

populations is a comparatively recent development. One gains the impression from the material studied that the situation is perhaps still fluid.

It is significant that in *hartlaubii* subsp., apart from the hoariness over the distal head common to many *Turdoides* spp., there is no indication in any of the specimens examined that odd mutants resembling *leucopygius* races occur in the said populations.

Resulting from this enquiry, it is concluded that it is desirable to split the present species *Turdoides leucopygius* into separate northern and southern species, that on the South African list becoming

TURDOIDES HARTLAUBII (Bocage) Hartlaub's Babbler, with races *T. h. hartlaubii* and *T. h. griseosquamatus* Clancey, 1974.

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REFERENCES

- ASH, J. S. 1981. A new race of the Scaly Babbler *Turdoides squamulatus* from Somalia. *Bull. Brit. Orn. Club* 101:399-403.
- CHAPIN, J. P. 1953. Birds of the Belgian Congo, Part 3. *Bull. Amer. Mus. Nat. Hist.* 75a:238-240.
- DEIGNAN, H. G. 1964. In continuation of Peters' *Check-List Birds of the World*, 10:344-345. Cambridge, Mass: Harvard University.
- FRIEDMANN, H. 1927. A new babbler from the Belgian Congo. *Proc. New England Zool. Club* 10:11.
- FRIEDMANN, H. 1937. Birds collected by the Childs Frick expedition to Ethiopia and Kenya Colony. *U.S. Nat. Mus. Bull.* 1953:91-93.
- HALL, B. P. & MOREAU, R. E. 1970. An atlas of speciation in African passerine birds. London: British Museum (Nat. Hist.).
- REICHENOW, A. 1904-1905. Die Vögel Afrikas, Vol. 3 Neudamm: J. Neumann.
- RIDGWAY, R. 1912. Color standards and color nomenclature. Washington D.C.: The author.
- SCLATER, W. L. 1930. *Systema avium aethiopicarum*, Part 2. London: B.O.U.
- WOLTERS, H. E. 1980. *Die Vogelarten der Erde*. Hamburg: Paul Parey.
- WHITE, C. M. N. 1961. Revised check list of African broadbills, etc. Lusaka: Government Printer.

Syringeal Morphology and Relationships of *Chaetops* (Timaliidae) and Certain South African Muscicapidae

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The genus *Chaetops* comprises two taxa of petrophilous ten-primaried oscines endemic to South Africa. These have usually been treated as conspecific subspecies, but Winterbottom (1973), followed by Clancey (1980), has suggested that their allopatric distribution, differences in size, proportions of the tail, and coloration, argue for the eastern form, *C. aurantius*, being considered specifically distinct from the typical western form, *C. frenatus*. I concur in this, because treating the two forms as conspecific only obscures their differences and implies a state of knowledge concerning their relationships that does not exist.

The name *Chaetops* was originally proposed by Swainson (1832) in the Merulinae (= Turdinae), and he rendered the name as *Chaëtops*. Modern rules of nomenclature proscribe diacritical marks, which in this case is just as well, as there is no etymological justification for the diaeresis. Despite the original association of *Chaetops* with the thrushes, for most of its taxonomic history it has been placed in the Timaliidae, especially after Sharpe (1883) propounded his much expanded concept of that family, wherein *Chaetops* appeared in his "Group 7" or "Crateropodes". A timaliid relationship for *Chaetops* is reflected in many standard works on African birds (e.g. Sclater 1930; McLachlan & Liversidge 1978).

The return of *Chaetops* to the thrushes evidently dates to Ripley's (1952:15) remark that "*Thamnolaea*, a much larger bird [than *Pentholaea*], approaches the wheatears [*Oenanthe*] as does *Chaëtops* which resembles it in pattern". In this work he placed *Chaetops* between *Thamnolaea* and *Myrmecocichla*, whereas later (Ripley 1964), *Chaetops* appeared between *Pinarornis* and *Drymodes*. On the basis of the syrinx, however, *Drymodes* was

subsequently shown not to be a thrush (Harrison 1976). A turdine relationship for *Chaetops* has lately been adopted by many authors. For example, White (1962) considered *Chaetops* to be close to *Cercotrichas* (*sensu lato*) and Hall & Moreau (1970:114) regarded *Chaetops* as "typically turdine in its colour and pattern", and they thought it to share characters with *Monticola* and *Cercotrichas*. In the *S.A.O.S. Checklist* (Clancey, 1980) *Chaetops* is placed in the Turdidae, between *Pinarornis* and *Erythropterygia*. Hitherto, all judgments concerning the systematics of *Chaetops* have been made solely on external characters.

In a most important and satisfying study of syringeal morphology, Ames (1975) showed that the "true" muscicapids (*Muscicapini auct.*) and the thrushes (*Turdinae auct.*) share a unique, presumably derived, condition of the syrinx wherein the muscles *M. bronchialis posticus* and *M. broncho-trachealis posticus* form a distinct bulging projection, visible to the naked eye, that Ames termed the "turdine thumb". Such a distinctive character is of immense value in attempting to ascertain relationships among members of the extremely homogeneous group of oscine passerines.

Although Ames (1975) adopted a basically conservative taxonomic approach, I would carry his discovery to its logical conclusion by defining the Muscicapidae on the presence of the "turdine thumb". Thus the family would include the typically muscicapine genera *Muscicapa*, *Niltava*, *Ficedula*, *Rhinomyias*, *Melaenornis* (including *Bradornis*), as well as the true thrushes (see Ames 1975: Table 1). I would not continue to separate the thrushes as a subfamily, Turdinae. As Ames (1975:116) noted, the muscicapine genera are less diverse than the thrushes "but many are far from typical flycatchers in the sense that *Muscicapa striata* is usually considered to be", and it certainly has not been demonstrated that either of these subgroups is monophyletic.

Any species that lacks the "turdine thumb" would have to be excluded from the Muscicapidae, as defined by syringeal morphology, until some other specialized character can be found by which to define a larger family-level taxon.

There were a few genera of "Old World Insect Eaters" for which Ames was unable to ascertain the morphology of the syrinx, among which was *Chaetops*. This was due to the lamentable lack of emphasis that collectors in South Africa have placed on the preservation of anatomical speci-

mens of birds. Indeed, until I was able to remedy the deficiency, there was not a single skeleton or fluid-preserved specimen of *Chaetops* available anywhere (Wood *et al.* 1982a, b). In 1983 I was able to obtain five specimens of the Cape Rock-jumper *C. frenatus* from Three Sisters Peak, above the town of Kleinmond, in the southwestern Cape Province. A pair of these were preserved whole in fluid and the other three, two males and a female, were prepared as complete skeletons and partial skins, with the syrinx of each being kept separately in alcohol (all specimens in the National Museum of Natural History, Smithsonian Institution).

Examination of three syringes of *Chaetops frenatus* shows that this species has the generalized oscine configuration and does not have the "turdine thumb". Hence, by definition, *Chaetops* is not a thrush and cannot be included in the Muscicapidae with the thrushes. For the present, the best alternative seems to be to return *Chaetops* to the Timaliidae, with the recognition that this family is already notorious for being a miscellaneous collection of taxa whose affinities have not yet been precisely determined. Better to have the Timaliidae be a bit more heterogeneous than to destroy the monophyly of the Muscicapidae by including *Chaetops* in it.

Additionally, I was able to examine the syringes of several species that Ames (1975) did not list, although he examined other members of the same genera. *Erythropterygia coryphaea*, *Cossypha caffra*, and *Cercomela sinuata* all have the "turdine thumb", as would be expected. Of slightly more significance is the fact that this character is also present in *Melaenornis silens*, a species with a superficially shrike-like appearance (McLachlan & Liversidge 1978) that at times is placed in a separate genus *Sigelus* (*e.g.* Clancey 1980). The syrinx proves a muscicapid relationship for *silens* to be correct; an examination of skeletons of this species, *Melaenornis pammelaina*, and *M. ("Bradornis") mariquensis* disclosed no characters upon which any generic separation could be founded.

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REFERENCES

- AMES, P. L. 1975. The application of syringeal morphology to the classification of the Old World Insect Eaters (Muscicapidae). *Bonn. Zool. Beitr.* 26:107-134.
- CLANCEY, P. A. (ed.). 1980. S.A.O.S. checklist of southern African birds. Johannesburg: Southern African Ornithological Society.
- HALL, B. P. & MOREAU, R. E. 1970. An atlas of speciation in African passerine birds. London: British Museum (Natural History).
- HARRISON, C. J. O. 1976. The syrinx of the Southern Scrub-robin *Drymodes brunneipygia* [sic]. *Emu* 76:154.
- McLACHLAN, G. R. & LIVERSIDGE, R. 1978. Roberts birds of South Africa. 3rd ed. Cape Town: Trustees of the John Voelcker Bird Book Fund.
- RIPLEY, S. D. 1952. The thrushes. *Postilla* 13:1-48.
- RIPLEY, S. D. 1964. Subfamily Turdinae. Pages 13-227. In MAYR, E. & PAYNTER, R. A., Jr. (eds) Checklist of birds of the world. Vol. 10. Cambridge, Massachusetts: Museum of Comparative Zoology.
- SHARPE, R. B. 1883. Catalogue of the birds in the British Museum. Vol. 7. London: British Museum (Natural History).
- SCLATER, W. L. 1930. Systema avium Aethiopicarum. Part 2. London: Taylor & Francis.
- SWAINSON, W. 1832. Appendix, No. I; characters of genera and sub-genera hitherto undefined. In SWAINSON, W. & RICHARDSON, J. Fauna Boreali-Americana. Part 2, Birds. London: John Murray.
- WHITE, C. M. N. 1962. A revised check list of African shrikes, orioles, drongos, starlings, crows, waxwings, cuckoo-shrikes, bulbuls, accentors, thrushes and babblers. Lusaka: Government Printer.
- WINTERBOTTOM, J. M. 1973. Systematic notes on birds of the Cape Province. 32. Three species-pairs. *Ostrich* 44:144.
- WOOD, D. S., ZUST, R. L. & JENKINSON, M. L. 1982a. World inventory of avian skeletal specimens, 1982. Norman, Oklahoma: American Ornithologists' Union.
- WOOD, D. S., ZUST, R. L. & JENKINSON, M. L. 1982b. World inventory of avian spirit specimens, 1982. Norman, Oklahoma: American Ornithologists' Union.

Some habitat parameters of the Orangethroated Longclaw

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The Orangethroated Longclaw *Macronyx capensis* is a fairly common grassland bird, yet, apart from some taxonomy, not much research has been done on its biology. A study was carried out on the habitat requirements of the Orangethroated Longclaw at the Roy Hesketh race-track, Pietermaritzburg (29 37S; 30 26E, 715 m a.m.s.l.) from April to September 1981. The vegetation of the study area is mainly Southern, Tall Grassveld (Acocks 1975, *Veld types of South Africa*. Pretoria: Government Printer) interspersed with small pockets of *Acacia* thornveld. Late in March about 6,0 ha was mown and baled. Early in May about 0,7 ha was burnt in the northwest corner, and on 22 July the entire area was burnt.

A 0,5-m² quadrat was used to sample the vegetation at the point where one or more birds were sighted at a time. The diameter of each tussock of each species falling within the quadrat was

measured and thus the area occupied by each plant species was calculated. The height of the low component was measured by gently laying a wooden metre stick horizontally on the grass and measuring its height from the ground. The tall component was measured where the majority of the stalks ended. The density of *Cephalaria humilis* (fam. Dipsacaceae, a tall herbaceous dicotyledon) was measured by recording the distance to the next nearest stalk not yet measured.

The study area can be divided into six sub-habitats (Fig 1.; Table 1):

- A. 6,0 ha, mown area;
- B. 2,2 ha, unmown area with the canopy of the short component closed;
- C. 8,0 ha, unmown area with canopy of the short component open;
- D. 5,6 ha, tall, rank grass (not sampled);
- E. 2,5 ha, *Cephalaria* area (= B with a dense stand of *Cephalaria*);
- F. 0,7 ha, burnt early May (not sampled).

Sub-habitat D was not sampled because no birds were flushed from this area nor were they seen landing in it; the mean canopy height was estimated at 900 mm with a density of approximately