisting aerial flight. I think he does this when the 2's must be very hot and bothered indeed.

Another case of a 2 flying one another in a very erect posture.

One that held his head & bill pointed diagonally upward. Emphasizing both yellow throat and black chest. This may be significant after all. Almost like it.

One pair seems to be young, which looks just like the adult 2. The young has begged & been fed much, but the quivering has dropped a little, just like that of another species. Combined with a rather hunched posture. Apparently no tail movements of any kind.

The fact that Fall's can occur during the Sn of a Fall playing might lend to the belief that it is produced by some strong thwarting of the neck (not pairing?) drive.

I think that all the disputes between 2's have been between the same 2 birds, whose territories are on opposite sides of the road. One kind keeps trying to use the road to the other side. It is the kind whose territory is approached or en-
creased upon which annexe the "ft." The other bird is usually rather
fluffed and fat-looking, with head rather drawn in and horizontal.
It may be significant that the "defensive" of 1 seems to be raised
while the approaching 2 does not. The latter might be trying
to "immatute" himself nearer the other's 2

Now that I think of it, I have never seen the "ft." except
during "disputes." It is not assumed by birds before flying in other
circumstances. This might be considered conclusive proof that the ft
is really a ritualized display

Common Hill Posture

I am a little puzzled about the territorial behavior
of this species. The males are sometimes quite vigorous in repelling intruders. I have even seen
a male chase away a Myiarchus flycatcher.

Intruders don't seem to be pursued at
all. Yesterday, I saw at least 30's and 39's apparently more or less peaceful (although doing a lot ofTick and
Till-who) in an area which today is obviously part of the ter-
ritory of a single 27. And I have also seen occasional single birds.
or pass pan through, or at least along the edges of, the tent;
one of which besides without provoking any sort of response.

Later on this morning, I walked along the roads for
a while and stumbled lots of Yellow-faces. A lot of the
furnished males did a lot of folk and Tall seemed to be directed toward
me! To again I am puzzled. It is possible, I suppose, that those
patterns can be induced by any sort of frustration, or, perhaps
more probably, any sort of sturverting of sex or pairing clues.

I must check the behavior of males during the non-reprod-
uctive season. I think it males continue to Tall but
stop Tall then — e.g. like my captive male. This would sug-
est that the Tall may be the result of any sturverting while
the Tke is the result of sexual sturverting alone.

Just a further note about the distribution of these
Ovids. They are common all over the top half of the mountain-
becoming common just about where the Blue-Gales thin
out and disappear almost complete. Common in areas of al-
most pure grassland with only a few patches of low curly-
scattered around, but also found along the edges of roads
through the heavy montane forest.

I have seen no associations between these Yellow-faces
and other species in the same environment. They seem to ignore,
and are ignored by, the Embayedodes & Zoeotrichia species
in the same environment.
I have been trying to watch Yellow-jackets here for the last two days, without any great overwhelming success. They are still around in numbers, and occasionally do visit the things I have seen before—although no $H$—but they have been relatively inactive. Perhaps due to the fact that it has been largely sunny. Perhaps because the height of the breeding season is over.

The only new thing I have seen is an immature $H$ or (more probably) $Q$, sitting by itself on a branch, giving toll after toll, quiet like aulet $H$.

I watched a $H$ doing extreme $H$ to a $Q$ who didn’t respond at all. This was interesting because the two birds were perched on a wire fence at the same level, and so I was able to see what is probably the "normal" $H$ posture, uncomplicated by extreme upward or downward orientation factors. Commonly:

- Heads bill pointed diagonally upward
- $Q$ threat very fluffy
- Absolutely smooth
- Do this three times to the $Q$
- Without getting any response at all. He was obviously very excited. Kept moving sideways along the wire, during each $H$ performance, in an attempt to get as close to the $Q$ as possible. Once
During his next intimate SH performance, he gradually rolled until he was as close to the q as possible, then jumped over her back, continued SH, rolled back as close to the q as possible from the other side, then jumped over her again & continued SH again.

All these SH performances were accompanied by Jill after Jill. Many Jill's to a single continuous burst of SH. No other call given during SH performances by the q!! The only other call I ever saw was one SH, just as the q stopped SH after the q had flown away.

Travis, E  
Dec. 10, 1958  
Frijoles (mi?)

A pair of yellow finches seems to have moved into this area now. Quite active this morning, while I was waiting for the train, and showing what I take to be fairly high intensity sexual behavior.

My attention was first drawn to the birds by seeing a q sitting in a remarkable flushed posture. Then the q began to display to her in much the same way as I have seen before. He would fly to her, do SH for a brief moment, fly away, fly around and perch from time to time, fly back to the q, do brief SH, fly away, fly around, fly back to the q, do brief SH, fly away again, etc. etc. The SH was just the same as that I have seen earlier. Almost always quite silent. I can't say definitely that no SH Jill's were uttered, but they must have been at least relatively very rare. Just once the q uttered about 3 Jill Notes just after landing.

Travis, E  
Dec. 10, 1958  
Frijoles (mi?)
just after beginning an SIH performance.

He & never reacted at all really. He just sat. Occasionally made a fleeting movement, then flew off and disappeared.

I am fairly certain that this was constant coming & going, that he was greatly afraid of the SIH. He seemed extremely nervous in general, and would constantly dash away from the SIH, in apparent alarm, even when he didn't make a movement.

The SIH's flapping was so extreme, extreme that I think it must have been significant. Observed by the same thing as the cut, some flapping by & of the species & Drude has studied—what ever that may be.

Nothing of these Yellow faces paid the slightest attention to any of the Blue, Black, or Variable feeders in the vicinity—or vice versa.

Faàre III, March 4, 1959
Caro Bustra.

There are quite a lot of these birds around here. Perhaps at the beginning of the breeding season.

I watched 2 males this morning, perhaps neighboring territory owners, winging about 10 yds apart, apparently in response to one another. Regular SIH performances. Pictures more or less like that shown on Sept. 15, p. 20. The round still was perfectly conventional SIH. There were two interesting aspects to this performance. First of all, there seemed to be no SIH's present anywhere in the neighborhood. Secondly, one of the SIH's gave never