

THE VOICE OF THE GOLDEN PLOVER.

BY CHARLES A. URNER.

THE numbers of Golden Plover (*Pluvialis dominica dominica*), stopping during migration on the salt marsh between Newark and Elizabeth, N. J., were larger during late September, 1930, than for many years. At the height of the wave, on the evening of September 27, fully one hundred and fifty of these birds were counted as they settled upon the dry fill to spend the night. In former years, before any of the marsh had been filled by dredgings from Newark Bay, the birds divided their time between the mud flats, when exposed, and the areas of burnt meadow prepared for them by hunters. They had a strong preference then for the burnt meadow but in recent years they have shown a decided liking for wide stretches of bare fill, where they rest by day, feeding part of the time on the bay mud flats which are uncovered at low tide, and spending the nights on the portion of the fill more or less overgrown with low vegetation, six to twelve inches high, which probably offers them some protection.

With so many of the birds about, unusual opportunity was offered for a study of their notes under varying conditions—on the ground; when taking wing, both disturbed and undisturbed; when flying about; and when coming in and decoying to birds on the ground. Some opportunity also presented itself for comparing the notes uttered by single birds and by those associated in small groups, or in relatively large flocks. Since I saw no flocks passing in migration I could not identify the calls then used.

Flocks resting by day upon the bare fill where they spent considerable time were very silent; but there was usually considerable calling as flocks came in, and more calling early in the morning and in the evening than during the remainder of the day.

The Golden Plover has a very flexible voice, and the extent of its "vocabulary" is much greater than one would infer from occasional meetings with only a few birds. Most of the notes heard were pleasing to the ear, though there was every gradation from a clear whistle to notes of unpleasantly harsh quality. The majority of the whistled notes had a little more twang than the notes of

either the Yellow-legs or Black-bellied Plover. In addition to considerable variation in clearness of tone there was also variation in pitch, the same basic call at times being uttered apparently in different keys and with different note relationships. There was also much variation in volume, some calls being startling in their loudness, while others were very subdued. The calls as flying birds joined those on the ground had a variability at times suggestive of conversation. However, in spite of this range of notes and note qualities, the majority of the more frequent calls heard were to my ear, in part at least, describable by the syllable "que"; and of them all the note best reproduced by attempting to say "que" with the tongue as you whistle it, was the most frequent, much more frequent in fact than the "queedle," as the Golden Plover note has been frequently described.

I appreciate fully the impossibility of reproducing accurately a bird's notes by written syllables, but such symbols, while imperfect, were the only ones I had available, and in an effort to codify the calls heard I attempted, on several different days thus to write them down. On each occasion I started with a clean pad and an open mind and recorded the calls heard under varying conditions. Then the records of all trips were combined. The result was a set of single calls and grouped calls more or less different,—enough so, I thought, to justify separate notation. Of the calls listed nineteen were uttered as birds were flying about or coming in to birds on the ground, fourteen when birds were on the ground, ten as birds were alighting and seven as birds took to the air. A few calls were heard under all these conditions, but some seemed peculiar to more definite situations.

The notes uttered by birds on the ground were, unless they were disturbed or were calling to passing flocks, mostly rather soft. The loudest notes were from birds thoroughly alarmed, though birds decoying sometimes called quite loudly.

I was not certain of any definite difference in calls of single birds and birds in flocks though the single birds, on the average, seemed to call more frequently and louder than the individual in a flock. But when a flock came in high and decoyed to birds on the ground every bird in the air was apparently calling.

I list here the calls heard with indication of when used. To one

who has never heard the Golden Plover the descriptions will not be very illuminating, though if one attempts to say with the tongue each syllable while whistling it the result may be an approximation. The birds decoyed rather readily in the evening to the softly whistled "*que*" and "*que-del*," and it was in the evening, when the birds were circling about the caller, looking the ground over before alighting, that one could best appreciate the tremendous speed they can attain in flight. They simply flashed by. I roughly timed flocks several times around a circle the circumference of which I later attempted to compute by noting objects passed and measuring the diameter. If my figures were reasonably accurate a speed of over one and one half miles a minute was at times indicated.

Since the Golden Plover, when most abundant, did not associate closely with other shore birds while on the field there was little danger of confusion.

It is interesting, in considering the following list of calls, to compare the syllables used to describe them with those used by others who have similarly sought to describe the notes of this bird. This I have attempted to do with the assistance of Mr. J. T. Nichols who compared the notes with those in his journals. Mr. Nichols had previously described several notes of the Pacific Golden Plover on its nesting grounds and has also heard and described several of the notes of the Eastern bird.

Attention is called to the different consonants used by different recorders in describing the same calls. This irregularity frequently occurs and proves the inexactness of thus attempting bird note descriptions. I found myself using different initial letters on different days for calls that were doubtless identical. The greatest utility of the syllable method of expression is the suggestion it gives of the number of parts or divisions in each call and their relation.

The notes heard were as follows:

(1) *Que*. Most frequent. Variable in volume, clearness and pitch, but often rather high pitched. When heard: (a) flock coming in high, rather questioningly; (b) single bird coming in low; (c) flock on ground; (d) as flushed, not much disturbed; (e) flying about.

Mr. Nichols suggests that this may be the usual flight note which he has described as "*quee-i-i-a* with a quaver in the middle," shortened down. He finds a similar abbreviation of the flight notes of Semipalmated and Least Sandpipers.

(2) *Que-del*. Frequent. Variable in loudness, tone quality, modulation and relative pitch of the two notes. Sometimes both parts of the call were of about the same pitch; sometimes the second was lower, and sometimes higher than first. When heard: (a) harsh, coming in to birds on ground; also clear with second note the higher; (b) loud, as the bird was disturbed, flushed, but lit again; (c) startled, loud, second note lower; (d) flying about, variable.

No. 1 I consider an abbreviation of No. 2. And No. 2 I suspect corresponds to the note C. W. Townsend has described as "*queedle*," that Geo. H. Mackay has written as a "*whistled coodle*," and Ludlow Griscom as a "*harsh queedle*." To me there seemed usually enough break in the call to warrant the hyphen.

(3) *Que-del-eee*. Rather frequent. Also variable and usually merely an extra syllable variation or elaboration of No. 2. When heard: (a) As birds were flying about or coming in to those on ground, high pitched, loud and fairly clear and oft repeated; also a sweeter note with a flutter in it which I described by the same syllables or *que-del-e* (this might be a variation of Mr. Nichol's *que-i-i-a* flight note); (b) about to alight or just after alighting (I described this on different days also as *whee-del-eee* and *que-del-de-de*), uttered softly, short and very fast; (c) while on the ground; (d) startled, the last syllable loud and in ascending scale. I heard once what might have been the last syllable of this call uttered alone. I described it as "a quirky *que* on an ascending scale."

(4) *Que-de'-ul*, or *que-que'-que*, or *whee-de'-le*, oft repeated, often 10 times (three descriptions of what was doubtless the same note). Not infrequent when flocks are large. Clearly whistled and quite similar in character to that Greater Yellow-legs' call which J. T. Nichols has described as a "yodel"; however not so loud and full. When heard: (a) flock coming in and singles coming in; (b) alighting. A possible abbreviation or variation of this call is a *quede'*, *quede'*, *quede'*, etc., uttered many times, soft, short and very fast on ground just after landing. The *que-de'-ul* note, Mr. Nichols

suggests, may correspond to one of the calls of Pacific Golden Plover, heard on the breeding grounds, which he described as "a somewhat Whip-poor-will like *piterweeu*, *piterweeu*, *piterwit* or *peeperwip*, *peeperweeu*, *peeperwip* when two birds alighted together. There was a suggestion of Whip-poor-will quality in my No. 4.

(5) *Que-cer-a-wee* and *Que-cer-cerie* and *Que-to-cer-a-wee* or *Que-to-tor-a-wee*. Occasional. When heard: 1st, clear and sweet, oft repeated, as birds were flying about or coming in; 2nd, softly uttered as birds were leaving ground undisturbed; 3rd, uttered both softly and loud by birds in the air. This call Mr. Nichols compares with a Pacific Golden Plover note, a "long drawn, sweet *pee-er-wee*, *pee-er-wee*, the form rather that of the Black-bellied Plover though the tone that of the Golden." This seems to me correct, for I recognized the suggestion of the Black-bellied Plover when I wrote the "*tor-a-wee*."

(6) *Cer-eee-del*. Last note lowest, as bird was coming in high. A possible variation, a call I wrote *que-quee-que*, the first two higher pitched and loud and the third lower, uttered while circling. And I might also group here a *que-del-del-del*, soft, as bird was flushed at dusk; in this call also the difference in pitch, but only the first note high and the other three lower and of the same pitch. Also written *spe-spa-spa-spa*.

(7) *Que'-que-que* or rarely a single *que*. This is a clearly whistled note, reminding a little of the Yellow-legs' whistle, but usually on a descending scale. Heard from birds in air flying over or coming in. This is probably the previously described *too-lee-e* of E. W. Nelson. Mr. Nichols has a description of a call from a single bird September 14, 1930 which he expresses as *tēē lē lu* and *tēē lē lē* which may be comparable. I heard a soft variation which I described as *queep-que* and *queep-que-que* uttered when taking wing on own accord. Also a single whistled Yellow-leg-like *whew* as flushed in dark.

(8) *Pip* or *pit* or *que-tit*. Not infrequent. The short note sometimes of almost insect like quality, heard (a) as birds were coming in but (b) usually when on ground and once heard before dawn, (another variation *quit-a-weet*) (c) *que-pip*, loud as flushed. A call probably related to the monosyllabic *pit*, was a *cheep* or *queep* or *queet*, uttered on ground at attention as I approached; also a *sweep*, soft, when alighting. Mr. Nichols likens the *cheep* to an

alarm *peep* frequently heard on approaching the nesting Pacific Golden Plover. Other monosyllabic notes were: a *quert*, heard as flushed, but usually on the ground, and a clear *quip*, also heard on the ground.

(9) *Queel-que-queel* (rather loud) and *queel-queel-queel-que-del* (very loud), as the bird flushed, apparently much agitated. I had heard this call before.

(10) *Te-de-del* and *te-eee*, single notes, on ground, conversational.

(11) *Doo-del*, oft repeated.

(12) *Cip-cip-cip-cip-cip-cer-ee*. Both No. 11 and 12 uttered as others came in by birds on ground.

(13) *Queel-que-que que-que-que-queee*, soft, when alighting; also *que-que-que-eeee*, soft, while circling to alight.

(14) Note very like that of Semipalmated Plover, but sometimes with extra syllable. Heard (a) when flushed, and (b) when coming in, or over, or while swinging. Mr. Nichols has mentioned this similarity to the Semipalmated Plover note. He has written it as *tdlu-eeep* (Pacific Golden Plover) and *Kleep* (Golden Plover).

(15) A squeal, while circling in flock (one of the listed local names for Golden Plover by Forbush is "Squealer"). There was also a *spee* or *speea*, hoarse, while circling; another written as *queeer*, loud, harsh, while swinging.

(16) *Queel*, a sudden explosive note, differing from the *queel* in No. 9, ending very abruptly. Bird probably in the air circling.

(17) *Pé weee*. In flock at dawn.

(18) A note reminding a little of the call of the American Toad. Heard only once.

(19) *Que-ul*. Soft, questioningly while circling. Differing from the soft, questioning "*que-del*."

(20) *Que-que-que-que* (many times). A beady, very fast, soft whistle.

In the above list it is very probable that the same calls heard at different times have been differently expressed in syllables. But the effort to describe the calls heard will at least indicate the ability of the Golden Plover to develop a language of its own rather more extended, judging from my observations, than found in any of the other shorebirds with which I am acquainted.

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