

401. *Pyrrhula p. nesa*. The type-locality has been restricted to Tring, Hertfordshire ('Bull. Brit. Orn. Club' 1947: 76).

404. *Loxia curvirostra*. We prefer to treat *pityopsittacus* as a race of *curvirostra*. It is true that there is an overlap in the breeding area, but the two are separated by a wide food difference and are ecologically isolated. *L. c. scotica* is a true intermediate between them, and those who insist on maintaining two species, *curvirostra* and *pityopsittacus*, must treat *scotica* as a race of the latter. Large *scotica* are indistinguishable from small *pityopsittacus*.

409. There is no doubt that the typical race of the Yellow Hammer *Emberiza c. citrinella* Linnaeus occurs as a winter visitor in the British Isles (see the Committee's decision in 'Ibis' 1951: 297). Such birds have been examined on passage at Fair Isle ('Bull. Fair Isle Bird Obs.' no. 2, 1952), and specimens thence in the Royal Scottish Museum are referable to the typical race, though Clancey ('Bull. Brit. Orn. Club' 1948: 105-7) ascribed them, in error, to *E. c. erythrogegens* Brehm. There are four specimens of the typical form, one of them a wintering bird from Tring, in the Meinertzhagen collection, and doubtless others exist.

423. *Plectrophenax nivalis*. Salomonsen has shown that the breeding bird of Iceland is separable from the typical race of Continental Europe and Greenland as *P. n. insulae*, having a dark reddish-brown mantle plumage with wider black centres to the feathers, absence of white on rump, and more extensive brown wash on breast and flanks ('Ibis' 1931: 64). A comparison of Continental and Iceland material (the latter kindly lent by Dr. Salomonsen) convinces us that the separation of the Icelandic race is good. The subspecies is partly sedentary, but is a winter visitor to the Faeroe Islands ('Dansk Orn. Foren. Tidsskr.' 41: 217-221, 1947) and occasionally passes Fair Isle. There are two specimens of *P. n. insulae*, ♂ and ♀, in the Meinertzhagen collection, shot out of a flock of 40 birds in the Outer Hebrides on 12 January 1934, and a further adult ♂ collected 18 January 1871 on the Stirlingshire coast in the Royal Scottish Museum.

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## SHORT COMMUNICATIONS.

### ARE THE FALCONIFORMES A MONOPHYLETIC GROUP?

A recent note by Theresa Clay ('Ibis' 1951: 628) states that on the basis of their mallophagan parasites the order Falconiformes is monophyletic. This conclusion is based upon the facts that the different groups of the assemblage share certain genera of mallophagans and that Mallophaga are so host-specific that nothing other than relationship could explain this. The concept of the host specificity of mallophagans has been a gradually emerging one promulgated by students of the group. Hopkins ('Ibis' 1942: 94-106) has presented a little of the history of and evidence for faith in the use of Mallophaga as a taxonomic adjunct. Students of birds have awaited specific results from this field, one of which is the note by Miss Clay.

Avian anatomists, starting with Garrod, Gadow, Fürbringer and Forbes, were aware of the lack of resemblance between three of the groups making up the Falconiformes: the Cathartidae, *Sagittarius* and the Falcones. The peculiarities of *Pandion* have also attracted considerable notice. The consensus of opinion has been that the group is polyphyletic.

The main reason for not breaking the order up is one of convenience. To separate the different groups of the falconiforms would necessitate setting up each fragment as a distinct order or associating the fragments as parts of other orders. Both actions have been looked upon as repugnant, and the order has been left intact.

Recently I completed an analysis of this "heterogeneous" order (unpublished) and have concluded that it is made up of four undoubtedly unrelated groups (Cathartidae, *Sagittarius*, Accipitridae-Pandionidae and Falconidae) and perhaps a fifth (Pandionidae). The anatomical evidence is plain, leaving little doubt as to what must be done.

The cathartids differ strongly in every way (as remarked by other anatomists who have studied them). Their affinities are with a peleciform-procellariiform group, which I would identify as an order, with each of these as a suborder. (I have had no experience with penguins, so cannot say whether they belong here too.) This association will not prove popular as it is against every present concept, but it is based upon unalterable anatomical evidence. It would appear that the ancestral population split into a series of pelagic species (procellariiforms), littoral species (peleciforms) and terrestrial species (Cathartidae). All of these are carnivorous, with propensities for scavenging, particularly some of the procellariiforms and the cathartids.

*Sagittarius* finds its closest parallel with *Cariama*. It resembles the hawks only in the form of the skull, but this is probably a case of convergence. Although it disagrees strongly on matters of the skull with *Cariama*, the rest of the skeleton agrees, and I suspect that when a complete comparison is made (ptilology, osteology, myology, viscera, etc.) they will be found to agree in most details. The position of *Cariama* is uncertain, but its linking with *Sagittarius* does not increase the difficulty of the problem. *Cariama* is certainly no more related to the hawks than are the ducks or herons.

The family Accipitridae is a closely knit group of predators all of undoubted inter-relationship. Their next of kin is unknown, but undoubtedly this group marks a primary divergence from the avian stem, well marked and identifiable in the Eocene.

The genus *Pandion* is a problem that cannot be solved anatomically at this time. It is sufficiently different however to suggest convergence toward the accipitrid, but it may represent an early development from the accipitrid line. It certainly is not related to the cathartid as suggested by Compton (1938, 'Univ. Calif. Publ. Zool.' 42 (3): 173-212). I am inclined to view it as a convergence to the accipitrid.

The family Falconidae is a distinct group the origin of which is at present uncertain. It seems probable that it is of more recent origin than the Accipitridae as it is less highly specialized. The separation of hawks and falcons will be resisted, but the anatomical evidence is clear—except for the superficial resemblance of the skulls they are completely unlike. I am inclined to place the falcons as a distinct order near a combined caprimulgiform-strigiform order.

Why the Mallophaga indicate a common origin for these highly diverse species groups cannot be explained, but the conclusion that Mallophaga are no more reliable in taxonomic matters than other single criteria is inescapable. It is possible that the nature of the food of these species groups has produced enough convergence in their physiological chemistry for mallophagans to be exchanged over shared carcasses. It is also possible that our knowledge of Mallophaga is not yet sufficient to analyse correctly the situation in the Falconiformes.

The monophyletic origin of this order has also been stated by Howard ('Ibis' 1950: 11) in connection with a summary of palaeontological evidence. I do not believe that fossils shed any light upon the origin or evolution of this order. The Eocene fossils of the Accipitridae and Cathartidae are clearly members of these families and not intermediate. The Falconidae are not recorded until late (Pleistocene in N. America—*Falco ramenta* of the Miocene cannot be identified as belonging with this

family), while *Sagittarius* has no fossil history (*Amphiserpentarius* is long-legged but certainly does not resemble *Sagittarius* closely enough to be identified as a relative).

These disagreements point to the fact that many fossil species are known only from fragments of individual bones, the identity of which has been based more upon the reputation of the author than upon the configuration of the bone. Until the various species of fossils have been reviewed as to their relationships and place in the evolution of this order I do not think that anyone can say that the order is monophyletic. To the contrary, if the fossil history of this order is ever sufficiently known, it will undoubtedly prove the polyphyletic origin indicated by the diversity of the present representatives.

University of Idaho,  
17 October 1952.

M. JOLLIE.

ADDITIONS AND CORRECTIONS TO "BIRDS COLLECTED IN THE  
NORTH PACIFIC AREA DURING CAPT. JAMES COOK'S LAST  
VOYAGE" ('Ibis' 1949: 244-255).

My personal inspection of Ellis's drawings resulted in some additional identifications:—

F2. Ellis's pl. 88 represents *Wilsonia pusilla pileolata* (Pallas) without any doubt.

G4. Ellis's pl. 40. This is *Puffinus tenuirostris* Temminck, 1835, and perhaps the basis of Latham III, 2: 408, Nr. 12, "Black-Toed Petrel", *Procellaria melanopus* Gmelin I, 2 (1789): 562, Nr. 16.

G5. Ellis's pl. 42 is a good figure of *Fulmarus glacialis rogersi* (Coues).

J3. Pennant's description of the "Awatcha Warbler" applies to the specimen figured by Ellis, pl. 89, as having been obtained "on the ice" (G2). The type locality of *Motacilla awatcha* Gmelin has therefore to be changed to "North of Bering Strait".

J11. Ellis's pl. 52 seems to apply to *Larus schistisagus* Stejneger rather than to *Larus argentatus vegae* Palmén, the colour of the back being very dark.

K5. Ellis's pl. 17 is the picture of a very dark young *Falco peregrinus*. It still needs to be compared with *Falco peregrinus pealei* Ridgway in juvenal plumage.

D3. Pennant's "Unalaska Bunting" (the basis of *Emberiza unalashkensis* Gmelin, 1789) has not been figured by Ellis, and its type locality therefore remains most uncertain. Under these circumstances I welcomed a letter written by Mr. Theed Pearse of Comox, Vancouver Island, which reads: "Did you notice the reference in Cook, Vol. 3, p. 378 [April 1778], his description of 'a small land bird, of the finch kind, about the size of a yellow-hammer; it was of a dusky brown colour, with reddish tail, and the supposed male had a large yellow spot on the crown of the head, with some black on the upper part of the neck, but the last was on the breast of the female'. The sexes are alike in *Zonotrichia coronata* and the reference to the 'female' must have been to an entirely different species." The latter assumption is, of course, perfectly right. I have hardly any doubt that this so-called "female" from King George's Sound (=Nootka Sound) has been the very specimen which was finally named *Emberiza unalashkensis* by Gmelin (the *Passerella iliaca unalashkensis* of present nomenclature). This, if accepted, would entail a most confusing shift of type locality from Unalaska to Nootka Sound. The best way out seems to consist in entering *Emberiza unalashkensis* Gmelin in the list of *nomina rejecta*.

29 October 1952.

ERWIN STRESEMANN.