



# RECENTLY RECOGNIZED BIRD SPECIES IN THE AFROTROPICAL REGION — A CRITICAL REVIEW

By

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Brown et al. (1982) note that 18 resident species have been described in the past two decades from Africa. Moreover, the number of species recognized has appreciably increased consecutively to taxonomic reappraisal. As, for many years, I have been involved in taxonomic studies at the species level, it seems useful to discuss the methods available to determine the rank of a taxon and to actualize the species list recently recognized for the Afrotropical region which, in this study, is considered without the subregion of Madagascar and the islands far from continental Africa (but including Socotra and Pagalu-Annobon).

For newly described species I have considered the period from 1960 to the end of 1983. White's check lists (1960, 1961, 1962 a, 1962 b, 1963, 1965) have been taken for the taxonomic treatment adopted in the early sixties. However, White was a lumpner and he applied very broadly the then fashionable tendency to unite in one species especially related allopatric taxa. The more modern approach, due to the introduction of the superspecies concept, has reversed this trend in the past two decades and the splitting had the effect that numerous subspecies in White's check lists are considered now as allospecies and paraspecies. My list of newly recognized species is based principally on the two atlases edited by the British Museum (Natural History) (Hall & Moreau 1970, Snow 1978). I have consulted in the same time the lists of the birds of the world by Morony et al. (1975)<sup>1</sup>, Wolters (1975—1982) and that published by Devillers (1976—1980). Unfortunately, the last list has not been completed and it treats only the Struthionidae to the Motacillidae. I have also taken into account the opinion given in regional lists, as those established by Britton (1980) for East Africa and by Clancey (1980 a) for southern Africa. For most taxa the various check lists consulted are in agreement with the specific status of a bird. Yet, the treatment adopted is not always identic. This means that the specific status of all taxa figuring in my list (see annex) is not accepted by all authorities.

## **Methods used to discover new species or to give species rank to taxa previously considered as subspecies**

The following methods can be applied to discover new species or to admit that previously known subspecies are best considered as semispecies, allospecies, paraspecies or even full

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<sup>1</sup> This list corresponds to the treatment generally adopted in Peter's check-lists of birds of the world. But, sometimes, taking into account the most recent information available, Morony et al. (1975) have introduced some modifications (see also Pock & Farrand 1980).

species (which may be members of a species group); I will discuss these methods with special reference to my personal studies:

#### A. Occasional collecting

Now, close to the end of the 20th century, the probability to discover a new species by occasional collecting is really poor. However, P. Ballmann had this extraordinary chance when on a professional trip in Ivory Coast, near the frontier with Liberia, he collected about 30 birds only (P. Ballmann, in litt.) and among them a new malimbe described as *Malimbus ballmanni* (Wolters 1974). Thus, the possibility to find new species by occasional collecting, especially in little prospected regions with a special biotope, seems still to exist, but this type of collecting cannot be taken into account to discover new species.

#### B. Systematic collecting

Systematic collecting in areas with special biocenoses, providing the necessary habitat for highly specialized birds, continued for many years, has in the past permitted to discover most of the species, and even in present days this method is still valuable. Many ornithologists as Moreau, Benson, myself and others stayed for many years in Africa and have employed African collectors. In this instance the collection assembled will be non-selective, although it is possible to draw the attention of the collectors on certain categories of birds. Thus the list of species given for the Itombwe Highland (Prigogine 1971, 1978 b, 1984 a) is certainly biased, as I was not interested to collect large birds.

It seems of interest to give some details about the recent description of the new owlet, *Glaucidium albertinum* (Prigogine 1983). My African collectors prospected systematically the montane forests and the nearby transition forests west of the Albertine Rift since 1947. The first specimen of *G. albertinum* was collected already in 1949, but Schouteden (1950) confused it with *G. castaneum* known, at this moment, only by its holotype from the Semliki Valley. The differences between my specimen and *G. castaneum* were attributed by Schouteden (see Prigogine 1971) to the immaturity of the holotype of *G. castaneum*. More systematic collecting around the Graben resulted to assemble a series of five specimens of this owlet, all very similar and quite distinct from *G. castaneum*. In 1968, another specimen of *castaneum* was collected in the Bwamba Forest (Friedmann & Williams 1971) and its examination showed that it was very similar to its holotype. A critical analysis of the two series permitted to conclude that the pattern on the back of *G. castaneum* is not a sign of immaturity but that *castaneum*, as well as *scheffleri*, represent neotenic forms of *G. capense* (P. Devillers, pers. com.). Thus the description of *G. albertinum* is due to systematic collecting and a better evaluation of morphological differences with related owlets.

The recognition of *Zoothera tanganjicae*, distinct from *Z. piaggiae* (Prigogine 1977 a), is similar to the methods used for *Glaucidium albertinum*: systematic collecting and study of museum specimens. Yet, this time, *Z. tanganjicae* had been already described by Sassi (1914) as a subspecies of *Z. gurneyi*, but considered as a young bird and put in synonymy with *gurneyi* by Sclater (1930). Moreover, Macdonald (1949) described a similar bird as *Z. piaggiae williamsi*. The proof that *Z. tanganjicae* is distinct from *Z. piaggiae* was given not only by colour and size differences, but especially when it became evident that the two birds exist on certain mountain ranges where they are parapatric (Prigogine 1977 a, 1980 c, 1984).

#### C. Field observations followed by selective collecting

Before collecting six specimens of a new lark, Ash found that they differ significantly from other larks and their comparison at the British Museum (Natural History) permitted Colston (1982) to describe a new species, *Mirafra ashi*.

Intensive field observations before collecting a bird represent certainly a conservative approach before describing a new species. But I doubt if only the observation of a bird, supposed to be a new species, without collecting even one single specimen, represents an appropriate method to solve a taxonomic problem. It is true that the taxonomic rules don't require the collecting of a holotype. But it is obvious that its study will reveal important details which cannot be deduced from field observations. Thus I cannot approve the method followed by Field (1979) who described a new *Malimbus* from Sierra Leone and proposed to call it "*M. golensis*". Unfortunately, Field was not aware that this bird had already been described by Wolters (1974) as *M. ballmanni* (Prigogine 1981).

#### C 1. Field observations based principally on sound recording

Bioacoustics are especially useful to discover sibling species. Thus, the recognition of *Cisticola bodessa* as a valid species started with an observation by Benson (1946) that birds, resembling *C. chiniana*, had a vocalization different from this species. Many years later Ash (1974) confirmed that the behaviour, song and habitat preferences are dissimilar between the two *Cisticolas* and Erard (1974) proved by sonagrams that *C. bodessa* has a quite different song than *C. chiniana* and that *bodessa* had already been described as a subspecies of *chiniana*.

*Prinia fluviatilis* was discovered by its different vocalizations compared with *P. subflava* (Chappuis 1974 b). Moreover, this sibling has a different ecology and differs by small morphological characteristics from *P. subflava*.

However, one has to be careful in giving too much weight to song differences as a taxonomical criterium (see Mayr 1980) and they must be evaluated critically and compared with other informations of taxonomic signification, especially for allopatric taxa.

#### D. Taxonomic studies based on morphological differences

In this chapter I will consider only phenotypical differences which result from the study of museum specimens. When two populations are allopatric, it is sometimes difficult to take a decision about their status: are they no more than subspecies or have they already achieved their evolution into an allospecies? I have discussed this problem in detail in another paper (Prigogine, 1984 b). In each case it is necessary to consider the amount of variation between the accepted species belonging to the same genus and that between the races of a polytypic species. For instance, the morphological variation in *Apus* or in *Psalidoprocne* is small and differences which have only a subspecific value for other genera must be evaluated at a different scale. However, all specialists will not give the same importance to morphological differences. For this reason, the status of certain allopatric populations will remain under discussion as long as other criteria will not become available. Consequently all specialists will not necessarily accept the rank proposed by another ornithologist.

Even for parapatric populations this approach must be used, when the contact is not sufficiently well studied, especially when a limited number of hybrids is known, but when it is impossible to state if this low number is due to occasional hybridization or to a lack of specimens collected.

#### E. Study of secondary contacts

For many years I have been engaged in the study of secondary contacts which may provide a valuable contribution to our knowledge of the rank reached by taxa. The interactions found at the contact may give the answer to the question if the two taxa considered are subspecies (zone of hybridization surrounded by a zone of introgression), semispecies (zone of overlap and hybridization) or parapspecies (occasional hybridization or no hybridization). This problem

has been developed in detail elsewhere (Prigogine, 1984 b) and I will limit the present discussion to examples where it was possible to demonstrate the specific status of taxa considered previously as subspecies. Unfortunately, the collecting density in most parts of the Afrotropical region is insufficient and many problems remain still to be solved.

A typical example of a semispecies, which has specific status in conformity with Short's (1969, 1972) conventional definition, is *Terpsiphone bedfordi*: in the region of Kamituga, in eastern Zaire, a zone of overlap and hybridization is present, where the two pure parental phenotypes, *T. rufiventer* and *T. bedfordi*, have been found side by side with hybrids (Prigogine 1976, 1980 a). This zone of overlap and hybridization is especially well known, as the parental phenotypes are well differentiated and as collecting in this area has been continued for many years and I think that, for the whole Afrotropical region, this contact is one of the best studied. It can be added that the area occupied by *T. bedfordi* is very small (about 15 km of width) and it is evident that *T. bedfordi* would be absorbed easily by the large *T. rufiventer* population, if reproductive isolation mechanisms were not sufficiently developed (but not completely).

The status of *Accipiter toussenelii* has been controverted for many years. White (1965) and Wolters (1976) consider this sparrowhawk as a species distinct from *A. tachiro*. But Snow (1978) and more recently Brown et al. (1982) united once more the two taxa in one single species. However, the situation found at their contact (Prigogine 1980 c, 1984) proves that *A. tachiro* and *A. toussenelii* are paraspecies: their contact is very long in eastern and southern Zaire and only a single specimen seems to be an intermediate.

Prigogine & Louette (1983) examined the contacts between *Dendropicos goertae* and *D. spodocephalus*, the latter being considered generally as a subspecies of *D. goertae*. The two woodpeckers are morphologically quite distinct and for this reason Short (1980) considers *spodocephalus* as a megasubspecies of *D. goertae*. At the contact, only a very limited number of intermediates (between *spodocephalus* and *abessinicus*, considered as a member of the megasubspecies *goertae*, and between *goertae* and *rhodeogaster*, a member of the megasubspecies *spodocephalus*) have been found, although a great number of specimens has been examined. Yet, the contact between these taxa is limited. On the other hand, there exist in Sudan many hybrids between *centralis*, *koenigi* and *abessinicus*, all representing subspecies of *D. goertae*. It has been admitted that *centralis* has invaded the region of northern Kenya, between the ranges of *spodocephalus* and *rhodeogaster*, which became no more suitable to the initial proto-*spodocephalus* population, following the modification of the climate. But, in accepting this hypothesis, it is difficult to explain that the progressive invading by *centralis* has produced so few intermediates, if *centralis*, *spodocephalus* and *rhodeogaster* were members of the same species, *D. goertae*.

## F. Biochemical methods

Barrowclough (1983) has discussed the possibility to apply biochemical techniques to microtaxonomic problems of birds. He notes that the extent of genetic differentiation for birds is smaller than that for other vertebrates or invertebrates at the same taxonomic level. For this reason, the genetic distances among closely related species are too small to help in solving microtaxonomic problems. However, Barrowclough (1983) is optimistic for the future when he writes "the analyses of isolates of uncertain species status and of possible sibling species would be facilitated with biochemical data".

To my knowledge, among all biochemical methods, only the electrophoresis of reduced and carbo-methylated feather-proteins has been used once, with a positive result, to prove that a single female cotinga resembling to the female of *Tijuca atra* represented a new species named *Tijuca condita* by Snow (1980). However, the adult male's plumage, observed

only later, is totally different from the male's plumage of *Tijuca atra* (Snow 1982). Thus the application of this method to microtaxonomic problems remains to be demonstrated.

At the University of Brussels, Hanotte (1983) tried to apply this method to Afrotropical species, but, until now, the results were not successful at the species level. The only interesting result obtained was that the genus *Nicator* is nearer to the Pycnonotidae than to the Laniidae, as admitted still recently by Wolters (1977).

#### Simultaneous application of several methods

When the phenotypical differences are not clearly pronounced, it is sometimes possible to take account of other criteria, such as the degree of differentiation in behaviour or in vocalizations, to evaluate the degree of divergence already achieved. Bioacoustics may be of great help. Thus, Chappuis et al. (1979) showed that *Eupodotis rufocrista*, *E. gindiana* and *E. savilei* are best considered as allospecies.

#### List of recently described and recognized species and taxa proposed for species rank

All these taxa are listed in the tables of the annex. Tab. A.1 gives the recently described (since 1960) and recognized species. Taxa proposed for species rank since 1960 figure in Tab. A.2 (non-passerines) and Tab. A.3 (passerines). These tables give the following informations:

- scientific name (in alphabetical order for the genera and the species), the name of the author and the year of description;
- references for the ornithologists who proposed a species status for the taxon considered;
- status (semispecies, paraspecies, allospecies, species) compared with similar species belonging or not to a superspecies;
- method used to recognize the specific status of the taxon;
- categories (I to V) established taking account of the opinion of most authorities that a taxon, considered previously as subspecies, is really a valid species:
  - category I: taxa recognized as species by all or almost all authors;
  - category II: taxa recognized as species by the majority of specialists;
  - category III: taxa for which the opinion about their status is divided;
  - category IV: taxa for which the status needs further investigations;
  - category V: taxa not recognized as species (aberrant specimens, subspecies and synonyms).

In this study my approach is a statistical one: the category given to a taxon depends on the general acceptance of the specific status proposed by an ornithologist (but not necessarily admitted by all specialists)<sup>2</sup>.

When the status accepted results from quite recent studies or reflects my personal opinion, the category is written in italics. Consequently, for these taxa I have not followed the statistical approach as explained above.

#### Recently described species

26 new species have been described since 1960 (see also Mayr 1971, Mayr & Vuilleumier 1983). Most of them have been put in category I. Yet, six of them figure in categories IV and V and they cannot, at least for the moment, be recognized as species:

#### *Pogoniulus makawai* Benson & Irwin, 1965

Just after the description of *Pogoniulus makawai*, Goodwin (1965) evoked the possibility that the holotype collected is an aberrant individual of *P. bilineatus*. At this time, he

<sup>2</sup> For instance, *Criniger ndussumensis* is accepted by most authors (except by Wolters 1979) as a valid species, distinct from *C. olivaceus* and for this reason *C. ndussumensis* figures in category II. On the other hand, only Morony et al. (1975) consider *Zoothera crossleyi* as a species distinct from *Z. gurneyi*. Consequently, *Z. crossleyi* is placed in category IV.

concluded that *P. makawai* is best considered as a new species. Now, after about 20 years, no more similar specimens have been collected and I suggested recently that *makawai* is possibly an occasional hybrid between two different *Pogoniulus* species with new morphological characteristics (Prigogine 1984 b).

*Hirundo andrewi* Williams, 1966

Hall & Moreau (1970) consider *Hirundo andrewi* as a subspecies of *H. griseopyga*. No similar swallow has been collected in this well prospected area (G. R. Cunningham-van Someren, in litt.), nor in another region. Thus it can be admitted that the unique holotype of *H. andrewi* is probably an aberrant specimen of *H. griseopyga*.

*Andropadus hallae* Prigogine, 1972

Only the holotype of *Andropadus hallae* is known and its status is not sure: possibly *hallae* represents a partially melanistic individual of *A. virens*.

*Malimbus golensis* Field, 1979

A synonym of *Malimbus ballmanni* (Prigogine 1981).

*Vidua incognita* Nicolai, 1972

Considered as a subspecies of *V. wilsoni* (Payne 1982).

*Vidua lorenzi* Nicolai, 1972

A synonym of *V. wilsoni* (Payne, 1982).

The 20 admitted (category I) species can be grouped as follows: 14 species which are not members of a superspecies and 6 allospecies.

Tab. 1 gives the number of newly discovered species for various periods:

Tab. 1: Number of new species for various periods from 1960 to 1983.

Period	Number	Number per year
1960—1969	6	0.60
1970—1979	7	0.70
1980—1983	7	1.75
1960—1983	20	0.83

On average a little less than one good species has been discovered every year in the Afrotropical region since 1960. It is even astonishing that their number per year has a pronounced tendency to increase in the last years. Most of the newly discovered species have a very limited range or are siblings overlooked previously.

Following methods have been employed to discover these new species:

Tab. 2: Methods used to discover new species.

Method	Number of species
Systematic collecting (B)	5
Systematic collecting followed by critical examination of museum specimens (B, D)	5
Critical examination of museum specimens (D)	4
Bioacoustics (C 1)	3
Field observation followed by collecting (C)	2
Occasional collecting (A)	1
Total	20

My description of *Schoutedenapus schoutedeni* has been criticized by Vuilleumier (1976), as the sympatry of two swifts, which breed perhaps in different areas, is not a proof that *S. schoutedeni* is a species distinct from *S. myoptilus*. In fact, even now, after 23 years since the description of *S. schoutedeni*, the nesting sites of the two species remain to be discovered and it was obviously impossible to wait for the discovery of these nesting sites before publishing the description of the new species.

It results from Tab. 2 that systematic collecting and critical examination (and the combination of the two methods) contributed to discover 70 % of the species, since 1960.

#### Taxa proposed for species rank

235 taxa are listed in the Tabs. A.2 and A.3 of the annex. Among them are one reduced to subspecies level and three synonyms. Thus 231 taxa have been proposed for species rank, but it is possible and even probable that I have omitted to include in my lists several taxa and that, in reality, their number is somewhat greater. Anyway, as we will see later, all of them are not necessarily admitted by all specialists. After elimination of the subspecies and the synonyms, the grouping of the 231 taxa in various taxonomic categories gives the following results: 21 species which do not seem to be members of a superspecies, 139 allospecies, 70 paraspecies and one semispecies.

The decision to give species level for the subspecies involved is based on following methods:

Tab. 3: Methods used to raise a subspecies to species rank.

Method	Number of species
Critical examination of museum specimens (D)	200
Bioacoustics (C 1)	9
Study of secondary contacts (E)	7
Bioacoustics and critical examination (C 1, D)	6
Systematic collecting (B)	6
Systematic collecting and critical examination (B, D)	2
Field observation and critical examination (C, D)	1
Total	231

For the great majority (87 %) of subspecies the decision was based on a new evaluation of the phenotypical differences, in conformity with the superspecies concept. This demonstrates the importance of the establishment of collections and their conservation as it has been discussed by Barlow & Flood (1983).

Most (90.4 %) of these taxa proposed for species rank belong to allospecies and paraspecies; yet, 9.2 % have been proposed as species and 0.4 % as semispecies.

If I group these newly proposed species following the categories showing their acceptance by the majority of ornithologists I have the following numbers:

Tab. 4: Acceptance of newly proposed species by most specialists.

Category	Number
I	88
II	51
III	21
IV	67
V	4
Total	231

For the present discussion I consider only categories I and II as generally recognized species. This represents 60 % of all proposed taxa and, of course, it is unthinkable that all specialists would accept every proposition to give species status to a subspecies. The taxa belonging to category III are probably the first where a modification will occur in the next future (in one sense or in another).

Following comments can be added about the species figuring in Tabs. A.2 and A.3: *Accipiter minullus* and *A. erythropus* are generally considered as distinct species (White 1965, Morony et al. 1975, Brown et al. 1982). Yet Brown & Amadon (1968) and more recently Snow (1978), following Wattel (1972), are giving subspecific status to *erythropus*. In reality, there exists no resemblance between *A. erythropus zenkeri*, from eastern Zaire, and *A. minullus*. Moreover, the juvenile plumage of these two sparrowhawks is different. Thus, it is best to consider them as allospecies.

*Circaetus pectoralis* figures as species in White (1965). Yet, the actual tendency is to consider the Black-breasted Snake Eagle as a subspecies of *C. gallicus* (Brown & Amadon 1968, Brown et al. 1982).

The recent discovery of a second specimen of nominate *Glaucidium capense*, and its striking morphological differences with other owlets considered currently as subspecies of *G. capense*, rises the question if nominate *capense* represents a distinct species (Brooke et al. 1983). Thus it is possible that the taxa *castaneum*, *scheffleri* and *ngamiense*, or one of them, may have species status. For this reason they figure in category IV awaiting more information.

The rank of *Apus toulsoni* is under discussion for many years. Chapin (1939), White (1965) and more recently Devillers (1977) consider this swift as a species distinct from *A. horus*. On the other hand, Morony et al. (1975), Wolters (1976) and Brooke (1978) believe that *toulsoni* is a subspecies of *A. horus*. For this reason this swift figures in category IV.

Fry (1969) proposed to give species rank to *Merops oreobates*. He considers *lafresnayii* as a subspecies of *M. variegatus*.

The apparent sympatry of *Pogoniulus bilineatus* and of *P. leucolaema* in Rwanda and Burundi led first to the conclusion that these taxa are distinct species (Prigogine 1977 b). However, the collecting of long series of these barbets indicates the presence of a high proportion of hybrids in the contact zone demonstrating that *leucolaema* is a subspecies of *P. bilineatus* (Prigogine 1980 b).

The taxa belonging to the genus *Psalidoprocne* represent a difficult problem which is still awaiting a solution. White (1961) considered all taxa belonging to the *P. preistoptera* group as subspecies and Hall & Moreau (1970) adopt the same treatment. On the other hand Morony et al. (1975) give species rank to 8 taxa. Other specialists have adopted an intermediate solution. Not only that the morphological differences are little pronounced, but moreover Hall & Moreau note that these birds are performing off-season wanderings. Thus, an apparent sympatry may result from off-season birds. This may be true in north-eastern Africa, for the taxa *preistoptera*, *blanfordi* and *antinorii*. But for the three other groups figuring on Hall & Moreau's map the delimitation of their distribution is well pronounced, with only one exception: the type of *orientalis* (*petiti*-group) has been collected at Pangani, in the range of the *holomelaena* group. In consequence it seems possible to admit at least *oleagina*, *petiti* and *holomelaena* as distinct species. Moreover, *chalybea* and *mangbettorum* have been collected in the same locality, Zobia, in Zaire. Therefore, I consider these two taxa as valid species, in conformity with Devillers (1980).

Dowsett (1972) suggested to consider *Phyllastrephus fischeri*, *P. placidus* and *P. cabanisi*, consequently to their differences in size, colour and habitat, as distinct species. More recently, Dowsett & Dowsett-Lemaire (1980) note that the vocalizations of *P. cabanisi* and *P. placidus* are rather similar and that more field studies are necessary to solve the status of these taxa. However, Dowsett & Dowsett-Lemaire continue to consider them as members of a superspecies.

Hall & Moreau (1970) admit the two superspecies, *Laniarius barbarus* and *L. ferrugineus*, with respectively 7 and 4 allo- or paraspecies. Morony et al. (1975) show the same approach for the first superspecies, with the exception of *L. erythrogaster* which has subspecific status. However, for *L. ferrugineus* all related taxa are considered as subspecies. Taking into account the opinion of the various specialists I accept *L. aethiopicus*, *L. bicolor* and *L. erythrogaster* as species.

*Apalis kaboboensis* (Prigogine 1955) has been considered by White (1962 a) and Hall & Moreau (1970) as a subspecies of *A. porphyrolaema*. However, Chapin (in Mayr 1957) thinks it might possibly be a valid species. Before describing *A. kaboboensis* I compared it with various races of *A. porphyrolaema*: nominate *porphyrolaema*, *chapini*, *affinis* and *strausae*, which all have a chestnut chin and throat. On the other hand, *kaboboensis* is characterized by a blackish grey throat. Moreover, the races with a chestnut chin and throat are found north and south of *kaboboensis*. Thus, this colour varies discontinuously for the population endemic to Mount Kabobo. If we accept a direct common ancestor for *A. porphyrolaema* and *A. kaboboensis*, it results that the evolutionary process has progressed more for this latter population. It is impossible to affirm with certitude that *A. kaboboensis* has already reached species rank but, owing to the morphological difference with all races of *A. porphyrolaema*, it seems best to give species status to *A. kaboboensis*. In fact, Wolters (1980) considers it as a valid species and S. N. Stuart (in litt.) confirmed recently that this status has been accepted for the Red Data Book (Collar & Stuart 1985). For these reasons *A. kaboboensis* figures in category II.

*Muscicapa lendu* was described as early in 1932 by Chapin. Then, for more than twenty years, this bird, known only by its holotype, has not been collected, and I rediscovered it in the Itombwe Highlands, Zaire (Prigogine 1957). It is however astonishing that Hall & Moreau (1970) do not recognize *M. lendu* and consider it as a subspecies of *M. olivascens*. I believe that these two species are not even members of the same superspecies.

Hall & Moreau (1970) admit five species for the superspecies *Passer griseus*. But four of them are generally considered as subspecies and I have put these taxa in category IV or III. Dowsett & Dowsett-Lemaire (1980) show however that in Zambia there is no evidence of

extensive hybridization at the contact of *P. griseus* and *P. diffusus* and they give them specific status.

Following Payne (1982) I admit only 6 species for the indigobirds.

Hall & Moreau (1970) consider *motitensis* as a subspecies of *Passer iagoensis*. However, Clancey (1964, 1965) has shown that *Passer motitensis* Smith, 1836, has priority on *Passer iagoensis* Gould, 1839. Moreover, it is probable, as argued by Bannerman (1948), and admitted already by Macdonald (1957) that these two sparrows represent distinct species.

Hybridization of *Oriolus percivali* and *O. larvatus* has been detected on the Kikuyu Highlands and around Nairobi and, in this region, the situation found corresponds to a zone of overlap and hybridization. However, in most parts of central Africa, where a contact is possible, these two orioles are good paraspecies giving no intermediates. For this reason I proposed to give species status to *O. percivali* (Prigogine 1978 a).

### Discussion and Conclusions

The microtaxonomy of birds in the Afrotropical region was in full evolution during the period starting with 1960. At first, 20 new species have been discovered and this represents about 1.3 % of all recognized species for the region considered. Moreover, the status of many taxa has been revised in giving them species rank. The criteria used have been improved by the utilization of new techniques, as behaviour, especially vocalizations and interactions found at secondary contacts. For allopatric populations the change from the polytypic species concept to the superspecies concept has permitted to raise to species level a great number of geographic isolates with sufficiently important phenotypical differences. However, the existence of sympatric siblings proves that there is no correlation between phenotypical differences and genetic distances. In other words, morphological differences do not necessarily reflect phylogenetic similarity or distance between the taxa investigated. Consequently, small morphological differences found for allopatric populations are not always a proof that they are conspecific. For this reason the interpretation given for phenotypical differences alone differs from one specialist to another. This surely represents a difficulty and many problems remain to be solved. Possibly biochemical methods will be helpful especially for allopatric taxa. The best approach to establish the status of a taxon consists to evaluate the results obtained by different methods available. Yet, the evolution achieved may be at an intermediate stage between the level of a subspecies and that of a species and such cases will continue to give difficulties to the taxonomist. Limiting the recently recognized species to the categories I and II, their number amounts to 139 since the publication of White's check-lists. But, on the other hand, several species figuring in Hall & Moreau (1970) or in Snow (1978) have not received a general recognition (categories III to V) and I have deducted them from the total. A difficulty results from Snow's atlas which takes no account of the species breeding on the islands even at short distance from the coast of Africa, but which surely must be included in the avifauna of the Afrotropical region. For this reason, it was necessary to complete the species list given by Snow from other sources. My total for the Afrotropical region amounts to 1640 species (627 non-passerines in Tab. A.4 and 1013 passerines in Tab. A.5<sup>3</sup>) against circa 1450 species mentioned by Brown et al. (1982), as resident south of Sahara. The number of allospecies and paraspecies (including one semispecies) is 621 and this represents 40 % of the total.

I believe that it is useful to give species status to taxa, even when the real taxonomic rank (subspecies or species) is not fully demonstrated, with the object to draw the attention on a problem which needs more investigation (Haffer 1977). I have the impression that Wolters

<sup>3</sup> Without the extinct species as *Lanius newtoni* and *Amaurocichla bocagei*.

(1975—1982) has followed this way as the majority of species belonging to the category IV of my lists has been proposed by Wolters.

Not only my lists A.2 and A.3 give the name of recognized species (categories I and II), but the species proposed for species rank, not generally recognized (categories III and IV), appear also in these lists. Thus, they can serve as a basis for further studies showing the taxa which still give difficulties.

To conclude, many problems remain to be solved in the Afrotropical region and, very probably, the number of recognized species will continue to increase. It is also important to have in mind that some bird populations live in a very restricted range which corresponds to highly specialized ecosystems, and that, in present days, it is of great importance to collect (and to discover eventually new species) these birds before the destruction of their habitat (when it is impossible to protect it) will be followed by the extinction of these populations.

### Summary

During the two last decades 20 new species have been described from the Afrotropical region (considered without the subregion of Madagascar). Moreover, in the same period, specific rank has been given to a great number of taxa considered previously as subspecies.

This appreciable increase of the number of species for Africa south of Sahara is due to the use of various methods: systematic collecting, field observation followed by collecting, a more critical study of the museum collections and a new approach to microtaxonomic differences, but also the behaviour of the birds, as their vocalizations and the study of interactions found at secondary contacts. Bioacoustical methods are especially useful to discover siblings. For parapatric taxa the demonstration of a hybridization belt, of a zone of overlap and hybridization or of only occasional hybridization is able to clear up the taxonomic status of the populations in contact. The most difficult situation remains for allopatric taxa where it is necessary to consider all available informations to decide upon their taxonomic level. However, the decision taken by some authors will not be necessarily accepted by others, especially as sympatric siblings are certainly distinct species.

A critical review of the methods used and of the decisions taken is given and several interesting cases are discussed. All taxa proposed as species since 1960 (newly described species and subspecies now recognized as species) are enumerated in a list. The subspecies proposed for species rank have been classified in five categories following their acceptance by all (category I) or most specialists (category II). Only these two categories have been accepted as species. The total for the Afrotropical region amounts to 1640 species, at the end of 1983.

### References

- Ash, J. S. (1974): The Boran *Cisticola* in Ethiopia. — Bull. Brit. Orn. Cl. 94: 24—26.  
— (1979): A new species of serin from Ethiopia. — Ibis 121: 1—7.  
Bannerman, D. A. (1948): The birds of tropical West Africa: Vol. 6. — Crown Agents, London.  
Barlow, J. C., & N. J. Flood (1983): Research collections in ornithology — a reaffirmation. — In: Brush, A. H., & G. A. Clark (eds.): Perspectives in ornithology. Cambridge University Press, Cambridge.  
Barroclough, G. F. (1983): Biochemical studies of microevolutionary processes. — In: Brush, A. H., & G. A. Clark (eds.): Perspectives in ornithology. Cambridge University Press, Cambridge.  
Benson, C. W. (1946): Notes on the birds of southern Abyssinia. — Ibis 88: 180—205.  
— (1960): The birds of the Comoro Islands: results of the British Ornithologists' Union centenary expedition 1958. — Ibis 103 b: 5—106.  
—, R. K. Brooke, R. J. Dowsett & M.P.S. Irwin (1970): Notes on the birds of Zambia. Part 5. — *Arnoldia* 4: 1—59.

- , R. K. Brooke, R. J. Dowsett & M.P.S. Irwin (1970): Notes on the birds of Zambia. Part 5. — *Arnoldia* 4: 1—59.
- , R. K. Brooke & M.P.S. Irwin (1971): The Slatey Egret, *Egretta vinaceigula* is a good species. — *Bull. Brit. Orn. Cl.* 91: 131—133.
- , & M.P.S. Irwin (1965): A new species of tinker-barbet from Northern Rhodesia. — *Bull. Brit. Orn. Cl.* 85: 5—9.
- , & A. Prigogine (1981): The status of *Nectarinia afra prigoginei* (Macdonald). — *Gerfaut* 71: 47—57.
- Bock, W. J., & J. Farrand (1980): The number of species and genera of recent birds: a contribution to comparative systematics. — *Amer. Mus. Nov.* 2703: 1—29.
- Britton, P. L. (ed.) (1980): *Birds of East Africa*. — East African Natural History Society, Nairobi.
- Brooke, R. K. (1969): *Apus berliozii* Ripley, its races and siblings. — *Bull. Brit. Orn. Cl.* 89: 11—16.
- (1970): Geographical variation and distribution in *Apus barbatus*, *A. bradfieldi* and *A. niansae*. — *Durban Mus. Novit.* 8 (19): 363—374.
- (1971 a): Geographical variation and distribution in the swift genus *Schoutedenapus*. — *Bull. Brit. Orn. Cl.* 91: 25—28.
- (1971 b): Taxonomic history of *Schoutedenapus schoutedeni*. — *Bull. Brit. Orn. Cl.* 91: 93—94.
- (1975): The taxonomic relationship of *Buteo rufofuscus* and *B. augur*. — *Bull. Brit. Orn. Cl.* 95: 152—154.
- (1978): Apodidae. — In: D. W. Snow: *An atlas of speciation in African non-passerine birds*. British Museum (Natural History), London.
- , T. B. Oatley, M. E. Hurly & D. W. Kurtz (1983): The South African distribution and status of the nominate race of the Barred Owl. — *Ostrich* 54: 173—174.
- Brown, L., & D. Amadon (1968): *Eagles, hawks and falcons of the world*. — Hamlyn, London.
- , E. K. Urban & K. Newman (1982): *The birds of Africa*. Vol. I. — Academic Press, London.
- Chapin, J. P. (1932): Fourteen new birds from tropical Africa. — *Amer. Mus. Nov.* 570: 1—18.
- (1953): *The birds of the Belgian Congo*. Part 3. — *Bull. Amer. Mus. Nat. Hist.* 75 A: 1—821.
- Chappuis, C. (1974 a): Illustration sonore de problèmes bioacoustiques posés par les oiseaux de la zone éthiopienne. — *Alauda* 42: 197—222.
- (1974 b): Illustration sonore de problèmes bioacoustiques posés par les oiseaux de la zone éthiopienne (suite). — *Alauda* 42: 467—500.
- (1975): Illustration sonore de problèmes bioacoustiques posés par les oiseaux de la zone éthiopienne (suite). — *Alauda* 43: 427—474.
- (1976): Note sur le genre *Bathmocercus* Reichenow, 2me partie. Discrimination acoustique de *B. rufus* et *B. cerviniventris*. — *Rev. Zool. afr.* 90: 1028—1031.
- (1978): Illustration sonore de problèmes bioacoustiques posés par les oiseaux de la zone éthiopienne (suite). — *Alauda* 46: 327—355.
- (1979): Illustration sonore de problèmes bioacoustiques posés par les oiseaux de la zone éthiopienne (suite). — *Alauda* 47: 195—212.
- (1981): Illustration sonore de problèmes bioacoustiques posés par les oiseaux de la zone éthiopienne (suite). — *Alauda* 49: 35—58.
- , C. Erard & G. J. Morel (1979): Données comparatives sur la morphologie et les vocalisations des diverses formes d'*Eupodotis ruficrista* (Smith). — *Malimbus* 1: 74—89.
- Clancey, P. A. (1964): On the original description of *Passer iagoensis motitensis* Smith. — *Bull. Brit. Orn. Cl.* 84: 110.
- (1965): Further on *Passer motitensis* (Smith). — *Bull. Brit. Orn. Cl.* 85: 41.
- (1972): A preliminary assessment of the present status of South African bustards with drawings and maps. — *Bokmakierie* 24: 74—79.
- (1973): Present status of S. A. bustards. — *Bokmakierie* 25: 10—14.
- (1974): Miscellaneous taxonomic notes on African birds XXXVIII. Further on the races of the Masked Weaver *Ploceus velatus* Vieillot, with special reference to the status of *Hyphantornis shelleyi* Sharpe, 1890, and *Ploceus finschi* Reichenow, 1903. — *Durban Mus. Nov.* 10 (5): 67—79.
- (1975): On the species limits of *Acrocephalus baeticatus* (Vieillot) (Aves: Sylviidae) of Ethiopian Africa. — *Arnoldia* 7 (20): 1—14.
- (1977): Miscellaneous taxonomic notes on African birds XLIX. Subspecific variation in the Redcrested Korhaan *Eupodotis (Lophotis) ruficrista* (Smith), 1836. — *Durban Mus. Novit.* 11 (16): 223—227.
- (ed.) (1980 a): S.A.O.S. Checklist of southern African birds. — Southern African Ornithological Society, Pretoria.

- (1980 b): Miscellaneous taxonomic notes on African birds LVI. Variation in *Nicator gularis* Hartlaub and Finsch. — Durban Mus. Nov. 12 (10): 129—134.
- , & M.P.S. Irwin (1978): Species limits in the *Nectarinia afra* / *N. chalybea* complex of African doublecollared sunbirds. — Durban Mus. Nov. 11 (20): 331—351.
- , & W. J. Lawson (1960): A new species of canary from southern Portuguese East Africa. — Durban Mus. Novit. 6 (4): 61—64.
- Collar, N. J., & S. N. Stuart (1985): Threatened birds of Africa and related islands. — International Council for Bird Preservation, Cambridge.
- Colston, P. R. (1982): A new species of *Mirafr* (Alaudidae) and new races of the Somali Long-billed Lark *Mirafr somalica*, Thekla Lark *Galerida malabarica* and Malindi Pipit *Anthus malindae* from southern coastal Somalia. — Bull. Brit. Orn. Cl. 102: 106—114.
- De Roo, A. (1967): A new species of *Chlorocichla* from north-eastern Congo. — Rev. Zool. Bot. afr. 75: 392—395.
- Devillers, P. (1976—1980): Projet de nomenclature française des oiseaux du monde. — Gerfaut 66: 153—168, 391—421; 67: 171—200, 337—365, 469—489; 68: 129—136, 233—240, 703—720; 70: 121—146.
- Dowsett, R. J. (1972): Is the bulbul *Phyllastrephus placidus* a good species? — Bull. Brit. Orn. Cl. 92: 132—138.
- , & F. Dowsett-Lemaire (1980): The systematic status of some Zambian birds. — Gerfaut 70: 151—199.
- , & A. Prigogine (1974): The avifauna of the Marungu Highlands. — In: J.-J. Symoens: Hydrobiological survey of the Lake Bangweulu Luapula River basin 19: 1—65.
- , & R. Stjernstedt (1979): The *Bradypterus cinnamomeus* — *mariae* complex. — Bull. Brit. Orn. Cl. 99: 86—94.
- Erard, C. (1974): The problem of the Boran Cisticola. — Bull. Brit. Orn. Cl. 94: 26—38.
- (1975 a): Une nouvelle alouette du sud de l'Ethiopie. — Alauda 43: 115—124.
- (1975 b): Affinités de *Batis minima* (J. et E. Verreaux) et de *B. ituriensis* Chapin. — Oiseau et R.F.O. 45: 235—240.
- (1975 c): Variation géographique de *Mirafr giletti* Sharpe et description d'une espèce jumelle. — Oiseau et R.F.O. 45: 293—312.
- Farkas, T. (1979): A further note on the status of *Monticola pretoriae* Gunning & Roberts, 1911. — Bull. Brit. Orn. Cl. 99: 20—21.
- Field, G. D. (1979): A new species of *Malimbus* sighted in Sierra Leone and a review of the genus. — Malimbus 1: 2—13.
- Forbes-Watson, A. (1970): A new species of *Melaenornis* (Muscicapinae) from Liberia. — Bull. Brit. Orn. Cl. 90: 145—148.
- Forshaw, J. M. (1973): Parrots of the world. — Doubleday & Co., New York.
- Franzmann, N.-E. (1983): A new subspecies of the Usambara Weaver *Ploceus nicolli*. — Bull. Brit. Orn. Cl. 103: 49—51.
- Friedmann, H. (1968): Parallel evolution in the small species of *Indicator*. — Proc. U. S. Natl. Mus. 125 (3655): 1—10.
- (1971): Phenotypic potential and speciation in *Indicator* and *Prodotiscus*. — Ostrich, Suppl. 8: 21—26.
- , & J. G. Williams (1971): The birds of the lowlands of Bwamba, Toro Province, Uganda. — Los Angeles County Mus. Contr. Sci. 211: 1—70.
- Fry, C. H. (1969): The evolution and systematics of bee-eaters (Meropidae). — Ibis 111: 557—592.
- (1978): Alcedinidae to Upupidae. — In: D. W. Snow (ed.) An atlas of speciation in African nonpasserine birds. British Museum (Natural History), London.
- Goodwin, D. (1965): Some remarks on the new barbet. — Bull. Brit. Orn. Cl. 85: 9—10.
- (1967): Pigeons and doves of the world. — British Museum (Natural History), London.
- , & P. A. Clancey (1978): Capitonidae. — In: D. W. Snow, loc. cit.
- Grant, C. H. B., & C. W. Mackworth-Praed (1938): On the status of *A. Melignothos pachyrhynchus*, *B. Indicator pygmaeus*, *C. Melignothos meliphilus*, *D. Indicator narokensis*, and *E. Indicator appelor*. — Bull. Brit. Orn. Cl. 58: 141—145.
- Haffer, J. (1977): Secondary contact zones of birds in northern Iran. — Bonn. zool. Monograph. 10, pp. 1—64.
- Hall, B. P., & R. E. Moreau (1970): An atlas of speciation in African passerine birds. — British Museum (Natural History), London.

- Hanotte, O. (1983): Taxonomie biochimique: étude de l'électrophorèse des protéines de la plume et application à la systématique des Pycnonotidae (Aves). — Mémoire de licence, Université libre de Bruxelles.
- Harrison, C. J. O. (1971): Notes on the identification of eggs, egg mimicry and distributional history and the status of the form *serratus*, in the parasitic *Clamator* cuckoos. — Bull. Brit. Orn. Cl. 91: 126—131.
- Irwin, M. P. S. (1964): An African canary superspecies. — Occ. Pap. Nats. Mus. South Rhod. 27 B: 16—25.
- Jensen, F. P. (1983): A new species of sunbird from Tanzania. — Ibis 125: 447—449.
- Keith, G. S. (1971): In: Keith G. S., & W.W.H. Gunn (eds.). Birds of the African rain forests. 2 discs with text. — Federation of Ontario Ornithologists and American Museum of Natural History, Ontario and New York.
- Louette, M. (1976): Note on the genus *Bathmocercus* Reichenow, part I. The different plumage of *B. cerviniventris* and its relationship to *B. rufus*. — Rev. Zool. afr. 90: 1021—1027.
- Louette, M. (1981): The birds of Cameroon. An annotated check-list. — Verh. Kon. Acad. Wetensch., Lett. en Scène Kunst. België, Klasse Wetensch. 43 (No. 163), pp. 1—295.
- (1981): A new species of honeyguide from West Africa. — Rev. Zool. afr. 95: 131—135.
- , & C. W. Benson (1982): Swamp-dwelling weavers of the *Ploceus velatus* / *vittelinus* complex, with the description of a new species. — Bull. Brit. Orn. Cl. 102: 24—31.
- Macdonald, J. D. (1949): A new race of Orange Thrush from Uganda. — Bull. Brit. Orn. Cl. 69: 16.
- (1957): Contribution to the ornithology of western South Africa. — British Museum (Natural History), London.
- Mayr, E. (1957): New species of birds described from 1941 to 1955. — J. Orn. 98: 22—35.
- (1971): New species of birds described from 1956 to 1965. — J. Orn. 112: 302—316.
- (1980): Problems of classification of birds, a progress report Erwin Stresemann Memorial Lecture. — Acta XVII Congr. Int. Orn. Berlin 1978, pp. 95—112.
- , & F. Vuilleumier (1983): New species of birds described from 1966 to 1975. — J. Orn. 124: 217—232.
- McLachlan, G. R., & R. Liversidge (1957): Roberts birds of South Africa. — Cape Times Ltd., Cape Town.
- Morony, J. J., W. J. Bock & J. Farrand (1975): Reference list of the birds of the world. — American Museum of Natural History, New York.
- Nauoris, R. de (1975): Le "Scops" de l'île de São Thomé *Otus hartlaubi* (Giebel). — Bonn. zool. Beitr. 26: 319—355.
- Nicolai, J. (1972): Zwei neue *Hypochera*-Arten aus West-Afrika (Ploceidae, Viduinae). — J. Orn. 113: 229—240.
- (1982): Comportement, voix et parenté de l'Amaranthe du Mali (*Lagonosticta virata*). — Malimbus 4: 9—14.
- North, M.E.W., & D. S. McChesney (1964): More voices of African birds. 1 disc. — Cornell University Laboratory of Ornithology, Ithaca.
- Parkes, K. C. (1957): Taxonomic notes on the Lesser Coucal, *Centropus bengalensis*. — Bull. Brit. Orn. Cl. 77: 115—116.
- Payne, R. B. (1977): Juvenal plumages of *Cuculus canorus* and *Cuculus gularis* in Africa. — Bull. Brit. Orn. Cl. 97: 48—53.
- (1982): Species limits in the indigobirds (Ploceidae, *Vidua*) of West Africa: mouth mimicry, song mimicry, and description of new species. — Misc. Publ. Mus. Zool. Univ. Michigan 162: 1—96.
- Plumb, W. J. (1979): Observation on Hinde's Babbler *Turdoides hindei*. — Scopas 3: 61—67.
- Prigogine, A. (1955): Une nouvelle Fauvette du genre *Apalis* du Congo belge. — Rev. Zool. Bot. afr. 51: 240—242.
- (1957): La redécouverte de *Muscicapa lendu* (Chapin). — Rev. Zool. Bot. afr. 55: 405—410.
- (1960 a): Une nouvelle forme de *Lioptilus chapini* (Schouteden) de l'est du Congo belge. — Rev. Zool. Bot. afr. 61: 15—18.
- (1960 b): Un nouveau Martinier du Congo. — Rev. Zool. Bot. afr. 62: 103—105.
- (1971): Les oiseaux de l'Itombwe et de son hinterland. Vol. I. — Ann. Mus. Afr. centr., 8°, Sci. Zool. 185: 1—298.
- (1972): Description of a new green bulbul from the Republic of Zaire. — Bull. Brit. Orn. Cl. 92: 138—141.
- (1975): The status of *Estrilda kandti* and *Estrilda atricapilla graueri*. — Bull. Brit. Orn. Cl. 95: 15—18.

- (1976): Relations entre les Gobe-mouches de paradis *Terpsiphone rufiventer ignea* et *Terpsiphone bedfordi* et statut de ce dernier. — Gerfaut 66: 171—205.
- (1977 a): The Orange Ground-thrush *Turdus tanganjicae* (Sassi) a valid species. — Bull. Brit. Orn. Cl. 97: 10—15.
- (1977 b): Le statut de *Pogoniulus leucolaima* (Verreaux). — Gerfaut 67: 413—425.
- (1978 a): Le statut du Loriot de Percival, *Oriolus percivali*, et son hybridation avec *Oriolus larvatus* dans l'Est africain. — Gerfaut 68: 253—320.
- (1978 b): Les oiseaux de l'Itombwe et de son hinterland. Vol. II. — Ann. Mus. Afr. centr., 8°, Sci. Zool. 223: 1—134.
- (1979): Subspecific variation of Stuhlmann's Double-collared Sunbird, *Nectarinia stuhlmanni*, around the Albertine Rift. — Gerfaut 69: 225—238.
- (1980 a): Hybridization between the paradise flycatchers *Terpsiphone rufiventer* and *Terpsiphone bedfordi*. — Proc. IV Pan-Afr. orn. Congr. 1976, pp. 17—21.
- (1980 b): Hybridation entre les barbions *Pogoniulus bilineatus* et *Pogoniulus leucolaima* au Rwanda et au Burundi. — Gerfaut 70: 73—91.
- (1980 c): Etude de quelques contacts secondaires au Zaïre oriental. — Gerfaut 70: 305—384.
- (1981 a): A new species of *Malimbus* from Sierra Leone? — *Malimbus* 3: 55.
- (1981 b): The status of *Anthus latistriatus* Jackson, and the description of a new subspecies of *Anthus cinnamomeus* from Itombwe. — Gerfaut 71: 537—573.
- (1983): Un nouveau *Glauucidium* de l'Afrique centrale. — Rev. Zool. afr. 97: 886—895.
- (1984): Secondary contacts in Central Africa. — Proc. V Pan-Afr. orn. Congr. 1980, pp. 81—96.
- (1984 a): Les oiseaux de l'Itombwe et de son hinterland. Vol. III. — Ann. Mus. Afr. centr., 8°, Sci. Zool. 243: 1—146.
- (1984 b): Speciation problems in birds with special reference to the Afrotropical region. — *Mitteil. zool. Mus. Berlin* 60 Suppl.; Ann. Orn. 8: 3—27.
- (1984 c): Note sur deux gladiateurs (*Malaconotus*). — Gerfaut 74: 75—81.
- , & M. Louette (1983): Contacts secondaires entre les taxons appartenant à la super-espèce *Dendropicos goertae*. — Gerfaut 73: 9—83.
- Ripley, S. D. (1965): Le martinet pâle de Socotra (*Apus pallidus berlozi*) — Oiseau et R.F.O. 35 (Sp.): 101—102.
- (1966): A notable owlet from Kenya. — *Ibis* 108: 136—137.
- , & G. H. Heinrich (1966): Additions to the avifauna of northern Angola. II. — *Postilla* 95: 1—29.
- Sassi, M. (1914): Einige neue Formen der innerafrikanischen Ornis aus der Kollektion Grauer. — *Anz. k. Akad. Wiss. Wien* 51: 308—312.
- Schouteden, H. (1950): *Glauucidium castaneum* Reichenow est une bonne espèce. — *Rev. Zool. Bot. afr.* 44: 135—137.
- Sclater, W. L. (1930): *Systema avium Aethiopicarum*. Part II. — Taylor and Francis, London.
- Short, L. L. (1969): Taxonomic aspects of avian hybridization. — *Auk* 86: 84—105.
- (1972): Hybridization, taxonomy, and avian evolution. — *Ann. Missouri Bot. Gard.* 59: 447—453.
- (1980): Speciation in African woodpeckers. — Proc. IV Pan-Afr. orn. Congr. 1976, pp. 1—8.
- Snow, D. W. (ed.) (1978): An atlas of speciation in African non-passerine birds. — British Museum (Natural History), London.
- (1980): A new species of cotinga from southeastern Brazil. — *Bull. Brit. Orn. Cl.* 100: 213—215.
- (1982): The cotingas. — British Museum (Natural History) and Cornell University Press, London and Ithaca.
- Traylor, M. A. (1967 a): A new species of *Cisticola*. — *Bull. Brit. Orn. Cl.* 87: 45—48.
- (1967 b): *Cisticola aberdare* a good species. — *Bull. Brit. Orn. Cl.* 87: 137—141.
- Urban, E. K., & L. H. Brown (1971): A checklist of the birds of Ethiopia. — Haile Sellassie I University Press, Addis Abeba.
- Vuilleumier, F. (1976): La notion de l'espèce en ornithologie. — In: Boquet C., J. Générmont & M. Lamotte: Les problèmes de l'espèce dans le règne animal. — Société zoologique de France, Paris.
- Wattel, J. (1972): Geografische differentiatie in het genus *Accipiter*. *Akademisch Proefschrift*. — Vrije Universiteit Amsterdam.
- White, C.M.N. (1960): A check list of the Ethiopian Muscicapidae (Sylviinae). Part I. — *Occas. Pap. Natl. Mus. South. Rhod.* 24 B: 399—430.
- (1961): A revised check list of African broadbills, pittas, larks, swallows, wagtails and pipits. — Government Printer, Lusaka.

- (1962 a): A check list of the Ethiopian Muscicapidae (Sylviinae). Part II. — Occas. Pap. Natl. Mus. South. Rhod. 26 B: 653—738.
- (1962 b): A revised check list of African shrikes, orioles, drongos, starlings, crows, waxwings, cuckoo-shrikes, bulbuls, accentors, thrushes and babblers. — Government Printer, Lusaka.
- (1963): A revised check list of African flycatchers, tits, tree creepers, sunbirds, white-eyes, honey eaters, buntings, finches, weavers and waxbills. — Government Printer, Lusaka.
- (1965): A revised check list of African non-passerine birds. — Government Printer, Lusaka.
- Wickler, W. (1973): Artunterschiede im Duettgesang zwischen *Trachyphonus d'arnaudii usambiro* und den anderen Unterarten von *T. d'arnaudii*. — J. Orn. 114: 123—128.
- Williams, J. G. (1966): A new species of swallow from Kenya. — Bull. Brit. Orn. Cl. 86: 40.
- Wolters, H. E. (1974): Aus der ornithologischen Sammlung des Museums Alexander Koenig. III. Ein neuer *Malimbus* (Ploceidae, Aves) von der Elfenbeinküste. — Bonn. zool. Beitr. 25: 290—291.
- (1975—1982): Die Vogelarten der Erde. — Parey, Hamburg und Berlin.
- (1983): Zur Systematik einiger Passeres aus Kamerun. — Bonn. zool. Beitr. 34: 279—291.

### Appendix

Tab. A.1: Recognized species described since 1960.

Species	References	Status	Method
<b>STRIGIDAE</b>			
<i>Glaucidium albertinum</i> Prigogine, 1983		species?	B, D
<i>Otus irenae</i> Ripley, 1966		species?	B
<b>APODIDAE</b>			
<i>Apus berliozii</i> Ripley, 1965*	Brooke 1969	allospecies	B, D
<i>Schoutedenapus schoutedeni</i> (Prigogine, 1960c)	Brooke 1971a, 1971b	species	B
<b>INDICATORIDAE</b>			
<i>Melignomon eisentrauti</i> Louette, 1981		species	B
<b>ALAUDIDAE</b>			
<i>Mirafra ashi</i> Colston, 1982		species	C
<i>Mirafra degodiensis</i> Erard, 1975 c		species	B, D
<i>Mirafra sidamoensis</i> Erard, 1975 a		allospecies	B, D
<b>PYCNONOTIDAE</b>			
<i>Chlorocichla prigoginei</i> De Roo, 1967		species	D
<b>TURDIDAE</b>			
<i>Zoothera kibalensis</i> Prigogine, 1978 c		species	B, D
<b>SYLVIIDAE</b>			
<i>Cisticola restricta</i> Traylor, 1967 a		allospecies	D
<i>Prinia fluvialis</i> Chappuis, 1974 b		species	C 1
<b>MUSCICAPIDAE</b>			
<i>Melaenornis annamarulae</i> Forbes-Watson, 1970		species	B
<b>NECTARINIIDAE</b>			
<i>Nectarinia rufipennis</i> Jensen, 1983		species	B
<b>PLOCEIDAE</b>			
<i>Malimbus ballmanni</i> Wolters, 1974		allospecies	A
<i>Ploceus ruweii</i> Louette & Benson, 1982		allospecies	D
<i>Vidua larvaticola</i> Payne, 1982		species	C 1
<i>Vidua raricola</i> Payne, 1982		species	C 1
<b>FRINGILLIDAE</b>			
<i>Serinus ankoberensis</i> Ash, 1979		species	C
<i>Serinus citrinipectus</i> Clancey & Lawson, 1960		allospecies	D

\* Described as *Apus pallidus berliozii*.

Tab. A.2: Non-passerine species.

Species	Reference	Status	Method	Category
<b>ARDEIDAE</b>				
<i>Egretta gularis</i> (Bosc, 1792)	(1)	paraspecies	D	I
<i>Egretta vinaceigula</i> (Sharpe, 1895)	Benson et al. 1971	species	C, D	I
<b>ACCIPITRIDAE</b>				
<i>Accipiter erythropus</i> (Hartlaub, 1855)	Prigogine 1980 c, 1984	allospecies	D	I
<i>Accipiter toussenelii</i> (Verreaux & Des Murs, 1855)	Prigogine 1980 c, 1984	paraspecies	E	I
<i>Buteo augur</i> (Rüppell, 1836)	Brooke 1975	allospecies	D	II
<i>Circus pectoralis</i> Smith, 1829	Dowsett & Dowsett-Lemaire 1980	allospecies	D	IV
<i>Circus ranivorus</i> (Daudin, 1800)	Brown & Amadon 1968	allospecies	D	I
<i>Gyps africanus</i> Salvadori, 1865	Brown & Amadon 1968	allospecies	D	I
<i>Hieraaetus spilogaster</i> (Bonaparte, 1850) (2)	Wolters 1976, Brown et al. 1982	allospecies	D	II
<i>Polyboroides typus</i> Smith, 1829	Brown & Amadon 1968	allospecies	D	I
<b>PHASIANIDAE</b>				
<i>Coturnix adansonii</i> Verreaux, 1851	Wolters 1976, Devillers 1976	allospecies	D	II
<b>GRUIDAE</b>				
<i>Balearica regulorum</i> (Benett, 1833)	Devillers 1976	allospecies	D	III
<b>OTIDIDAE</b>				
<i>Eupodotis gindiana</i> Oustalet, 1881	Clancey 1977, Chappuis et al. 1979	allospecies	C1,D	II
<i>Eupodotis rueppelii</i> (Wahlberg, 1856)	McLachlan & Liversidge 1957, Clancey 1972, 1973	paraspecies	D	I
<i>Eupodotis savilei</i> (Lynes, 1920)	Clancey 1977, Chappuis et al. 1979	allospecies	C1,D	II
<b>GLAREOLIDAE</b>				
<i>Cursorius rufus</i> Gould, 1837	McLachlan & Liversidge 1957	allospecies	D	I
<b>LARIDAE</b>				
<i>Larus hartlaubii</i> Bruch, 1853	Wolters 1975, Clancey 1980, Devillers, pers. com.	allospecies	D	II
<i>Sterna saundersii</i> Hume, 1877	Wolters 1975, Devillers 1977	allospecies	D	II
<b>COLUMBIDAE</b>				
<i>Columba iriditorques</i> Cassin, 1856	Goodwin 1967	allospecies	D	I
<i>Columba sjoestedti</i> Reichenow, 1901	Goodwin 1967	allospecies	D	I
<i>Columba thomensis</i> Bocage, 1888	Goodwin 1967	allospecies	D	I
<i>Streptopelia hypopyrrha</i> (Reichenow, 1910)	Goodwin 1967	allospecies	D	I
<i>Treron pumbaensis</i> Pakenham, 1940	Goodwin 1967	allospecies	D	II
<b>PSITTACIDAE</b>				
<i>Agapornis fischeri</i> Reichenow, 1887	Forshaw 1973, Wolters 1975	paraspecies	D	II
<i>Agapornis lilliana</i> Shelley, 1894	Forshaw 1973, Wolters 1975	allospecies	D	II
<i>Agapornis nigrigenis</i> Sclater, 1906	Forshaw 1973, Wolters 1975	allospecies	D	II
<b>CUCULIDAE</b>				
<i>Centropus grillii</i> Hartlaub, 1861	Parkes 1957, Benson et al. 1970	allospecies	D	II
<i>Clamator serratus</i> Sparrman, 1786	Harrison 1971, Morony et al. 1975	allospecies?	D	III
<i>Cuculus gularis</i> Stephens, 1815	Chapin 1939, Chappuis 1974 a, Payne 1977	allospecies	C I	I

(1) *Egretta gularis* is generally considered as a valid species except by White (1965).(2) *Hieraaetus spilogaster* replaces *H. fasciatus* in the Afrotropical region.

Tab. A.2: Non-passerine species (cont.).

Species	Reference	Status	Method	Category
<b>STRIGIDAE</b>				
<i>Glaucidium castaneum</i> Reichenow, 1893	Brooke et al. 1983	allospecies	D	IV
<i>Glaucidium ngamiense</i> (Roberts, 1932)	Brooke et al. 1983	allospecies	D	IV
<i>Glaucidium scheffleri</i> Neumann, 1911	Brooke et al. 1983	allospecies	D	IV
<i>Otus hartlaubi</i> (Giebel, 1872)	de Naurois 1975	allospecies	D	I
<i>Otus pemaensis</i> Pakenham, 1937	Benson 1960	allospecies	D	IV
<i>Otus senegalensis</i> (Swainson, 1837)	Wolters 1975, Devillers 1977, Chappuis 1978	allospecies	D	II
<b>CAPRIMULGIDAE</b>				
<i>Caprimulgus clarus</i> Reichenow, 1892	North & McChesney 1964, Urban & Brown 1971	species?	C I	III
<i>Caprimulgus ruwenzorii</i> Ogilvie-Grant, 1908	Chappuis 1981	allospecies	C I	IV
<b>APODIDAE</b>				
<i>Apus bradfieldi</i> (Roberts, 1926)	Brooke 1969, 1970	paraspecies	D	I
<i>Apus sladeniae</i> (Ogilvie-Grant, 1904)	De Roo, In: Brooke 1970, Brooke 1971 a, 1978	paraspecies	D	II
<i>Apus toulsoni</i> (Bocage, 1881)	Devillers 1977	paraspecies	D	IV
<b>ALCEDINIDAE</b>				
<i>Alcedo nais</i> Kaup, 1848	Wolters 1976	allospecies	D	IV
<i>Alcedo thomensis</i> (Salvadori, 1902)	Wolters 1976	allospecies	D	IV
<b>MEROPIIDAE</b>				
<i>Merops bullockoides</i> Smith, 1834	Fry 1969	allospecies	D	I
<i>Merops nubicoides</i> Des Murs & Pucheran, 1846	Devillers 1977	allospecies	D	III
<i>Merops oreobates</i> (Sharpe, 1892)	Fry 1969	species	D	I
<b>UPUPIIDAE</b>				
<i>Phoeniculus somaliensis</i> (Ogilvie-Grant, 1901)	Fry 1978	paraspecies	E	IV
<b>CAPITONIDAE</b>				
<i>Gymnobucco sladeni</i> Ogilvie-Grant, 1907	Morony et al. 1975	allospecies	D	III
<i>Lybius chaplini</i> Clarke, 1920	Goodwin & Clancey 1978	species	D	I
<i>Lybius diadematus</i> (Heuglin, 1861)	Goodwin & Clancey 1978	allospecies	D	I
<i>Lybius frontatus</i> (Cabanis, 1880)	Goodwin & Clancey 1978	paraspecies	D	II
<i>Lybius macclounii</i> (Shelley, 1899)	Devillers 1977, Dowsett & Dowsett-Lemaire 1980	paraspecies	D	IV
<i>Pogoniulus leucolaima</i> (Verreaux, 1851)	Prigogine 1980 c	subspecies	E	V
* <i>Pogoniulus makawai</i> Benson & Irwin, 1965		species	B	V
<i>Trachyphonus usambiro</i> Neumann, 1908	Wickler 1973	paraspecies	C I	IV
<b>INDICATORIDAE</b>				
<i>Indicator conirostris</i> (Cassin, 1856)	Friedmann 1971	paraspecies	D	II
<i>Indicator narokensis</i> Jackson, 1906	Grant & Mackworth- Praed 1938, Friedmann 1968	species	D	I
<i>Prodotiscus zambesiae</i> Shelley, 1894	Ripley & Heinrich 1966	allospecies	D	I
<b>PICIDAE</b>				
<i>Campethera scriptoricauda</i> (Reichenow, 1896)	Wolters 1980	allospecies	D	IV
<i>Dendropicos lugubris</i> Hartlaub, 1857	Wolters 1976	paraspecies?	D	IV
<i>Dendropicos spodocephalus</i> (Bonaparte, 1851)	Prigogine & Louette 1983	paraspecies	E	I

\* A species described since 1960 but not accepted as valid in my classification (categories IV or V).

Tab. A.3: Passerine species.

Species	Reference	Status	Method	Category
<b>ALAUDIDAE</b>				
<i>Calandrella aihensis</i> (Sharpe, 1900)	Wolters 1979	allospecies	D	IV
<i>Calandrella blanfordi</i> (Shelley, 1902)	Morony et al. 1975	allospecies	D	III
<i>Calandrella erlangeri</i> (Neumann, 1906)	Wolters 1979	allospecies	D	IV
<i>Calandrella somalica</i> (Sparpe, 1895)	Hall & Moreau 1970	allospecies	D	II
<i>Galerida theklae</i> Brehm, 1858 (3)	Morony et al. 1975	allospecies	D	II
<i>Mirafra alopex</i> Sharpe, 1890	Wolters 1979	allospecies	D	IV
<i>Mirafra archeri</i> (Clarke, 1920)	Wolters 1979	allospecies	D	III
<i>Mirafra cantillans</i> Blyth, 1843	Hall & Moreau 1970	paraspecies	D	I
<i>Mirafra erythropygia</i> (Strickland, 1852)	Wolters 1979	allospecies	D	IV
<i>Mirafra hypermetra</i> (Reichenow, 1879)	Hall & Moreau 1970	paraspecies	D	I
<i>Mirafra passerina</i> Gyldenstolpe, 1926	Hall & Moreau 1970	paraspecies	D	I
<i>Mirafra sharpei</i> Elliot, 1897	Wolters 1979	allospecies	D	IV
<i>Mirafra williamsi</i> (Clancey, 1952)	Hall & Moreau 1970	allospecies	D	I
<b>HIRUNDINIDAE</b>				
* <i>Hirundo andrewi</i> Williams, 1966		species?	B	V
<i>Hirundo lucida</i> Hartlaub, 1858	Hall & Moreau 1970	allospecies	D	I
<i>Hirundo obsoleta</i> (Cabanis, 1850)	Morony et al. 1975	allospecies	D	III
<i>Hirundo preussi</i> (Reichenow, 1898)	Hall & Moreau 1970	allospecies	D	I
<i>Hirundo rufigula</i> Bocage, 1878	Morony et al. 1975	allospecies	D	II
<i>Psalidoprocne antinorii</i> Salvadori, 1884	Morony et al. 1975	paraspecies?	D	IV
<i>Psalidoprocne chalybea</i> Reichenow, 1892	Morony et al. 1975	paraspecies	D	I
<i>Psalidoprocne holomelaena</i> (Sundevall, 1850)	Morony et al. 1975	paraspecies	D	I
<i>Psalidoprocne mangbettorum</i> Chapin, 1926	Morony et al. 1975	paraspecies	D	I
<i>Psalidoprocne oleaginea</i> Neumann, 1904	Morony et al. 1975	allospecies?	D	I
<i>Psalidoprocne orientalis</i> Reichenow, 1889	Morony et al. 1975	paraspecies	D	III
<i>Psalidoprocne petiti</i> Sharpe & Bouvier, 1876	Morony et al. 1975	paraspecies?	D	I
<b>MOTACILLIDAE</b>				
<i>Anthus cameroonensis</i> Shelley, 1900	Wolters 1979	allospecies	D	IV
<i>Anthus cinnamomeus</i> Rüppell, 1840 (4)	Devillers 1980, Prigogine 1981	allospecies	D	I
<i>Anthus nyassae</i> Neumann, 1906	Dowsett & Dowsett-Lemaire 1980	paraspecies	D	IV
<i>Motacilla aguimp</i> Dumont, 1821	Hall & Moreau 1970	allospecies	D	I
<b>CAMPEPHAGIDAE</b>				
<i>Campephaga flava</i> Vieillot, 1817	Hall & Moreau 1970	paraspecies	D	II
<i>Campephaga oriolina</i> (Bates, 1909)	Hall & Moreau 1970	allospecies	D	III
<i>Campephaga petiti</i> Oustalet, 1884	Hall & Moreau 1970	paraspecies	D	II
<b>PYCNONOTIDAE</b>				
* <i>Andropadus hallae</i> Prigogine, 1972		species?	B	IV
<i>Andropadus masukuensis</i> Shelley, 1897	Hall & Moreau 1970	allospecies	D	I

(3) *Galerida theklae* is generally attached to *G. malabarica*.

\* A species described since 1960, but not accepted in my classification as valid (category IV or V).

Tab. A.3: Passerine species (cont.).

Species	Reference	Status	Method	Category
<i>Criniger chloronotus</i> (Cassin, 1860)	Chappuis 1975, Devillers 1980	allospecies	D	III
<i>Criniger ndussumensis</i> Reichenow, 1904	Hall & Moreau 1970	species	D	II
<i>Nicator gularis</i> Hartlaub & Finsch, 1870	Keith 1971, Wolters 1979, Clancey 1980 b	allospecies	D	II
<i>Phyllastrephus cabanisi</i> (Sharpe, 1881)	Dowsett 1972	paraspecies	D	II
<i>Phyllastrephus cerviniventris</i> Shelley, 1894	Hall & Moreau 1970	species	D	I
<i>Phyllastrephus hypochloris</i> (Jackson, 1906)	Morony et al. 1975	allospecies	D	II
<i>Phyllastrephus placidus</i> (Shelley, 1889)	Dowsett 1972	paraspecies	D	II
<i>Phyllastrephus poliocephalus</i> (Reichenow, 1892)	Hall & Moreau 1970	allospecies	D	I
LANIIDAE				
<i>Eurocephalus rueppelli</i> Bonaparte, 1853	Hall & Moreau 1970	allospecies	D	I
<i>Laniarius aethiopicus</i> (Gmelin, 1788)	Hall & Moreau 1970	paraspecies	D	III
<i>Laniarius atrococcineus</i> (Burchell, 1822)	Hall & Moreau 1970	allospecies	D	I
<i>Laniarius bicolor</i> (Verreaux, 1857)	Hall & Moreau 1970	paraspecies	D	III
<i>Laniarius erythrogaster</i> (Cretzmar, 1829)	Hall & Moreau 1970	paraspecies	D	II
<i>Laniarius poensis</i> (Alexander, 1903)	Hall & Moreau 1970	paraspecies	D	II
<i>Laniarius turatii</i> (Verreaux, 1858)	Hall & Moreau 1970	paraspecies	D	III
<i>Malaconotus monteiri</i> (Sharpe, 1870)	Hall & Moreau 1970, Prigogine, 1984 c	allospecies	D	I
<i>Malaconotus nigrifrons</i> (Reichenow, 1896)	Hall & Moreau 1970	allospecies	D	I
<i>Malaconotus quadricolor</i> (Cassin, 1851)	Hall & Moreau 1970	allospecies	D	I
TURDIDAE				
<i>Alethe castanea</i> (Cassin, 1857)	Wolters 1980, 1983	allospecies	D	IV
<i>Cossypha insulana</i> Grote, 1935	Wolters 1980	allospecies	D	IV
<i>Monticola pretoriae</i> Gunning & Roberts, 1911	Farkas 1979	paraspecies	D	IV
<i>Neocossyphus finschi</i> (Sharpe, 1870)	Hall & Moreau 1970	allospecies	D	II
<i>Oenanthe lugubris</i> (Rüppell, 1837)	Wolters 1980	allospecies	D	IV
<i>Oenanthe phillipsi</i> (Shelley, 1885)	Hall & Moreau 1970	species	D	II
<i>Sheppardia poensis</i> (Alexander, 1903)	Wolters 1980, 1983	allospecies	D	IV
<i>Turdus abyssinicus</i> Gmelin, 1789	Morony et al. 1975	allospecies	D	II
<i>Turdus helleri</i> (Mearns, 1913)	Morony et al. 1975	allospecies	D	II
<i>Turdus ludovicae</i> (Phillips, 1895)	Morony et al. 1975	allospecies	D	II
<i>Zoothera crossleyi</i> (Sharpe, 1872)	Morony et al. 1975	allospecies	D	IV**
<i>Zoothera tangericae</i> (Sassi, 1914)	Prigogine 1977 a	paraspecies	B, D	I
TIMALIIDAE				
<i>Alcippe atriceps</i> (Sharpe, 1902)	Morony et al. 1975, Wolters 1980	allospecies	D	II
<i>Lioptilus chapini</i> Schouteden, 1949	Chapin 1953, Prigogine 1960 a	allospecies	D	I
<i>Turdoides hartlaubii</i> (Bocage, 1868)	Wolters 1980	allospecies	D	IV

(4) *Anthus cinnamomeus* is generally accepted as a race of *A. novaeseelandiae*.\*\* Now (1985), after a revision of the African *Zoothera* species, I consider *Zoothera crossleyi* as an allospecies.

Tab. A.3: Passerine species (cont.).

Species	Reference	Status	Method	Category
<i>Turdoides hindei</i> (Sharpe, 1900)	Plumb 1979	paraspecies	D	IV
<i>Turdoides sharpei</i> (Reichenow, 1891)	Hall & Moreau 1970	paraspecies	D	II
PICARTHIDAE				
<i>Picarthus oreas</i> Reichenow, 1899	Hall & Moreau 1970	allospecies	D	I
SYLVIIDAE				
<i>Acrocephalus cinnamomeus</i> Reichenow, 1908	Clancey 1975	paraspecies	D	IV
<i>Apalis alticola</i> (Shelley, 1899)	Hall & Moreau 1970	species	D	I
<i>Apalis argentea</i> Moreau, 1941	Hall & Moreau 1970	allospecies	D	I
<i>Apalis bamendae</i> Bannerman, 1922	Chappuis 1979, Wolters 1980	allospecies	D	IV
<i>Apalis chapini</i> Friedmann, 1926	Dowsett & Dowsett-Lemaire 1980	allospecies	C I	IV
<i>Apalis chirindensis</i> Shelley, 1906	Hall & Moreau 1970	paraspecies	D	I
<i>Apalis goslingi</i> Alexander, 1908	Chappuis 1979, Wolters 1980	allospecies	D	IV
<i>Apalis kaboboensis</i> Prigogine, 1955	Chappuis 1979, Wolters 1980	allospecies	B	I
<i>Apalis ruwenzorii</i> Jackson, 1904	Hall & Moreau 1970	allospecies	D	I
<i>Bathmocercus rufus</i> Reichenow, 1895	Hall & Moreau 1970, Louette 1976, Chappuis 1976	allospecies	D	I
<i>Bradypterus carpalis</i> Chapin, 1916	Hall & Moreau 1970	allospecies	D	I
<i>Bradypterus grandis</i> Ogülvie-Grant, 1917	Hall & Moreau 1970	allospecies	D	I
<i>Bradypterus lopezi</i> (Alexander, 1903)	Wolters 1980	allospecies	D	IV
<i>Bradypterus mariae</i> Madarasz, 1905	Dowsett & Prigogine 1974, Dowsett & Stjernstedt 1979	allospecies	C I, D	II
<i>Cameroptera brevicaudata</i> (Cretzschmar, 1820)	Hall & Moreau 1970	paraspecies	D	III
<i>Cisticola aberdare</i> Lynes, 1930	Traylor 1967 b	species	C I, D	II
<i>Cisticola angolensis</i> (Bocage, 1877)	Dowsett & Dowsett-Lemaire 1980	allospecies	C I	IV
<i>Cisticola angusticauda</i> Reichenow, 1891	Dowsett & Dowsett-Lemaire 1980	paraspecies	E	IV
<i>Cisticola bodessa</i> Mearns, 1913	Erard 1974	species	C I	I
<i>Cisticola chubbi</i> Sharpe, 1892	Hall & Moreau 1970	paraspecies	D	I
<i>Cisticola distincta</i> Lynes, 1930	Wolters 1980	allospecies	D	IV
<i>Cisticola haesitata</i> (Sclater & Hartlaub, 1881)	Hall & Moreau 1970	allospecies	D	I
<i>Cisticola lepe</i> Lynes, 1930	Dowsett & Prigogine 1974	species	D	IV
<i>Cisticola mongalla</i> Lynes, 1930	Chappuis 1974 b	paraspecies	C I	IV
<i>Cisticola nigriloris</i> Shelley, 1897	Chappuis 1974 b	allospecies	C I	IV
<i>Eremomela canescens</i> Antinori, 1864	Hall & Moreau 1970	allospecies	D	III
<i>Eremomela salvadorii</i> Reichenow, 1891	Hall & Moreau 1970	paraspecies	D	II
<i>Macrosphenus kempii</i> (Sharpe, 1905)	Hall & Moreau 1970	allospecies	D	I
<i>Phylloscopus laurae</i> Boulton, 1931	Hall & Moreau 1970	allospecies	D	I
<i>Prinia leontica</i> Bates, 1930	Hall & Moreau 1970	allospecies	D	I
<i>Schoenicola brevirostris</i> (Sundevall, 1850) (5)	Wolters 1980	allospecies	D	IV
MUSCICAPIDAE				
<i>Melaenornis brunnea</i> (Cabanis, 1886)	Wolters 1980	allospecies	D	IV
<i>Melaenornis fischeri</i> (Reichenow, 1884)	Wolters 1980	allospecies	D	IV
<i>Muscicapa itombwensis</i> Prigogine, 1957	Wolters 1980	allospecies	B	V
<i>Muscicapa lendu</i> (Chapin, 1932)	Prigogine 1957	species	B	I

(5) *Schoenicola brevirostris* is considered by most specialists as a subspecies of *S. platyura*.

Tab. A.3: Passerine species (cont.).

Species	Reference	Status	Method	Category
<b>MONARCHIDAE***</b>				
<i>Batis diops</i> Jackson, 1905	Hall & Moreau 1970	allospecies	D	I
<i>Batis ituriensis</i> Chapin, 1921	Erard 1975 b	paraspecies	B, D	I
<i>Batis margaritae</i> Boulton, 1934	Hall & Moreau 1970	allospecies	D	I
<i>Batis mixta</i> (Shelley, 1889)	Hall & Moreau 1970	paraspecies	D	I
<i>Batis poensis</i> Alexander, 1903	Hall & Moreau 1970	allospecies	D	I
<i>Platysteira chalybea</i> (Reichenow, 1897)	Louette 1981	paraspecies	E	I
<i>Platysteira jamesoni</i> (Sharpe, 1890)	Prigogine, 1984 b	allospecies	D	I
<i>Terpsiphone bedfordi</i> (Ogilvie-Grant, 1907)	Prigogine 1976, 1980 a	semispecies	E	I
<i>Terpsiphone rufocinerea</i> Cabanis, 1875	Hall & Moreau 1970	species	D	I
<i>Terpsiphone tricolor</i> (Fraser, 1843) (6)	Wolters 1979	species?	D	V
<b>NECTARINIIDAE</b>				
<i>Anthreptes axillaris</i> (Reichenow, 1893)	Wolters 1979	allospecies	D	IV
<i>Anthreptes metallicus</i> (Lichtenstein, 1823)	Hall & Moreau 1970	allospecies	D	II
<i>Anthreptes rubritorques</i> Reichenow, 1905	Hall & Moreau 1970	allospecies	D	III
<i>Nectarinia intermedia</i> Bocage, 1878	Wolters 1979	paraspecies	D	IV
<i>Nectarinia ludovicensis</i> Bocage, 1868	Clancey & Irwin 1978	species	D	III
<i>Nectarinia manoensis</i> (Reichenow, 1907)	Clancey & Irwin 1978	allospecies	D	IV
<i>Nectarinia moreaui</i> (Sclater, 1933)	Hall & Moreau 1970	allospecies	D	II
<i>Nectarinia pembrae</i> (Reichenow, 1905)	Hall & Moreau 1970	allospecies	D	I
<i>Nectarinia prigoginei</i> (Macdonald, 1958)	Benson & Prigogine 1981	allospecies	D	I
<i>Nectarinia stuhlmanni</i> (Reichenow, 1893)	Clancey & Irwin 1978, Prigogine 1979	allospecies	D	I
<b>ZOSTEROPIDAE</b>				
<i>Speirops melanocephala</i> (Gray, 1862)	Wolters 1979	allospecies	D	IV
<i>Zosterops poliogaster</i> Heuglin, 1861	Hall & Moreau 1970	species	D	II
<i>Zosterops vaughani</i> Bannerman, 1924	Morony et al. 1975	allospecies	D	II
<i>Zosterops virens</i> Sundevall, 1850	Morony et al. 1975	paraspecies	D	II
<b>MELIPHAGIDAE</b>				
<i>Promerops gurneyi</i> Verreaux, 1871	Hall & Moreau 1970	allospecies	D	I
<b>ORIOOLIDAE</b>				
<i>Oriolus percivali</i> Ogilvie-Grant, 1903	Prigogine 1978 a	paraspecies	E	I
<b>PARIDAE</b>				
<i>Parus thruppi</i> Shelley, 1885	Wolters 1980	allospecies	D	IV
<b>STURNIDAE</b>				
<i>Lamprotornis elisabeth</i> (Stresemann, 1924)	Wolters 1980	allospecies	D	IV
<i>Lamprotornis mevesii</i> (Wahlbergh, 1857)	Hall & Moreau 1970	allospecies	D	I
<i>Lamprotornis purpuropterus</i> Rüppell, 1845	Hall & Moreau 1970	paraspecies	D	I

(6) Wolters regards *Terpsiphone rufiventris* as a stabilized hybrid swarm between *T. tricolor nigriceps* and *T. viridis* and replaces *T. rufiventris* by *T. tricolor*.\*\*\*Already in 1936 Bannerman considered *Platysteira laticincta* as a valid species.

Tab. A.3: Passerine species (cont.).

Species	Reference	Status	Method	Category
<i>Peoptera kenricki</i> Shelley, 1894	Hall & Moreau 1970	allospecies	D	I
<b>PLOCEIDAE</b>				
<i>Bubalornis niger</i> Smith, 1836	Hall & Moreau 1970	paraspecies	D	II
<i>Euplectes franciscanus</i> (Isert, 1789)	Hall & Moreau 1970	paraspecies	D	I
<i>Euplectes psammocromius</i> (Reichenow, 1900)	Dowsett & Dowsett-Lemaire 1980	paraspecies	C1,D	IV
* <i>Malimbus golensis</i> Field, 1979	Prigogine 1981	synonym	(C)	V
<i>Passer diffusus</i> (Smith, 1836)	Hall & Moreau 1970, Dowsett & Dowsett-Lemaire 1980	paraspecies	D	IV
<i>Passer euchlorus</i> (Bonaparte, 1850)	Hall & Moreau 1970	allospecies	D	II
<i>Passer gongonensis</i> (Oustalet, 1890)	Hall & Moreau 1970	paraspecies	D	IV
<i>Passer motitensis</i> Smith, 1836	Macdonald 1957, Clancey 1964, 1965	allospecies	D	I
<i>Passer suahelicus</i> Reichenow, 1904	Hall & Moreau 1970	paraspecies	D	IV
<i>Passer swainsonii</i> (Rüppell, 1840)	Hall & Moreau 1970	paraspecies	D	IV
<i>Petronia pyrgita</i> (Heuglin, 1862)	Hall & Moreau 1970	paraspecies	D	II
<i>Ploceus katangae</i> (Verheyen, 1947)	Louette & Benson 1982	allospecies	D	III
<i>Ploceus nicolli</i> Sclater, 1931	Wolters 1979, Franzmann 1983	allospecies	D	II
<i>Ploceus princeps</i> (Bonaparte, 1850)	Morony et al. 1975	allospecies	D	I
<i>Ploceus reichardi</i> (Reichenow, 1886)	Clancey 1974, Wolters 1979	paraspecies	D	III
<i>Ploceus temporalis</i> (Bocage, 1880)	Hall & Moreau 1970	allospecies	D	II
<i>Ploceus vitellinus</i> (Lichtenstein, 1823)	Wolters 1979	allospecies	D	IV
* <i>Vidua incognita</i> Nicolai, 1972	Payne 1982	synonym		V
* <i>Vidua lorenzi</i> Nicolai, 1972	Payne 1982	synonym		V
<b>ESTRILDIDAE</b>				
<i>Estrilda charmosyna</i> (Reichenow, 1881)	Morony et al. 1975	paraspecies	D	II
<i>Estrilda kandti</i> Reichenow, 1902	Prigogine 1975, 1980 c	paraspecies	D	I
<i>Estrilda ochrogaster</i> Salvadori, 1897	Wolters 1979	paraspecies	D	IV
<i>Lagonosticta nitidula</i> Hartlaub, 1886	Hall & Moreau 1970	species	D	I
<i>Lagonosticta umbrinodorsalis</i> Reichenow, 1910	Wolters 1983	allospecies?	D	IV
<i>Lagonosticta vinacea</i> (Hartlaub, 1857)	Wolters 1979	allospecies	D	IV
<i>Lagonosticta virata</i> Bates, 1932	Nicolai 1982, Wolters 1983	allospecies?	C1,D	IV
<i>Lonchura cantans</i> (Gmelin, 1789)	Wolters 1979	paraspecies	D	IV
<i>Nesocharis shelleyi</i> Alexander, 1903	Hall & Moreau 1970	paraspecies	D	I
<i>Ortygospiza gabonensis</i> Lynes, 1914	Hall & Moreau 1970	paraspecies	D	I
<i>Parmoptila jamesoni</i> (Shelley, 1890)	Hall & Moreau 1970	allospecies	D	IV
<i>Pyrenestes minor</i> Shelley, 1891	Hall & Moreau 1970	allospecies	D	I
<i>Pyrenestes sanguineus</i> Swainson, 1837	Hall & Moreau 1970	allospecies	D	I
<b>FRINGILLIDAE</b>				
<i>Serinus canicapilla</i> (Dubus, 1855)	Wolters 1979	allospecies?	D	IV
<i>Serinus frontalis</i> (Reichenow, 1904)	Morony et al. 1975	paraspecies	D	II
<i>Serinus hypostictus</i> (Reichenow, 1904)	Wolters 1979	paraspecies?	D	IV
<i>Serinus reichenowi</i> Salvadori, 1888	Irwin 1964, Wolters 1979	paraspecies	D	IV
<i>Serinus symonsi</i> (Roberts, 1916)	Hall & Moreau 1970	allospecies	D	II
<i>Serinus whytii</i> Shelley, 1897	Wolters 1979	allospecies?	D	IV
<i>Serinus xanthopygius</i> Rüppell, 1840	Irwin 1964, Wolters 1979	allospecies?	D	IV

\* A species described since 1960, but not accepted in my classification as valid (category IV or V).

Tab. A.4: Number of non-passerine birds in the Afrotropical region grouped by families.

STRUTHIONIDAE	1	HAEMATOPODIDAE	1
PODICIPIDAE	3	RECURVIROSTRIDAE	2
SPHENISCIDAE	1	BURHINIDAE	3
PHAETHONTIDAE	2	GLAREOLIDAE	10
PELECANIDAE	2	CHARADRIIDAE	17
SULIDAE	2	SCOLOPACIDAE	1
PHALACROCORACIDAE	6	LARIDAE	20
ANHINGIDAE	1	RHYNCHOPIDAE	1
ARDEIDAE	20	PTEROCLIDIDAE	8
BALAENICIPITIDAE	1	COLUMBIDAE	32
SCOPIIDAE	1	PSITTACIDAE	19
CICONIIDAE	8	MUSOPHAGIDAE	22
THRESKIORNITHIDAE	10	CUCULIDAE	22
PHOENICOPTERIDAE	2	TYTONIDAE	3
ANATIDAE	18	STRIGIDAE	25
PANDIONIDAE	1	CAPRIMULGIDAE	17
ACCIPITRIDAE	54	APODIDAE	21
SAGITTARIIDAE	1	COLIIDAE	6
FALCONIDAE	11	TROGONIDAE	3
PHASIANIDAE	41	ALCEDINIDAE	16
NUMIDIDAE	7	MEROPIDAE	18
TURNICIDAE	3	CORACIIDAE	7
GRUIDAE	3	UPUPIDAE	1
RALLIDAE	20	PHOENICULIDAE	6
HELIORNITHIDAE	1	BUCEROTIDAE	22
OTIDIDAE	17	CAPITONIDAE	40
JACANIDAE	2	INDICATORIDAE	16
ROSTRATULIDAE	1	PICIDAE	27
DROMADIDAE	1	TOTAL	627

Tab. A.5: Number of passerine birds in the Afrotropical region grouped by families.

EURLAIMIDAE	4	SITTIDAE	1
PITTIDAE	1	PARIDAE	10
ALAUDIDAE	54	REMIZIDAE	6
HIRUNDINIDAE	37	NECTARINIIDAE	74
MOTACILLIDAE	24	ZOSTEROPIDAE	11
CAMPEPHAGIDAE	9	MELIPHAGIDAE	2
PYCNONOTIDAE	54	ORIOIIDAE	8
LANIIDAE	62	DICRURIDAE	3
TURDIDAE	102	CORVIDAE	9
TIMALIIDAE	33	STURNIDAE	46
PICATHARTIDAE	2	PLOCEIDAE	124
SYLVIIDAE	152	ESTRILDIDAE	69
MUSCICAPIDAE	29	FRINGILLIDAE	32
MONARCHIDAE	46	EMBERIZIDAE	9
TOTAL			1013