

see her better than other Little Flycatchers and though it was more difficult to catch insect food; not counting the seeming cruelty of her mate, she did heroically raise in the nest one seemingly normal young. Those were trying family obstacles for one small bird to have overcome!

Oakland, California, September 26, 1933.

REMARKS ON THE PROPOSED RACES OF *SQUATAROLA*
SQUATAROLA (LINN.) AND COMMENTS ON
THE NOMENCLATURE

By JAMES L. PETERS

When Gregory Mathews in the first part of the third volume of his *Birds of Australia* (1913, pp. 69-72) applied *Charadrius hypomelus* Pallas (Reise versch. Prov. Russ. Reichs, 3, 1776, p. 699) to the form of the Black-breasted Plover wintering in Australia and supposed to breed in the northern part of eastern Siberia, he opened up a controversy that is not yet settled, and probably will not be for some years yet. His action in recognizing an east Asiatic race of *Squatarola squatarola* induced Thayer and Bangs the next year to name the North American bird *Squatarola squatarola cynosurae* (Proc. New England Zool. Club, 5, 1914, p. 23). Since that time some ornithologists have taken the view that there are three races of *S. squatarola*: the typical one breeding on the tundras of northern Russia and Siberia east to the Taimyr Peninsula; another supposedly larger form breeding from east of the Taimyr Peninsula to western Alaska to which Pallas' *hypomelus* has been applied; and the third, believed to be the smallest of the three, breeding in Arctic America from Point Barrow to Southampton Island, *cynosurae* Thayer and Bangs. Another group of ornithologists refuses to recognize any of the proposed separations, while a third and smaller group is willing to accept an east Siberian-west Alaskan form, but considers the North American the same as the European-west Siberian race.

The stumbling blocks to the whole situation lie in the fact that there is considerable individual variation in size in the Black-breasted Plover anywhere in its range, and in that it has never been possible to bring together an adequate series of breeding birds.

Mathews claims that in winter plumage the eastern form is grayer above, not as brown as the European bird; but his series were not seasonably comparable. Thayer and Bangs thought that a European specimen was darker than east Siberian examples. Stuart-Baker believes that the eastern race is "distinctly more gray," thereby agreeing with Mathews in this respect; but Baker is the only ornithologist to regard the eastern race as smaller than the European.

I have examined a small series of breeding adults of the three proposed races, all in comparable plumage, and can find no color characters at all. On the other hand a large series of birds in winter plumage would indicate that the color of the upper parts is variable, birds taken in the early fall being decidedly grayer above than specimens collected during the winter, whose dorsal coloration is distinctly browner.

Some years ago I tabulated a series of wing measurements of Black-breasted Plover; these measurements were later published by Friedmann (Bull. U. S. Nat.

Mus., no. 153, 1930, p. 161). I have recently measured more material and now incorporate the results with the original tabulation as follows:

		Wing
<i>squatarola</i>	Europe (migrants)	
	3 ad. ♂	180-196 (190)
	3 im. ♂	187-196 (190.8)
	2 im. ♀	184.5-191 (187.7)
	Western Siberia	
	1 ad. ♂	194.5
	Africa (winter visitor)	
	1 im. ♂	177

<i>cynosurae</i>	Arctic America (Point Barrow to Baffin Island)	
	6 ad. ♂	182-196 (189.5)
	3 ad. ♀	183-192 (186)
	Eastern United States (migrants)	
	20 ad. ♂	180-205 (188)
	20 ad. ♀	174-195 (185)
	Western United States (migrants)	
	10 ad. ♂	182-198 (189)
	10 ad. ♀	181-199 (187.7)

<i>australis</i>	Western Alaska	
	1 ad. ♂	205
	2 ad. ♀	192-200 (196)
	Eastern Siberia	
	2 ad. ♂	194-200 (197)
	1 ad. ♀	196
	Coast of China (fall migrants)	
	3 im. ♂	189-199 (192.3)
	1 im. ♀	192
	Philippine Islands	
	2 ad. ♀	198-200 (199)
	Java	
1 im. ♀	194	

From this table it will be seen that there is practically no difference in size between European and North American (exclusive of western Alaska) birds, but that east Siberian and west Alaskan birds, together with migrants to Asia and the East Indies, average larger. Against the evidence indicated in my table as to the recognizability of the east Siberian race, must be weighed the measurements given by Snyder (Birds of Wrangell Island, etc., Univ. Toronto Studies, Biol. Ser., 1926, p. 13) for three birds from Wrangell Island, 2♂♂, wing 187-196 (191.5), 1, not sexed, wing 200, and the measurements given by Pleske (Mem. Boston Soc. Nat. Hist., 6, no. 3, 1928, p. 231) of 192-198 for east Siberian birds (regardless of sex, and number of specimens not stated).

The opinion that I hold until such time as really adequate breeding series may force a modification of my views is, first, that *cynosurae* is not distinguishable from *squatarola*; second, that the size difference between *squatarola* and the east Siberian form is not sufficiently great and the overlapping of measurements too large to merit recognition.

If the east Siberian race is to be recognized, its name cannot be *hypomelus* of Pallas. This name was used by Mathews, who simply gives "East Siberia" as the type locality; Hartert (Vög. pal. Fauna, 2, 1920, p. 1554) uses the same name; but, believing *hypomelus* to be a misprint for *hypomelas*, he used the correct feminine adjectival form *hypomelaena*, a change perhaps induced by the fact that Pallas him-

self (Zoogr. Rosso-Asiat., 2, 1811, p. 138), refers birds from the Arctic coast of all Siberia to "*Charadrius hypomelanus*." In the first place, *hypomelus* 1776 cannot refer to an east Siberian race of this Plover; Pallas gives no locality but simply the statement "Colit paludes borealis orae."

Now Pallas' journeys between 1768 and 1773, reported on in his three volumes entitled *Reise durch verschiedene Provinzen des Russischen Reichs*, did not include the Arctic coasts of eastern Siberia, and he made only one journey to the Arctic coast anywhere and this well to the westward near the mouth of the Ob. Furthermore, the name *Charadrius hypomelus* is nothing more than a substitute name for *Tringa helvetica* Linné, which is quoted by Pallas as a synonym. Ridgway (Bds. N. and Mid. Am., 8, 1919, p. 78) gives as the type locality of *hypomelus* "from Lesnaja River, near the mouth of the Ob, to the Arctic Ocean." Doubtless this locality was gleaned from a long and painstaking perusal of Pallas' entire work, as there is no hint of it in the brief description on p. 699 of the third part. It may well be accepted as the type locality of *hypomelus*. Pallas (Zoogr. Rosso-Asiat., 2, 1811, p. 138) describes *Charadrius hypomelanus* but gives no type locality other than the Arctic coast of all Siberia. It is quite evident that he was emending his earlier *hypomelus*, merely referring birds from the Arctic coast of Siberia to the form that he had named in 1776. Furthermore he still quotes *Tringa helvetica* Linné in his synonymy.

Even if *hypomelanus* were to be considered as a different name, its application to the race of eastern Siberia would be extremely doubtful. Judging from the measurements published by Pallas he drew his description from a small specimen. There is of course nothing in the account of the colors of the bird that would help in a determination, since there seem to be no color differences within the species. Pallas' measurements are as follows:

a summo rostro ad uropygium	8"
rostri	1"
poll. caudae aequalis	2".9"
ulnae alarum	7"
femorium partis nudatae	7"
tibiarum	1".9"
digiti medii	1".2"

Since Pallas, as well as the other earlier Russian authors, is known to have used the English duodecimal system, I have converted his measurements into millimeters from that standard. The bill measurement of one inch (25.5 mm.) is very small, the range is from 27.5-30.5 for American and European birds. There is a good deal of doubt in my mind as to just what sort of a wing measurement "ulnae alarum" refers, but it will be noted that 7 inches or 178 mm. is just about the minimum for the wing of European birds measured in the customary American fashion; the tarsal measurement 1".9"=44 mm., about the minimum for *squatarola*; the middle toe dimension 1".2"=30 mm. is about the maximum for this measurement.

Charadrius pardela Pallas (Zoogr. Rosso-Asiat., 2, 1811, p. 142) is a substitute name for *Tringa varia* Linné (Europe). It is, therefore, entirely clear that none of Pallas' names is available for the east Siberian bird.

The first available name would appear to be *Squatarola helvetica australis* Reichenbach (Nov. Syn. Av., no. 5, 1851, p. 3), based on Gould (Bds. Austr., 6, pl. 12), and Reichenbach (Vög. Neuholland, no. 549, p. 334).

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