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NOTES ON CERTAIN SPECIES AND RACES OF OYSTER-CATCHERS

CONTRIBUTIONS FROM THE BREWSTER-SANFORD COLLECTION.—4¹

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I.—A NEW SUBSPECIES OF OYSTER-CATCHER FROM THE WEST COAST OF SOUTH AMERICA

Ridgway (1919, 'Birds North and Mid. America,' VIII, p. 34) has called attention to the doubtful status of oyster-catchers from the west coast of Central and South America. In stating that specimens of *Hæmatopus palliatus* from Chile "certainly are not either *H. frazari* or *H. galapagensis*," he confirms in part Brewster's comment following the original description of *H. frazari*, then considered a distinct species, "that in the National Museum collection true *H. palliatus* is represented from Isabella Island (west coast of Mexico), Tehuantepec, Peru, and Chile" (1888, Auk, V, p. 84).

Nevertheless, Low, in a recent list of all forms of the genus (1923, Bull. B. O. C., XLIV, p. 19), perpetuates an idea generally expressed in the literature by assigning to *Hæmatopus palliatus frazari* a range stated as "Lower California and southwards."

A study of specimens of oyster-catchers in The American Museum of Natural History, as well as of others lent by the Princeton Museum of Zoölogy, the Carnegie Museum, the U. S. Biological Survey, the Museum of Comparative Zoölogy, the Brooklyn Museum, the Philadelphia Academy of Natural Sciences, and the U. S. National Museum, shows that the white-breasted oyster-catcher native to the coasts of Chile, Peru, and southern Ecuador represents an undescribed race which may be known as

***Hæmatopus palliatus pitanay*,² new subspecies**

SUBSPECIFIC CHARACTERS.—Differs from *Hæmatopus palliatus palliatus* in its smaller size (smallest race of the species in all dimensions except length of bill), and in the great reduction or, more frequently, the complete elimination, of white sub-

¹First contribution, 1917, Bull. Amer. Mus. Nat. Hist., XXXVII, pp. 861-864. Second contribution, 1918, idem, XXXVIII, pp. 117-146. Third contribution, 1921, idem, XLIV, pp. 495-554.

²*Pitanay*, the native Peruvian (Quichua) name.

terminal shaft markings and of a pattern of clear white blotches on the inner primary quills.

TYPE.—No. 571, Brewster-Sanford Collection, Amer. Mus. Nat. Hist.; ♀ ad.; Pisco Bay, Peru, June 30, 1913; R. H. Beck.

RANGE.—Western coast of South America, from Chile (point uncertain) northward to southern Ecuador.

Several examples of Peruvian and Chilean oyster-catchers in the U. S. National Museum collection have been labeled *H. p. brasiliensis*, presumably upon the authority of Lichtenstein's diagnosis (1823, 'Verz. Doubl.,' p. 73), which is as follows:

Hæmatopus

744. *H. Ostralegus* Lin. ptil. æstiv. ex Islandia, Anglia, Tataria; ptil. hyem. e Gallia merid. Ægypt..... E. 2.

Obs. *H. brasiliensis* ab europæo præcipue remigibus primoribus totis fuscis (absque macula alba) discedit. Rostrī longitudo maxime varians; specimina tatarica enim, cæterum europæo simillima, rostrum longius habent quam brasiliensia. *Ostr. capensis* sane distincta species.

Lichtenstein is here doubtless employing Maximilian's name (1820, 'Reise Bras.,' I, p. 105, etc.) which is a *nomen nudum*. In any event, his remarks upon the "entirely brown primary feathers, without white spots" imply nothing more than recognition of the obvious distinction between the European oyster-catcher and all forms of *H. palliatus*. There is no good reason for assuming that the author referred to concealed portions of the inner primaries, nor for applying his name to a race which occurs only on the Pacific coast of South America. *Hæmatopus brasiliensis* will apparently stand as an absolute synonym of *H. p. palliatus*.

Measurements will be given, and further comments made, hereafter.

II.—REMARKS ON RELATIONSHIPS AND DISTRIBUTION OF OYSTER-CATCHERS

Oyster-catchers, as a generic group, occur upon most tropical and temperate seacoasts except in Polynesia, the northerly and southerly limits in breeding range being, respectively, Iceland and Cape Horn. Uniformly dark-colored species have arisen homoplastically in different parts of the earth, but only one species (*Hæmatopus ater*) represents a type distinctly removed from the others.

Hæmatopus palliatus appears to be a true New World representative of the primarily Palæarctic *H. ostralegus*. These two species have close affinities in geographic, taxonomic, and, doubtless, genetic senses. The resemblances between them become particularly significant when immature examples are compared. The adult of *H. palliatus* has retained

essentially the juvenal plumage-phase of the Old World bird, the differing extent of the white pattern on the wing quills being the chief character which separates youthful *ostralegus* from mature *palliatu*s.

Moreover, if we consider the species *ostralegus* and *palliatu*s as a single "Formenkreis," an interesting progressive variation in the wing pattern again indicates their close relationship.

Thus, on the one hand, the subspecies *H. ostralegus ostralegus*, of Europe, characterized by a pattern of white quill markings which extends to the shaft of the outermost primary, is replaced to eastward by subspecies with progressively reduced quill blotches, until the latter disappear altogether in such races as *H. ostralegus longirostris* of the Australian region.



Fig. 1. Wing patterns of three subspecies of oyster-catchers to illustrate a character which is correlated with geographic distribution.

a.—*Hematopus ostralegus ostralegus*, ♀, Denmark.

b.—*Hematopus palliatus palliatus*, ♀, Mt. Pleasant, South Carolina.

c.—*Hematopus palliatus pitanay*, ♀, Pisco Bay, Peru.

In like manner the forms of *H. palliatus*, which inhabit eastern North America, the Caribbean-Gulf shores, both coasts of the Isthmus of Panama, and eastern South America, have a wing pattern of similar type, reduced, indeed, more than in *H. ostralegus ostralegus*, but commonly extending from the inner wing to the sixth, the fifth, or even the fourth from the outermost primary. Such markings are best developed in birds from eastern North America, i.e., in the region nearest Europe. Proceeding toward the west and south, however, we encounter other subspecies which show a progressive reduction in this character until,

among Peruvian and Chilean birds, for example, the primary quills are totally immaculate.

In other words, if we place the richly marked European oyster-catcher at the focus of a more or less concentric series of the forms of two closely related species, and proceed eastward and southeastward through and beyond the Palæarctic area, or southwestward across both continents of America, we find running through the representative races a similar and progressive type of variation which is correlated with geographic distribution and is strongly suggestive of orthogenesis.

From still another geographic placement, it is noteworthy that the Pacific races of *ostralegus* and *palliatu*s (e.g., *longirostris*, *frazari*, *galapagensis*, *pitanay*) have unmarked primary quills, while the Atlantic races of both these species (e.g., *H. ostralegus ostralegus*, *H. palliatu*s *palliatu*s, *H. p. pratti*, *H. p. durnfordi*) all share in greater or less degree the peculiar pattern. The rule breaks down only near Panama, where the West Indian maritime avifauna has so generally crossed over to the Pacific side.

No species of oyster-catcher seems to be more than partially migratory. *H. ostralegus* and *H. palliatu*s, however, share to a certain extent the habit of overland flight and of penetration into river valleys. The Palæarctic subspecies, in particular, are partly stream and meadow, rather than coastal, birds, a fact reflected in the structure of their legs and feet, which are less robust than those of exclusively rock-dwelling forms. Plasticity of foot structure in the group as a whole is well illustrated by the disproportionately large feet of the insular subspecies *H. palliatu*s *galapagensis*, and by the broad toes and blunt claws of *H. leucopodus*.

In America the tendency toward the formation of local races seems to bear a relation to continuity or discontinuity of littoral distribution. Thus *Hæmatopus palliatu*s, with interrupted ranges on both eastern and western coasts of the two continents, including islands well off shore, has divided into several subspecies. *Hæmatopus ater*, on the other hand, occupies an unbroken range around Cape Horn and along the southern Atlantic and Pacific coasts of South America, and specimens from even widely differing environments appear to be indistinguishable.

As regards the group of species of uniformly dark coloration, there seem to be few clues to interrelationship beyond the indication that *H. ater* is the most divergent member of the whole family. For this species Mathews has erected the genus *Prohæmatopus*. *Hæmatopus*

bachmani, of northerly Pacific shores, is undoubtedly closer to the generalized type represented by *palliatu*s.

Hartert (1921, Vög. paläarkt. Fauna, II, p. 1679) makes *bachmani* a subspecies of *niger* (= *moquini*), the African black oyster-catcher, but, aside from the sharply limited brown coloration on the back of the Pacific species, it reveals at least one structural distinction in the square, almost emarginate tail, *moquini* having a slightly rounded tail. Hartert considers the New Zealand form, *H. unicolor*, as also a subspecies of *moquini*, but the descriptions and geographical probabilities point rather toward a closer affinity of *unicolor* with *bachmani*.

Of the native American species of *Hæmatopus* (*H. ostralegus* being excluded) *ater* has by far the longest wings and the largest feet, being in these respects at great variance with the other black oyster-catcher, *H. bachmani*. *H. palliatus* is characterized by the longest bill and tarsus, while *bachmani* has the shortest bill of the group. *H. leucopodus* has a relatively long tail, combined with remarkably short tarsi and toes.

III.—THE AMERICAN SPECIES AND RACES OF OYSTER-CATCHERS

Hæmatopus ostralegus ostralegus

Hæmatopus ostralegus LINNÆUS, 1758, 'Syst. Nat.,' 10th Ed., I, p. 152 (Öland Island, Sweden).

Specimens examined, 12: Sweden (Bohnstön); Denmark; Russia (Sarpa); Germany (Holstein); Orkney Islands (Stromness); England (Kent 2, Northumberland, Fleetwood, Scarborough); Scotland (Inverness); Belgian Congo (Avakubi).

The European oyster-catcher has a place in the American avifauna only through occasional occurrence in Greenland.

Hæmatopus palliatus palliatus

Hæmatopus palliatus TEMMINCK, 1820, 'Man. d'Orn.,' II, p. 532 (South America = Venezuela, *vide* Brabourne and Chubb).

Specimens examined, 33: Venezuela (Cumaná); Colombia (La Goajira); Panama (Pearl Islands 4); Lesser Antilles (Guadeloupe); Texas (Nueces Bay 3, Corpus Christi 6, Padre Island 2, Brownsville 2); South Carolina (Copahee Sound, Racoon Key, Mt. Pleasant 7); North Carolina (Cape Hatteras 2); Virginia (Northampton Co.); New York (Long Island).

The range of this subspecies, which is probably very nearly identical with the breeding range, may be given as the Atlantic and Gulf coasts of

North and South America, from New Jersey to Brazil; the West Indies (except Bahama Islands); the Pacific coast of America from Tehuantepec, Mexico, to the Gulf of Panama and Colombia.

The southerly limits can not be definitely drawn, for in the absence of specimens it is impossible to fix the subspecific identity of oyster-catchers recorded from southern Brazil and Paraguay. There are indications, to be mentioned under the discussion of *H. p. pitanay*, that intergradation occurs along the Pacific coast between Panama and the Gulf of Guayaquil.

Brabourne and Chubb (1912, 'Birds South Amer.,' I, p. 37) seem to have selected Venezuela arbitrarily as the type locality, but lacking contradictory evidence, the step will prove useful.

As hinted by Ridgway, further collecting may prove that the oyster-catcher of the eastern United States is subspecifically separable from that of northeastern South America. The former, upon the basis of the series compared, averages very slightly larger, the white chin (not mentioned by Ridgway) is conspicuous only among North American examples, and the white markings on the shafts and outer webs of the primaries extend, on the average, farther toward the outer border of the wing. All of these differences, however, appear not to exceed the range of individual variation among birds from one locality. Examples from Venezuela and Colombia are essentially topotypes, and these agree well with others from Texas, the Pearl Islands, and the eastern seacoast of the United States.

Size is so generally uniform throughout the species that most measurements do not form reliable characters for use in a key to the subspecies. The dimensions of several races are given below in a single table.

Ridgway's description of *H. palliatus palliatus* (*op. cit.*, p. 32), excellent except that it omits a reference to the taxonomically important spotting of the primaries, may serve as the standard of comparison with the following subspecies.

As regards the quill markings, adults of this subspecies commonly bear on the sixth and seventh from the outermost primaries distal or subterminal white areas, usually an inch or more in length, located on the shafts and webs of the feathers. Sometimes these white areas are extensive, wholly crossing the outer web of the feather, and, more rarely, the condition is observable on the fifth or the fourth quill. One or two North American specimens show it even on the third quill. It seems to be very nearly constant on the sixth and seventh feathers,

agreeing in this respect with the condition in other Atlantic races, but differing from that in subspecies inhabiting the west coast of North and South America.

A specimen from Guadeloupe, West Indies, has, in addition to the usual quill markings, white triangles at the tips of several outer primaries. It is, however, an immature bird, as shown by fulvous borders on the wing coverts. A specimen in juvenal plumage from Galera Island, Panama, still has traces of the down. The chin is whitish. The feathers of the forehead, cheeks, crown, back, and wing coverts are margined with buffy, as are also those along the border of the black throat.

Hæmatopus palliatus prattii

Hæmatopus prattii BANGS, 1900, Auk, XVII, p. 284 (Flemmings Cay, Bahamas).

Specimens examined, 1: Bahama Islands (Andros Island).

There is but one specimen of this large-billed, sedentary, Bahaman subspecies in the American Museum. A series examined during a visit to the Field Museum of Natural History, and compared with Atlantic coast birds, revealed striking differences in the dimensions of the bill, which are borne out by Ridgway's published measurements.

In the primary pattern this race agrees with *H. p. palliatus*.

Hæmatopus palliatus durnfordi

Hæmatopus durnfordi SHARPE, 1896, 'Cat. Birds Brit. Mus.,' XXIV, p. 117, Pl. VI (Tambo Point, mouth of Chubút River, Patagonia).

Specimens examined, 6: Argentina (Province of Buenos Aires 6).

The only description of this oyster-catcher from original material was based upon a single specimen, for which reason some of the assigned characters prove untenable.

Durnford's example came from the mouth of the Chupat' (Chubút), well south in Patagonia, a vicinity from which no specimens have been available to the writer. However, six birds from more northerly Argentina (Lavalle and Cape San Antonio) represent a distinct subspecies of oyster-catcher, and since their outstanding characteristic is a general superficial resemblance to *H. p. galapagensis*, a matter stressed by Sharpe, they undoubtedly represent a race which occupies the coast from Uruguay or southern Brazil southward to the limit in range of the species *palliatus* on the Atlantic coast. Although this southerly extremity is as yet uncertain, it probably lies well to the northward of the Fuegian humid zone, in which *Hæmatopus leucopodus* replaces the other white-breasted species.

Specimens in fresh plumage are dark in color, as stated by Sharpe, but the bill is not "remarkably small," except as a variation due to age or individuality such as all oyster-catchers show in this remarkably variable feature. A female taken south of Cape San Antonio on November 4, 1920, has, for example, a culmen 90 mm. in length, which quite destroys the effectiveness of Ridgway's key.

Neither are the tail coverts "blackish-brown," at least to any greater degree than those of several other races, nor is the white mark below the eye lacking as reported by Scott (1910, 'Rep. Princeton Univ. Exp. Patagonia,' II, part 2, p. 270), apparently upon the authority of Sharpe's plate.

Finally, Sharpe states that in the type specimen the inner primaries are not white shafted, but, among the six skins examined by the writer, the wing pattern is similar to that of *H. p. palliatus*; in five examples the white shaft marks begin on the sixth from the outermost quill, and in one on the eighth from the outermost. In one specimen the white on the wing coverts is very restricted, as described by Sharpe, but among the others highly variable. The type may have been a not fully mature bird.

In general, this subspecies may be said to resemble *H. p. galapagensis*, differing in possessing the white primary pattern of all east-coast races, and in lacking the hypertrophied feet of the Galápagos form.

Hæmatopus palliatus pitanay

Hæmatopus palliatus pitanay MURPHY, 1925, Amer. Mus. Novit., No. 194, p. 1 (Pisco Bay, Peru).

Specimens examined, 14: Chile (Algarroba 2, Cruz Grande 3); Peru (Independencia Bay, Pisco Bay 3, Chilca); Ecuador (Tembleque I., Gulf of Guayaquil 2, Point Santa Elena 2).

Average measurements of this race (cf. table) indicate that it is in most dimensions the smallest of the species. Flesh colors of Peruvian birds were noted as follows: iris, bright yellow; bill and eyelid, scarlet; legs and feet, pale flesh-color.

Chilean and Peruvian specimens show no trace of white upon the shafts and webs of the primaries. Among four birds from the shores of the Gulf of Guayaquil, Ecuador, however, two have a mottled whitish patch on the outer web of the seventh primary, unaccompanied by white shaft markings. These examples are, to this extent, intermediate between *pitanay* and true *palliatus*. The condition is interesting as an indication that the latter race, typical examples of which occur in Pana-

ma, ranges southward along the humid Pacific coast of Colombia and northern Ecuador, probably intergrading with the form peculiar to the arid coast of Peru and Chile.

H. p. pitanay approaches *H. p. frazari* in the darker coloration of the upper surface and in the absence or great reduction of the primary pattern, but in most respects it is more closely related to the eastern race (*H. p. palliatus*).

The subspecies probably extends southward through Chile toward the end of the arid coast. In Peru the writer has observed it at Independencia Bay, San Gallán Island, Pisco Bay, Asia Island, and Lobos de Tierra Island. A recent account of the bird is that of Coker (1919, Proc. U. S. Nat. Mus., LVI, p. 495).

Hæmatopus palliatus galapagensis

Hæmatopus galapagensis RIDGWAY, 1886, Auk, III, p. 331 (Chatham Island, Galápagos).

Specimens examined, 6: Galápagos Archipelago (Abingdon 2, Indefatigable 2, Hood, and Chatham Islands).

In this race, which is confined to the Galápagos Archipelago, we find the maximum pigment saturation within the species, combined with total lack of a white pattern on the primaries, and extraordinarily large feet. Other characteristics of more or less constancy are given by Ridgway.

The closest affinities of the subspecies seem to be with *H. p. frazari*.

Hæmatopus palliatus frazari

Hæmatopus frazari BREWSTER, 1888, Auk V, p. 84 (Carmen Island, Gulf of California).

Specimens examined, 17: Lower California (San José Island 7 Cedros Island 2, San Roque, San Esteban Island, San Benito Island Santa Margarita Island, Magdalena Bay); Jalisco (Tres Marias Islands 2); Sonora (Quotla).

Pacific and Gulf coasts of Lower California and adjacent parts of Mexico, including the islands; formerly northward to Ventura County, California; southward along the west coast of Mexico to Tepic and Jalisco, and at least occasionally to Guerrero.

Ridgway lists specimens from Sihutanejo and Acapulco, Guerrero. Contrary to former opinion, however, this race is principally confined to the zone of generally arid shores centering about the peninsula and

MINIMUM, MAXIMUM, AND AVERAGE DIMENSIONS IN MILLIMETERS OF FIVE SUBSPECIES
OF *Hæmatopus palliatus*

	WING	TAIL	EXPOSED CULMEN	TARSUS	MIDDLE TOE WITH CLAW
<i>Hæmatopus palliatus palliatus</i> 12 ♂ from Venezuela, Colombia, Lesser Antilles, Panama, Texas, North and South Carolina, and Virginia	237-259 (248.7)	90-104 (97)	74-89 (82.1)	56-64 (59.5)	44-50 (46.7)
8 ♀ from Panama, Texas, and South Carolina	235-271 (258.8)	93-102 (99.3)	76-94 (88.2)	57-64 (61.4)	44-50 (47.5)
<i>Hæmatopus palliatus durnfordi</i> 3 ♂ from Argentina	244-253 (247.3)	92-100 (97)	71-79 (76)	52-56 (53.7)	42-44 (43)
3 ♀ from Argentina	245-255 (250)	94-100 (97.3)	76-90 (82.3)	54-58 (56)	42-44 (43)
<i>Hæmatopus palliatus pitanay</i> 9 ♂ from Chile, Peru, and Ecuador	232-250 (240.2)	91-100 (95.5)	72-83.5 (76.4)	51-57 (53.9)	37-42 (40.5)
6 ♀ from Chile, Peru, and Ecuador	239-270 (247.6)	91-103 (95.6)	77-87 (82.3)	54-60 (56.5)	39-44 (41.1)
<i>Hæmatopus palliatus frazari</i> 13 ♂ from coasts and islands of Lower California, Sonora, and Jalisco	243-259 (252.5)	93-105 (97.8)	64-87 (77)	52-61 (56)	40-47.5 (43.7)
5 ♀ from coasts and islands of Lower California	251-260 (256.3)	97-99 (97.4)	79-93 (85.6)	55-61 (58.3)	45-47 (45.7)
<i>Hæmatopus palliatus galapagensis</i> 2 ♂ from the Galápagos Islands	250-254 (252)	96-104 (100)	80-86.5 (83.2)	54-55 (54.5)	49 (49)
4 ♀ from the Galápagos Islands	250-256 (252)	91-96 (92.7)	80-88 (84.2)	53-57 (55.2)	48-51 (49.5)

gulf of Lower California. Its range approaches or meets that of *H. p. palliatus* on the more tropical coast farther south, probably at a point not far from the Isthmus of Tehuantepec.

It was no more than a very common type of zoögeographic speculation which led Sharpe (1896, 'Cat. Birds Brit. Mus.,' XXIV, p. 117) to set the fashion of including the entire west coast of Middle and South America within the range of *frazari*. The presence of the eastern race (*H. p. palliatus*) on the central part of the Pacific coast is another link in the accumulating chain of evidence that the resident fauna of water birds in this region is overwhelmingly West Indian.

The subspecific characters of *frazari*, which include darker coloration of the brown upper parts than in *palliatus*, heavy mottling on the breast along the junction of white and black plumage, longer wing and tail (?), and smaller bill and feet, are given fully by Ridgway. The latter makes no mention, however, of the practical elimination of the white blotching of the primaries, a character which this oyster-catcher shares with other western races. In most specimens the white spots are wholly lacking, but a few show obsolescent white or mottled markings of the conventional pattern on the eighth or ninth from the outermost quill.

It is interesting to note that the mottling of the breast, which is so strongly typical of this race, appears to be carried by a genetic factor deeply rooted in the species as a whole. Not only is similar mottling normally present in the subspecies *galapagensis* and *durnfordi*, but it also crops out sporadically among oyster-catchers from the eastern United States and elsewhere. Thus a male in the Dwight collection, from Northampton County, Virginia, shows a broad zone of mottled feathering across the pectoral demarcation. Scarcely any large series of *H. p. palliatus*, indeed, lacks one or more birds of this type. In its maximum expression, however, when the whole breast, sides, flanks, and under tail coverts are heavily blotched, the character is peculiar to *frazari*.

Hæmatopus leucopodus

Hæmatopus leucopodus GARNOT, 1826, Ann. Sci. Nat., VII, p. 47 (Falkland Islands).

Specimens examined, 34: Falkland Islands (Port Stanley 5, Port Louis); Argentina (Rio Gallegos 8); Chile (Strait of Magellan 2, Beagle Channel, Cape Horn 2, False Cape Horn, Grand Island 3, London Island, Obrien Island 2, Navarin Island 2, Bertrand Island, Timbales Island 4, Caroline Island).

Falkland Islands, all of Fuegia, and the coast of Patagonia northward at least to Chukút. The exact limits of northward extension along the Atlantic and Pacific coasts are not determinable from the Brewster-Sanford material.

Downy young were taken at the Falklands by Beck early in November, and females about to lay eggs in Fuegia in December (Grand I., Chile). Chicks have a plover- and tern-like plumage above, but the pattern of white underparts is like that of old birds. From the down they molt into a plumage which differs from that of the adults in that the dark parts are brownish black instead of a rich green-black or blue-black. In fresh juvenal plumage, moreover, the dark feathers of the upper surface have rufous edgings, and those of the breast faint white edgings.

Flesh colors given by Beck are iris, yellow; eyelid, yellow; bill, red (blackish for the distal two-thirds of its length in young birds); feet, white (flesh-colored or grayish in younger birds). Iris, brown in chicks, changing to yellowish and then to clear yellow as the birds mature.

Judging from the juvenal examples such as B-S 4314 (Rio Gallegos, August 27, 1915), the first plumage is worn through the first year, new feathers being acquired just before the breeding season.

All of the birds examined appear to represent one race, which exhibits much individual variation as regards dimensions. Thus two adult breeding females taken on the same day at Timbales I., Chile, have bills measuring 72 mm. and 83.5 mm., respectively. This is greater than any observable variation which might be attributed to geographical grounds. A female from Caroline Island has a bill 85 mm. in length, the longest found in either sex. Ridgway's key character "depth of bill less than 10 mm." proves not to hold, although the species has, indeed, a strikingly slender bill.

This oyster-catcher is characterized by remarkably short, stubby toes and broad nails. In these respects it differs from the black species, and somewhat less from the *palliat* group. It has a particularly wide flange on all three claws. Except for the absence of the hind toe, the feet closely resemble those of sheath-bills.

MEASUREMENTS.—(19 males): wing, 237-259 (251.9); tail, 94-108 (101.6); exposed culmen, 68-76 (73.2); tarsus, 46.5-49 (47.5); middle toe with claw, 37.5-40 (39.1) mm.

11 females: wing, 244-260 (251.5); tail, 93-106 (98.8); exposed culmen, 72-85 (79); tarsus, 43-51 (48.3); middle toe with claw, 37-41 (39.1) mm.

Hæmatopus bachmani

Hæmatopus bachmani AUDUBON, 1838, 'Birds Amer.,' folio edit., IV, Pl. ccccxvii, fig. 1 (mouth of the Columbia River, Oregon).

Specimens examined, 30: Aleutian Islands (Kyska Island 2); Alaska (Sitka 3, Foresters Island, Maud Island, Latouche, Yakutat Bay 2, "S.S. Northwestern, Gulf of Alaska"); British Columbia (Vancouver 2, Sidney 4, Queen Charlotte Island 3); Oregon (Netarts); California (Point Reyes, Point Lobos 2); Lower California (Todos Santos Islets 2, San Roque, Cedros Island, Los Coronados Islands 2).

The adult and downy plumages are well described by Ridgway (*op. cit.*, p. 40), and the juvenal and other stages by Grinnell, Bryant, and Storer (1918, 'Game Birds Calif.,' p. 498). The label of a downy chick collected by Allan Brooks at the Queen Charlotte Islands, July 23, 1920, records the flesh colors as "Iris, sepia; bill, blackish olive, paler at base; gape, mouth, and chin, dull orange; feet, pale olive drab, claws blackish."

Juvenal birds closely resemble the young of *H. ater*, the feathers of the upper surface, breast, and flanks being edged with pale tawny brown.

It is interesting that the down of chicks of this species is much darker than that of *H. ater* or of any other American form.

MEASUREMENTS.—(5 males from Alaska and British Columbia): wing, 238-251 (245.4); tail, 93-100 (95.8); exposed culmen, 65-71 (68.8); tarsus, 51-56 (53); middle toe with claw, 47-50 (48.4) mm.

Five females from British Columbia, California, and Lower California: wing, 245-260 (253.8); tail, 92-107 (99); exposed culmen, 73-81 (78.2); tarsus, 53-58 (56.6); middle toe with claw, 47-52 (48.8) mm.

Hæmatopus ater

Hæmatopus ater VIEILLOT AND OUDART, 1834, 'Galerie Oiseaux,' II, p. 88, I, Pl. ccxxx (Strait of Magellan).

Specimens examined, 31: Falkland Islands (Port Stanley 8); Argentina (Gable Island 3); Chile (Beagle Channel, Caroline Island 3, Grand Island, Vanderlandt Island, Bertrand Island, Cape Horn 3, False Cape Horn 3, Vanderveldt Island, Ancúd, Tofo 2); Peru (Independencia Bay, Chincha Islands, Ancón).

Falkland Islands, and the southern coasts of South America from Cape Horn northward on the eastern side of the continent to Chubút, and on the western side to latitude 10° S., in Peru.

The nomenclature of this species has had a checkered career, as indicated by the following history.

1834. Vieillot's original name, *ater*, covered a composite of species, for his textual description is not diagnostic and he includes within the range "le nord-ouest de l'Amérique septentrionale, . . . l'île de Curaco, . . . détroit de Magellan, . . . la Nouvelle-Zélande et la Nouvelle-Hollande." Oudart's plate, however, which appears in the first volume of the same work, figures unmistakably the black oyster-catcher of the Strait of Magellan, as shown by the peculiar structure of its deep bill.

Ridgway (*op. cit.*, p. 29, footnote) incorrectly dates Vieillot's description as 1825.

1838. Audubon ('Birds Amer.,' folio edit., IV, Pl. cccxxxvii, fig. 2) figures this species as *Hæmatopus townsendi*. The specimen upon which the plate is based was supposed to have come from the coast of Oregon, but was undoubtedly one of the birds which Townsend obtained during his voyage around South America. Audubon's plate presents a good likeness except for the color of the legs, which he makes bright red.

Sharpe (1896, 'Cat. Birds Brit. Mus.,' XXIV, p. 121) incorrectly dates Audubon's description as circa 1826, and Ridgway (*loc. cit.*) incorrectly dates it as 1839. Ridgway states, moreover, that the type is now in the collection of the U. S. National Museum, but Dr. Charles W. Richmond, in a letter dated October 1, 1921, informs the writer that this is an error.

1896. Sharpe (*op. cit.*, p. 121) apparently confirms Vieillot's name, restricting *ater* to its South American range.

1912. Brabourne and Chubb ('Birds South Amer.,' I, p. 37) propose *Hæmatopus quoyi* as a "nom. nov. pro *ater*, Sharpe (nec Vieill.)," giving the Falkland Islands as type locality. They do not say, however, why they regard the *ater* of Sharpe as different from the *ater* of Vieillot, nor to what limbo the latter has been consigned. The supposition is that they consider Vieillot's species unidentifiable and Sharpe's name preoccupied.

1918. Oberholser (Proc. Biol. Soc. Wash., XXXI, p. 47) calls attention to the fact that the name *townsendi* of Audubon antedates both the *ater* of Sharpe and the *quoyi* of Brabourne and Chubb.

The original description of Vieillot and Oudart being fully allocated by Oudart's plate, *Hæmatopus ater* should stand as the name of this oyster-catcher, with the Strait of Magellan as the type locality.

Superficially resembling *H. bachmani*, *H. ater* is widely separated from all other oyster-catchers in the form of the bill, the excessive compression of which approaches that of *Rynchops*. The distinctive character of the bill is apparent even in chicks taken from the egg.

Color differences between *H. ater* and *H. bachmani* are much greater among downy young than among adults. The young of *ater* are relatively pale, only slightly darker, indeed, than those of *H. palliatus*, which they much resemble. The white area is confined to the breast, instead of covering the belly and flanks as in *palliatus*, but it is far more extensive than in *bachmani*.

Study of a large South American series shows that the birds of the Falklands, Cape Horn, and the coast of Peru, are racially indistinguishable.

The juvenal plumage, as exemplified by B-S 2526, Ancúd, Chile, April 17, 1914, is similar to that of the adult except that the head and chest are brown rather than black, the belly still paler, and the greater part of the body marked with buffy or ochraceous fringes to the feathers. This is especially heavy on the wings and belly. On the back a sub-terminal band of dark brown is also visible on many feathers. The buffy fringes occur upon the forehead and throat, but scarcely at all on the nape. The tips of some of the primaries are also marked with a light edge. Evidence of this plumage is carried all through the first year, the light edges being gradually effaced by wear, but being still perceptible on juvenals taken from May to October. Such birds have a golden-speckled appearance.

Along the coast of Peru this oyster-catcher begins its breeding season by October. Farther south nesting is delayed. Thus at Caroline I., Chile, Beck collected young that had just hatched on December 9. At False Cape Horn a female was still sitting on eggs on December 23.

Flesh colors of the species are iris, brilliant, opaque yellow; bill and eyelids, red; feet, white or pale flesh-color. The irides of juvenals are yellowish brown; those of chicks brown.

MEASUREMENTS.—(17 males): wing, 253-269 (261.5); tail, 93-106 (99.8); exposed culmen, 68-74.5 (71); depth of bill, 14.8-16.3 (15.5); tarsus, 52-57 (54.3); middle toe with claw, 48-53 (50.2) mm.

Nine females: wing, 251-280 (267.7); tail, 96-108 (102); exposed culmen, 72-84 (79.5); depth of bill, 15.2-17.8 (16.1); tarsus, 54-59 (57.3); middle toe with claw, 49-54 (51.8) mm.

