

Systematic notes on Asian birds. 13. A preliminary review of the Hirundinidae

E.C. Dickinson & R.W.R.J. Dekker

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Edward C. Dickinson, c/o The Trust for Oriental Ornithology, Flat 3, Bolsover Court, 19 Bolsover Road, Eastbourne, East Sussex, BN20 7JG, U.K. (e-mail: asiaorn@ftech.co.uk).

René W.R.J. Dekker, National Museum of Natural History, P.O. Box 9517, 2300 RA Leiden, The Netherlands. (e-mail: dekker@naturalis.nnm.nl).

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Recent taxonomic treatments of Asian taxa of swallows and martins (Hirundinidae) are discussed and recommendations are made for further evaluation or for awareness of competing hypotheses as to treatment.

Introduction

In preparing the text for a planned 'Synopsis of the Birds of Asia' (see Introduction to 'Systematic notes on Asian birds': Dickinson & Dekker, 2000), we have compared the treatment in the Check-list of Birds of the World (Peters, 1960), in this case of the swallows and martins, with more recent treatments.

Turner & Rose (1989) favoured a broad genus *Hirundo* based largely on biochemical studies that were also reflected in the arrangement by Sibley & Monroe (1990). Schodde & Mason (1999) provided a useful analysis of recent classifications of the swallows and martins, concluding that the generic arrangement of Peters (1960), which already reflected earlier comparative work based largely on nest structure, was well supported by the work of Sheldon & Winkler (1993). Schodde & Mason (1999) repeated the point that a genus *Hirundo* broadened to take in *Ptyonoprogne*, *Cecropis* and *Petrochelidon* should also take in *Delichon*, and that there has been general reluctance to do this. Sheldon & Winkler (1993) expressed an inclination to retain *Cecropis*, *Petrochelidon* and *Delichon* but felt further studies were needed before taking such action. Yet, this would restore, for Asian taxa, a treatment very close to that of Peters (1960). When enough evidence from molecular studies is available the conclusions of Sheldon & Winkler (1993) may be refined and until then, rather than lump these genera in a broad genus *Hirundo*, it is more helpful to retain the treatment of Peters (1960).

In the context of Asian species, the detailed studies of Vaurie (1951, 1954) provide important background information. There is also much valuable detail in Sharpe & Wyatt (1885-1894), including comments derived from a pooling of information by Oates and Seebohm at a meeting in 1890 bringing together Indian, Chinese and Japanese specimens from the collections of Hume and Seebohm (including Swinhoe's material).

In this paper we accept the proposed split of *Riparia riparia* (Linnaeus, 1758) and *Riparia diluta* (Sharpe & Wyatt, 1893) and the lumping of *Ptyonoprogne fuligula* (Lichtenstein, 1842) and *Ptyonoprogne obsoleta* (Cabanis, 1850). Beyond that, we make no firm

proposals for changes at specific level, but we recommend that both *Hirundo tahitica* Gmelin, 1789 and the *Cecropis daurica-striolata* complex be reviewed in depth. Accordingly we maintain that it is more helpful to retain Peters' (1960) arrangement until better evidence, molecular or otherwise, suggests that it should be changed. Comment is made on the subspecies we plan to recognise in the planned Synopsis, together with statements as to whose treatments we prefer.

Swallows are easy to see and their nests can usually be found easily, even if they are not always very accessible. Unfortunately it is not apparent that any progress has been made over the last 50 years, except in Russia, in resolving the issues of apparent sympatry by careful work on breeding data.

Pseudochelidon sirintarae Thonglongya, 1968

The late 20th century discovery of this attractive species (Thonglongya, 1968; King & Kanwanich, 1978), with its known nearest relative and congener isolated in tropical Africa leaves us perplexed. Its extreme scarcity suggests that it must have then been on the brink of extinction, and this may be true. However, it is unknown away from the type locality, and it was recorded there only in the winter months (November to February). Its records of occurrence prove only that it can be gregarious, and that it will roost with other swallows. It may not be a long distance migrant, although it may come from some remote and relatively restricted part of China, where a very small population might have been overlooked.

Riparia paludicola (Vieillot, 1817)

The Philippine race *tantilla* Riley, 1935, was listed by Peters (1960) as a synonym of *R. p. chinensis* (Gray, 1830), but reviewed by Parkes (1971), who considered it differed in the lack of a pale rump, and it was listed by Dickinson et al. (1991).

Riparia riparia (Linnaeus, 1758)

Peters (1960) recognised eight subspecies in a broad species *R. riparia*. Of those in our region *diluta* (Sharpe & Wyatt, 1893), *fohkienensis* (La Touche, 1908)¹, *indica* Ticehurst, 1916, and *tibetana* Stegmann, 1925, are dealt with under the next species, and three of these, *diluta* being the exception, were not considered clearly separable by Vaurie (1951). One taxon, *R. r. shelleyi* (Sharpe, 1885) is not relevant to Asia, but usually associated with *R. riparia* (sensu stricto). The three that remain are nominotypical *riparia*, *ijimae* (Lönnerberg, 1908) and *taczanowskii* Stegmann, 1925; and this latter was also not recognised by Vaurie (1951). Whereas Vaurie (1951) considered *stoetzneriana* Meise, 1934, to be a synonym of *ijimae*, Peters (1960) included it under *taczanowskii*.

Mayr & Greenway (1960) mentioned that after Peters died his manuscript for the swallows was reviewed by Vaurie as well as by them. Reference to Vaurie (1959)

¹ This is the original spelling; *fokienensis* as used by Peters (1960) is not.

shows that his views on these subspecies were unchanged since 1951, and it seems he deliberately left the Peters manuscript unchanged.

There are two probable reasons. Initially, he had no topotypes of *taczanowskii*, *stoetzneriana* and *tibetana* and he explained his placement of *stoetzneriana* in the synonymy of *ijimae* (Vaurie, 1951) in words that make clear that his evidence was that of a description (perhaps the original description) of *stoetzneriana*. Second, he appears to have subsequently examined some topotypical material but to have remained in doubt. Vaurie (1954) implied that he had now examined *taczanowskii* and *stoetzneriana* and that he found evidence of dark birds and pale birds breeding across the same regions. At this juncture he inclined to the view that dark *ijimae* and pale *diluta* would prove to intergrade and that the names *taczanowskii* and *stoetzneriana* might have been applied to "local intermediates".

A wide zone of overlap in breeding range was reported by Gavrilov & Savchenko (1991) and these authors urged the recognition of *R. diluta* as a separate species, to which they suggested *taczanowskii* be attached. Their range map seemed to document the overlap, and measurements of sizeable samples of *riparia* and *diluta* indicated that *diluta* from the two geographical areas sampled were smaller than *riparia* from the same regions, although with some overlap. Goroshko (1993) provided significantly more supporting evidence from a wider range (over 100 sites compared with about 40 reported by Gavrilov & Savchenko, 1991). Many specimens were collected from nesting colonies, which were in arid steppe and had fewer than 200 nests if *diluta* and over 200 if *riparia* which nested closer to rivers or other fresh water sources. No mixed colonies were found, indeed the nearest distance between colonies of the two species was 10 kms. Clear photographs illustrated morphological distinctions, and acoustic evidence supporting the split was secured and depicted. The case for recognition of two widely sympatric species is entirely convincing.

In arranging the various names, attributed to this complex, to recognised subspecies, or to an appropriate place in synonymy, we have had to clarify the status of the types of nominotypical *diluta* and also the identity of a third specimen from Severtsov, present in the collection in the Zoological Institute, Russian Academy of Sciences, St. Petersburg, which has been a source of reference during Russian work on these sibling species. Loskot & Dickinson (2001) immediately follow this paper with the results of this (and, in the process, remind us that these two species, unlike *R. paludicola* (Vieillot, 1817), have some degree of tarsal feathering). We have also been greatly assisted by Oleg Goroshko (pers. comm., 16 Nov. 2000) who, as well as studying the two species where they overlap, has examined the material in Tashkent State University, where much of Zarudny's collection is to be found.

The name *taczanowskii*, based on type material in St. Petersburg, is apparently attached to a specimen of the species *R. riparia* and not, as Gavrilov & Savchenko (1991) thought, to a specimen of *R. diluta* (Oleg Goroshko, pers. comm., 20 July 2000). To understand the extent of overlap in the breeding ranges of the two species it is therefore better to use the map in Goroshko (1993: 318). Roselaar (in litt.) has pointed out that the material available to Meise when he described *stoetzneriana* may, although topotypical for *taczanowskii*, have been from the sympatric population of the species *diluta*. This should be further explored, but our tentative conclusion is that Peters (1960) was right to make *stoetzneriana* a synonym of *taczanowskii*.

The Asian subspecies of *Riparia riparia* we recognize are *taczanowskii* and *innominata* Zarudny, 1916 [a senior synonym of *dolgushini* Gavrilov & Savchenko, 1991²], and, farther east, *ijimae*. All Siberian birds of the nominate race are reported to winter in Africa (Cramp, 1988). The only form reported as a migrant to south-east Asia is *ijimae*. We note that the breeding of *ijimae* in Assam is still accepted (e.g. by Grimmett et al., 1998). We have not explored whether breeding specimens from there exist, nor whether they have been re-examined to make certain that the birds found breeding there (colonies reported in Cachar, Sylhet and Dibrugah *vide* Baker, 1926) are this species and not the next. Such a review seems desirable.

Riparia diluta Sharpe & Wyatt, 1893

This species has five recognised subspecies: *tibetana*, *diluta*, *transbaykalica* Goroshko, 1993, *fohkienensis* and *indica* Ticehurst, 1916.

The name *diluta* was given to two specimens collected by Severtsov and sent to London by "Pleske" (later corrected to Menzbier), a male and a female (Sharpe & Wyatt, 1893). Warren & Harrison (1971) reported both to be still present. For further discussion on these types and the composite material obtained by Severtsov, see Loskot & Dickinson (2001) and, for the description of a further subspecies, see Loskot (2001).

Although, in India, the distinctness of breeding *R. d. indica* from visiting *R. r. ijimae* and *R. d. diluta* has been noted (Abdulali, 1976a), this appraisal was made in the context of the concept of one broad species. Equally when Ripley (1961, 1982) placed *indica* in the synonymy of *diluta* it was in the context of a single species. The validity of *indica* within a species *R. diluta* should therefore be confirmed and here we recognise it provisionally. As might be expected, Abdulali's table of measurements shows *indica* to be markedly shorter in wing and tail length than the two migrant forms. Between these two, based on small samples, *ijimae* was said, no doubt correctly, to be slightly longer-tailed and to have darker upperparts. Grimmett et al. (1998), who provided descriptions intended to separate *R. paludicola* as well, agreed that the upperparts are paler and greyer in *diluta* than in *ijimae*. Goroshko (1993) focussed more on the contrasting dark breast-bands and clear white throats as typical of the species *riparia* and weakly-defined breast-bands and greyish white throats as characteristic of *diluta*. To what extent the overlap reported stretching east of Lake Baikal continues into the northern parts of western China is as yet unclear.

In south-east Asia there is a need to re-examine all the records attributed to *ijimae*. It is possible that *R. diluta* has been collected and not recognised. Robson (2000) reports it from NE Vietnam ("E Tonkin"), which is presumably a collection-based record.

Ptyonoprogne fuligula (Lichtenstein, 1842)

Peters (1960) treated *Ptyonoprogne fuligula* as a polytypic African species and *Ptyonoprogne obsoleta* (Cabanis, 1850) as a different desert species, which, although largely

² See Loskot & Dickinson (2001, this issue).

north African and Arabian, reached the dry northwest of the Indian subcontinent. Hall & Moreau (1970) believed the two 'species' represent each other and intergrade. This treatment has been widely followed (e.g., Voous, 1977; Cramp, 1988; Sibley & Monroe, 1990). We too follow this. As only one form of the group occurs within our area the matter of conspecificity is one for workers on African ornithology.

The Asian form *P. f. pallida* Hume, 1872, must be called *H. f. peloplasta* Brooke, 1974, if the genus *Ptyonoprogne* is submerged in *Hirundo*. However, Roselaar (in litt.) believes *pallida* may be best treated as a synonym of *obsoleta*.

Ptyonoprogne concolor (Sykes, 1832)

The race *sintaungensis* (E.C.S. Baker, 1933) is tentatively accepted. Vaurie (1951) suspected it had been described from birds in worn plumage. The specimens in Tring have not been re-examined to check this.

Hirundo rustica Linnaeus, 1758

Cramp (1988) gave the relevant breeding ranges of nominate *rustica*, *gutturalis* Scopoli, 1786, and *tytleri* Jerdon, 1864, as follows: *H. r. rustica*: "from Europe, Asia Minor and Iraq east to the Yenisey basin, western Altai mountains, Xinjiang (China) and Sikkim", *H. r. tytleri*: "southern Siberia from Angara basin east to Yakutsk and Olekma river, south to northern Mongolia", and *H. r. gutturalis*: "eastern Asia, east from *tytleri* and nominate *rustica*, intergrading with *tytleri* between Yakutsk and coasts of Sea of Okhotsk and in Kamchatka". If these are compared with the literature on our area some reconciliation is necessary, and the distinctions should be understood. Adult wing lengths overlap (Roselaar, 1988) and the degree of variation in the underparts is considerable. Adults with unbroken black pectoral bands are most likely to be nominate *rustica*, and, in Asia, birds with almost uniform chestnut underparts to be *tytleri* but the latter intergrades with *gutturalis* (although not perhaps with the nominate form in the north of its range).

Generally both nominate *rustica* and *tytleri* are distinctive. There are areas in west central Asia, however, where there appear to be intergrades between *rustica* and darker populations, and these could occur as migrants in our area (Dementiev, 1936). By contrast the name *gutturalis* is applied to part, or by some authors all, of a very variable Far Eastern population. This typically has rather rusty-ochre (not chestnut) underparts, but the colour varies through the underparts, and is as not uniform from the interrupted black breast band to the under-tail coverts as is the rufous in *tytleri*.

Dementiev (1936) favoured treating the easternmost birds as *erythrogaster* Boddaert, 1783, and placed *saturata* Ridgway, 1883, *kamtschatica* Dybowski, 1883, and *mandschurica* Meise, 1934, all in its synonymy. Vaurie (1954) considered American birds (*H. r. erythrogaster*) to have shorter wings, less deeply forked tails and be less saturate than these, and accepted the name *saturata* for this Far-Eastern population with *mandschurica* a synonym. Vaurie (1959) also listed *kamtschatica* as a synonym.

This is followed by the Ornithological Society of Japan (2000: 293). But Stepanyan (1990) placed all three names (*saturata*, *kamtschatica* and *mandschurica*) in the synonymy of *gutturalis*. Cheng (1987) recognised *mandschurica* as the breeding population

of NE China, and not listing *saturata* on the Chinese list presumably considered it a synonym of *gutturalis* or *tytleri*. Roselaar (*in litt.*) agrees with this view. We prefer, for the moment, to follow Vaurie. By retaining *saturata* we feel better able to draw attention to the continuing need for study across this area. Whether these two names are applied to the ends of a cline in one variable population we do not know as we have seen very little material from the breeding grounds. Stepanyan, who no doubt has seen more such material, may well be right. Roselaar (*in litt.*) says that breeding in Kamchatka is irregular and involves both *tytleri* (in which he includes *saturata*) and *gutturalis*.

There have also been disagreements about the identity of birds breeding at scattered points along the Himalayas. In this context Stresemann (1940) described *ambigua* from Gangtok, Sikkim based on four breeding males and found far shorter tails in relation to wing length than in the nominate form. Stresemann thought *ambigua* to be derived from *gutturalis*. Vaurie (1951), based on this description, and on the basis of "the unbroken pectoral band", placed *ambigua* in the synonymy of nominate *rustica*. He considered that the measurements given for *ambigua* agreed with the lower limits of *rustica* and that although there may be an average difference in size the distinction is not great enough to warrant recognition. Peters (1960) therefore placed *ambigua* in the synonymy of nominotypical *rustica*. Ripley (1961: 273) disagreed, noting that the pectoral band varies clinally through the Himalayas and that the judgement should be made on size alone. On this basis he placed *ambigua* in *gutturalis*. Provisionally we follow Ripley. The name *ambigua* is unavailable as it is preoccupied by *Hirundo ambigua* Bocage, 1877, from Angola (Vaurie, 1954). Vaurie did not provide a substitute name and as long as the name remains in synonymy none is required (Art. 60; ICZN, 1999).

Compared to Cramp (1988) we differ in accepting *saturata* and in believing Sikkim breeding birds to be nearest to *gutturalis*. As an indication of the breeding ranges, the map in Meklenburtsev (1954) will be helpful (but reading *saturata* in place of *erythrogaster*).

Turning to the identification of migrants, including birds of the year, there are difficulties in the identification of at least a proportion of adults and probably of even more young birds, further confused by moult into adult plumage in winter quarters. Most discussions, including that of Vaurie (1951), are carefully worded suggesting that the descriptions available have not been sufficiently carefully related to both type specimens and specimens taken at or near their nests. In addition we have mentioned the variability in the colour of the under-parts in this species, which are said to vary in colour due to wear as well as individually. Incidentally, the recognition of *saturata* tends to leave a more homogeneous *gutturalis*, which Vaurie (1954) characterised as "usually whitish" below.

Looking for evidence that variation in the colour of the underparts might be clinal, and also trying to find a method of identifying winter visitors to southern Asia to subspecies, Vaurie (1951) could see "no clear-cut trend" in this. However, he felt that the combination of the evidence of the pectoral band (where, typically, red breaks downwards through the black in *gutturalis* but not in *rustica*) and the metallic gloss of the upper-parts (greenish-blue in *gutturalis* versus purplish-blue in nominate *rustica*) permitted most winter adults to be identified.

Vaurie (1951, 1954) did not discuss *tytleri*, presumably not included in his study

material. This form has uniform chestnut underparts matching the throat colour (La Touche, 1927; Meklenburtsev, 1954; Ali & Ripley, 1972: 60). This uniformity should be distinct in winter when it occurs in south-east Asia, south to west Malaysia, and in the eastern part of the Indian subcontinent (Ali & Ripley, 1972; Abdulali, 1976b). It seems to be rarer in inland China (La Touche, 1927; Cheng, 1987) where it occurs mainly on passage through the north east and along the coast. Judging from plots of ringing recoveries it seems that *gutturalis* is a much more common visitor than *tytleri* in south-east Asia (King, 1969; Medway & Wells, 1976) and it reaches further south (Smythies, 1981; White & Bruce, 1986; van Marle & Voous, 1988). This statement is based not on subspecific identification of birds when ringed or when recovered, but solely on northern destinations in relation to our understanding of the subspecific ranges.

Hirundo tahitica Gmelin, 1789

Although Sibley & Monroe (1990) offered the view that *domicola* Jerdon, 1844, should be treated as a full species, they have not been followed (Inskipp et al., 1996; Grimmett et al., 1998). However, its range is quite well separated from the rest of the species, and it has a greenish gloss above rather than a bluish one (Grimmett et al., 1998). There are also significant differences in the ecology of these birds. Jerdon (1844) considered *domicola* a bird of the hills and not associated with the coast, as has generally been confirmed (Ali & Ripley, 1972). Differences in bill size presumably reflect feeding differences, which may also be constant and significant. These differences suggest specific status is merited but further study is needed.

Compared with Peters (1960) we accept a wider range for *javanica* Sparrman, 1789, in which we absorb *abbotti* (Oberholser, 1917) as did Parkes (1971) and White & Bruce (1986). We are uncertain whether the western and northern forms, including *namiyei* (Stejneger, 1887) from the Ryu Kyus and Taiwan (Mees, 1977), and *frontalis* Quoy & Gaimard, 1830, from Wallacea and western New Guinea, are rightly lumped with the eastern *tahitica* group of taxa. The recent description of *H. t. albescens* Schodde & Mason, 1999, which is ventrally paler than birds of both these groups and shows an approach to *neoxena* Gould, 1843, which is now treated as a separate species, seems to us to signal greater caution.

Cecropis daurica (Laxmann, 1769)

We draw attention to the attribution of this name, which differs from that in Peters (1960). The earlier name was used by Deignan (1963), Brooke (1974) and Schodde & Mason (1999). Voous (1977) mentioned it in a footnote, which may represent a note of dissent³.

Vaurie (1951: 28-37) provided a helpful review of the extent of our knowledge of the relationships between this species and *H. striolata* (Schlegel, 1844). Later, Vaurie (1955) was able to satisfy himself that *gephyra* (Meise, 1934) and *tibetana* (Schäfer,

³ Such dissent could be based on the concept of stability, but retaining a specific name and correcting its authorship does not seem to deserve resistance on this ground.

1937) were both better treated as synonyms of nominate *daurica*; a view we accept.

One of us (ECD) reviewed the information in the late 1960s. Finding that there was no evidence of an overlap in breeding range, King & Dickinson (1975) opted to follow Deignan (1963), with whom they were in contact, in treating the two species as one, as did Voous (1977). The temptation to do this has been remarked upon by Roselaar (1988). There is little doubt that lumping the two fails to take account of some important phenomena, and the widespread treatment of the two as separate species (e.g. Cramp, 1988; Sibley & Monroe, 1990; Inskipp et al., 1996, Robson, 2000, and others) is as least as well founded. Roselaar (1988) in considering a single species noted the objection that flows from incorporating large tropical forms with smaller northern migrants.

Two isolates stand out in this context. One, from Sri Lanka, is *erythropygia* (Sykes, 1832), which in a two-species context is treated as part of *daurica*. The other, found in the lowlands of the Malay peninsula, is *badia* Cassin, 1853, which is associated with *striolata* in two-species treatments. Specific treatment of each of these two forms needs evaluation; each could be a relict form that began breeding in its present restricted range during the Pleistocene Ice Ages as suggested for other avian taxa from Ceylon (Ripley, 1949). This hypothesis should be looked at both in the context of treating all the remaining forms as one species, and as treating them as two.

Within the concept of a narrow species *daurica*, the differences in treatment have not been restricted to the identity and breeding range of nominate *daurica*, but have extended to the ranges of *nipalensis* (Hodgson, 1837), *japonica* (Temminck & Schlegel, 1844-1845), and *rufula* (Temminck, 1835). The amount of data on breeding distribution, that can be associated with definitive identification to subspecies, is probably small. This is partly due to conflicting treatments.

Sharpe & Wyatt (1885-1894), who used the binomial approach of the day, considered *intermedia* (Hume, 1877) and *substriolata* (Hume, 1877) to be synonyms of *daurica*. Hall (1953) re-examined *substriolata* and agreed with this view, but Hall did not review the type of *intermedia* in spite of the fact that Hume's original descriptions of these two, in a single paper, remarked on the distinct narrow streaks on the rump of *substriolata* and the uniform or unstreaked rufous rump of *intermedia*. This is perhaps understandable; the literature tends to suggest that the plainer-rumped bird was more likely to be nominate *daurica*. Both names are therefore in the synonymy of *daurica* in Peters (1960). This, of course, is not obvious as neither Vaurie (1951) nor Peters (1960) even mentioned the name *intermedia*⁴.

The name *substriolata* was used by Mayr (1941) for a population treated under *H. striolata* (below), which Hall (1953) renamed as the characters were not those of true *substriolata*.

We have examined the selected type specimen of *intermedia* (and a further synonym) and the holotype of *substriolata* and compared these with birds taken in the breeding season within the range we attribute to nominate *daurica*. The type of *substri-*

⁴ The convention apparently used for Peters Check-list was that if the name had appeared in the synonymy in the Catalogue of Birds in the British Museum then there was no call to repeat it. Although understandable, the even poorer availability of the "Catalogue", than of "Peters", now creates a serious obstacle to ornithologists lacking major library support.

olata (BMNH 87.2.1.880) is a good match for specimens collected by Severtsov in northwest Mongolia in mid July (BMNH 90.3.8.121 and 122). The narrow streaks on the rump are somewhat more apparent but seem to be within the range of individual variation. The two specimens of *intermedia* (BMNH 87.2.1.878 and 926), collected by Cockburn in Suddya (Assam) in early June 1877, differ in the almost total absence of any dark shaft streaks on the rufous rump. This was the principal distinction that caused Hume to name them. In this character *intermedia* thus more closely resembles not *daurica* but *nipalensis*. They also closely match birds found breeding in the Tsang-po Valley in south-east Tibet by Ludlow (1944), as represented by BMNH 1938.12.2.260 (this being a June bird from Lusha and not the specimen taken from the nest at Temo Gompa in September). It has been suggested that the birds from Suddya were still migrants (Sharpe & Wyatt, 1885-1894; Ticehurst, 1927). If, as we understand, "Suddya" is now known as Sadiya, which is close to where the Dihang River joins the Brahmaputra, then this would be consistent with spring migration up the Dihang which becomes the Tsang Po in Tibet. However the Suddya specimens seem larger than most specimens of *nipalensis*⁵.

Baker (1926: 249) reported, of nominate *daurica*, that "in Shillong a few birds arrive every year in late July or early August and at once commence building..." and of *H. striolata* (see below) that in the Khasia and North Cachar Hills, where it is an irregular visitor, it builds "...". The specimen evidence for this requires review; a brief search for such material in The Natural History Museum, Tring, produced no specimens from Assam that looked like *daurica* apart from Hume's birds, which have been discussed above and are not thought to represent local breeding birds. Ticehurst (1927) wrote "the statement that this race [nominate *daurica*] breeds in Shillong is not borne out by any specimens". Ali & Ripley (1972: 66) did not accept nominate *daurica* as breeding within their limits.

It is probable that there is a cline of increasing wing and tail length from west to east along the Himalayas. Hume's specimens from Suddya may fit that phenomenon. However, further careful review is needed, and we cannot yet confidently move the name *intermedia* away from the synonymy of nominate *daurica* as the range of that form is large and there is significant variation within it. However, the choice seems to be between these two names, *japonica* does not seem to be an option.

The issue of whether the Tsang Po and Suddya specimens are *nipalensis* is not unrelated to the difficulties that authors have had in deciding where this taxon meets *japonica*. It is noticeable that for Ali & Ripley (1972), who admitted both to the Indian list, the only distinctions were wing length and tail length, and in both there was a substantial overlap. Baker (1926) did not accept that *nipalensis*⁶ was the breeding bird of China. By contrast La Touche (1927) treated *nipalensis* as the Chinese breeding bird, and did not accept that *japonica* did so (or he may even have agreed with Sharpe & Wyatt that *japonica* too should be seen as a synonym of *nipalensis*). Ticehurst (1927), who measured 102 specimens of *nipalensis*, found Chinese birds averaged larger than Himalayan birds and were on the whole less coarsely streaked⁷. Nonetheless it is

⁵ Comparative measurements cannot be provided; too small a sample exists for measurements to be meaningful.

⁶ Most authors at this time spelled it *nepalensis*.

⁷ A finding accepted by La Touche (1930).

unclear whether Indian specimens attributed to *japonica* are indeed that race or simply smaller examples within the overall size range of *nipalensis*. Clearly this depends on whether breeding populations from SE Tibet and elsewhere are treated as *nipalensis* or as *japonica*.

Vaurie (1951, 1954) accepted this view but also accepted the validity of *gephyra*, but Vaurie (1955) placed both *gephyra* and *tibetana* in the synonymy of nominate *daurica*. Cheng (1987) treated *nipalensis* as spilling over from Burma into SE Tibet and Yunnan (with *gephyra* to its north) and *japonica* the breeding bird of eastern China. We are inclined to accept the views of Vaurie (1955, 1959).

The races *nipalensis* and *erythropygia* are relatively easy to distinguish. They appear to be parapatric along the Himalayan foothills but Ticehurst (1927) observed that the two nest "in the same areas". This does not seem to have been further explored.

Roselaar (1988) accurately explains the case of *rufula*. The population which extends from the Mediterranean basin eastwards to Afghanistan and the NW Himalayas becomes paler and smaller towards the east. It is treated as a single population due to gradual intergradation.

The many birders travelling to Asia these days could, once alerted, quite quickly reduce the gaps in our understanding of whether and where there is sympatric breeding of populations of this and the next species. Field notes and photographs, in association with clear localities and altitudes, should be sufficient. When these data are plotted, a fresh interpretation of the situation would be most interesting.

Cecropis striolata (Schlegel, 1844)

Stanford (in Stanford & Mayr, 1941) found a nest in the N'Mai valley (Burma) in mid November that appeared to be under repair by a pair of birds he collected and identified as the previous species. In the same paper Mayr believed the complex to be composed of two species not one, but was unable to provide a clear distinction "since most of the characters are variable". He was nonetheless persuaded by the fact that "highland and Palaearctic forms are much smaller than the forms of the humid tropics".

Mayr, who mentioned both *vernayi* (Kinnear, 1924) and *badia* Cassin, 1853, in passing, then detailed five subspecies to be united in a species *striolata*. Of these *stanfordi* (Mayr, 1941), described from specimens taken on the expedition that was the subject of Stanford & Mayr (1941), ranged from northern Burma, through Doi Chieng Dao in northern Thailand (taken in November⁸ and December) to northern Indochina. The pair collected in the N'Mai valley were this form, for Mayr wrote that "the nesting bird of the Myitkyina district is *stanfordi*, and not a single *substriolata* was collected there". The former (*stanfordi*) was characterised as having considerably broader streaks on the underparts, narrower shaft streaks on the rump, a large glossy black spot on the lower flanks, which in *substriolata* was small or absent. It was also larger and longer in wing and tail.

The birds from the Khasia Hills (India), Upper Chindwin and the Shan States (Burma) and also, probably, those from northern Thailand collected at Chieng Mai,

⁸ The month when the N'Mai valley birds appeared to be repairing their nest.

Chieng Rai, Chieng Dao and Chom Tong (in November to January), were said to be *substriolata*. With the unexplained omission of the Chieng Dao birds, for Mayr had reported both forms from there, they were listed as this form by Deignan (1945). As observed earlier, Hall (1953) showed that this name was not applicable and named them *mayri*, for which Mayr selected a type collected on the Upper Chindwin in 1935. Mayr in Stanford & Mayr (1941) also named *formosae*, the Taiwan population, and gave the characters of both *rothschildiana* Rensch, 1931, from the Lesser Sundas, and nominate *striolata* of Java. But he had only two specimens certainly from Java, and both these were in moult. He also thought that birds from Borneo and the Philippines might be ascribed to the nominate form.

Deignan (1945) had no report of breeding from northern Thailand, and his own records were of "*substriolata*" in the cool season (from November to February), but he thought that *stanfordi* was the more likely resident.

There is very little known about *vernayi*, which was described in comparison with *striolata*, but the underparts are "rusty-chestnut" and Mayr (1941) thought, for this reason and reasons of geography, that it formed a connecting link with *badia*. The paratype in New York has been examined for us and "the underparts are heavily streaked from the throat and sides of the head through the abdomen; the vent is lightly streaked. It is as heavily streaked as all of the other subspecies of *striolata*, except *badia*, but, unlike them, the underparts are washed in rusty-chestnut. This is a wash and is not an overall solid rusty-chestnut as in *badia*, which has light streaking. Unfortunately, it is impossible to have a valid wing measurement. As Kinnear said, the outer primary (only the outer one) is in sheath in both wings. It is several mm shorter than the next one and judging by the fact that the outer primary is the longest in all the other specimens, this one has quite a bit of growing to do." (M. LeCroy, in litt. 13 Jan. 2001). We have recently been told of two specimens in the United States National Museum, Washington (P. Round, in litt.) but we have not yet obtained wing lengths for these.

The large *badia* has in the past also been treated either as a species (Robinson & Kloss, 1918) or as a form of *Hirundo hyperythra* (Blyth, 1849) of Sri Lanka (Robinson, 1927; Riley, 1938). The wing length of *badia* is reported as 137-139 mm (Robinson & Kloss, 1918)⁹. This is undoubtedly much larger than associated 'subspecies' which lie to the north. Bergmann's Rule would suggest that there is a clear case to treat *badia* as a separate species. The Sri Lankan form *hyperythra* with a wing length of 102-122 mm (Ali & Ripley, 1972) is much smaller and less obviously a misfit.

Peters (1960) placed both *formosae* (Mayr, 1941) and *rothschildiana* in the synonymy of nominate *striolata*. Otherwise his races are those Mayr (1941) listed. On the basis of the evidence reviewed here, there is no sound evidence of sympatric breeding between *striolata* and *daurica*.

Petrochelidon nigricans (Vieillot, 1817)

A significant reappraisal of the distribution and movements of this species has

⁹ No measurements for *badia* were given by Medway & Wells (1976). ECD first saw this in peninsular Thailand in October 1965 and was struck then by its uniform rufous underparts and large size.

been made by Schodde & Mason (1999). In consequence most names in synonymy require review. Pending this any arrangement can only be provisional. This should not affect the application of the name *timoriensis* Sharpe, 1885. However migrants or vagrants appearing in the Kei Islands need re-evaluation.

Delichon urbica (Linnaeus, 1758) and *Delichon dasypus* (Bonaparte, 1850)

Almost all recent authors on Asian birds, except Medway & Wells (1976) and Ripley (1961, 1982 and related works by Ali & Ripley), have followed Peters (1960) in treating *urbica* as distinct from *dasypus*. By contrast Cramp (1988) treated the two as conspecific (although Roselaar included a cautionary note on this). This conclusion had been reached by Vaurie (1951) but he later, although retaining one species, hedged this view by a judicious use of phrase or bracket (Vaurie, 1954, 1959). Inskipp et al. (1996) can be read as implying that Vaurie (1954) accepted two species, where in fact he expressed reluctance to accept this, as is reflected by his later work.

Ticehurst (1927) reported that *cashmeriensis* (Gould, 1858) and nominate *urbica* bred close together in Ladak, and later proposed (Ticehurst, 1938) that *cashmeriensis* should be treated as a race of *dasypus*. Vaurie (1951) was not satisfied that this overlap in Ladak was a reality. Later, when he changed his treatment he remained sceptical both of this and of the new evidence from Ussuriland suggesting breeding sympatry between *D. u. lagopoda* (Pallas, 1811) and *D. d. dasypus*.¹⁰

As far as we know, there is still no wholly satisfactory evidence of breeding sympatry (see Morioka in Ornithological Society of Japan, 2000: 294). However, the close breeding proximity in Nepal of *D. d. cashmeriensis* and *Delichon nipalensis* Horsfield & Moore, 1854, with altitudinal separation (Martens & Eck, 1995), suggests that apparently minor morphological distinctions may suffice to inhibit interbreeding in this genus. Roselaar (in litt.) reports that *D. d. nigrimentalis* (Hartert, 1910) needs further study and may be closer to *D. nipalensis* than to forms of *D. dasypus*.

Separate treatment, however, seems to be based on an over-enthusiastic interpretation of the arrangement by Vaurie (1959) or on Peters (1960), or perhaps more on the perception that the two are consistently separable in the field, within a reasonable distance. This may not be as safe as one might wish, and records from Sulawesi (White & Bruce, 1986) and Sumatra (van Marle & Voous, 1988) have rightly been treated with caution. Kennedy et al. (2000) excluded recent sight records from Luzon. Since Peters (1960) accepted the separation of these species, we do not choose to take as conservative a position as that of the Ornithological Society of Japan (2000), although their view is perfectly reasonable.

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¹⁰ Roselaar (in litt.) has drawn our attention to the paper by Stepanyan & Vasilchenko, 1980, Bull. Mosk. Soc. Nat., Biol. Ser. 85(5): 41-44. Since then we have not had time to obtain this, but it is said to report an overlap between *D. d. dasypus* and *D. u. lagopoda* (Pallas, 1811) in the area S and SW of Lake Baikal.

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¹¹ Rendered as Démentieff in French.

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¹² The English translation we used is dated 1968 but is said to have appeared in 1970.

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