

# ON THE SUBSPECIES OF THE RING-DOVE, *STREPTOPELIA DECAOCTO* (FRIVALDSZKY)<sup>1</sup>.

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## I. INTRODUCTION.

The Ring-Dove, *Streptopelia decaocto* (Frisvaldszky), has an extensive distribution from Hungary *via* south-eastern Europe, Iran, India and Turkestan to China and Japan in the east. Three valid subspecies, namely, *decaocto*, *stoliczkae* and *xanthocyclus*, are now recognised (Peters<sup>2</sup>). Of these, two, namely *decaocto* and *xanthocyclus*, occur within Indian limits. Unfortunately, although the Eastern Turkestan subspecies, *S. d. stoliczkae*, has long been recognised by many ornithologists as distinct from the Indian subspecies, *S. d. decaocto*, Stuart Baker<sup>3</sup> does not separate the two subspecies. The Eastern Turkestan subspecies, the type-specimen of which is in the Indian Museum, Calcutta, is both larger and paler than the Indian subspecies.

In the following account I have given the distinguishing characters of the three subspecies, with special emphasis on *stoliczkae* and *xanthocyclus* about which not much is hitherto known. The descriptions, measurements, etc., are based on a careful examination of the specimens present in the Indian Museum collection, and on the published data.

Our knowledge of the range of distribution of the Ring-Dove, specially of the Eastern Turkestan and the Burmese races, is in a very confused state. I have attempted to clear up the confusion as far as possible from available literature, but for a proper solution of the problem larger collections are necessary from Central Asia (for *stoliczkae*) on the one hand, and from Yunnan and southern China (for *xanthocyclus*) on the other.

<sup>1</sup> C. B. Ticehurst (*Bull. Br. Ornith. Club* L, pp. 7-10, 1929) suggested that this dove might perhaps retain the older name *S. risoria* (Linnaeus). The suggestion has not found general acceptance.

<sup>2</sup> Peters, J. L., *Check-list Birds World* III, p. 92 (1937).

<sup>3</sup> Stuart Baker, E. C., *Fauna Br. India, Birds* (2nd ed.) V, p. 248 (1928); and *Nidification Birds Ind. Emp.* IV, p. 168 (1935).

The following abbreviations are used throughout:—

Reg. No.—Registered Number of the specimen in the collection of the Zoological Survey of India (Indian Museum), Calcutta.

Juv., Juvenile; L., Total length of body; W., Length of wing; Tl., Length of tail; Tr., Length of tarsus; C., Length of culmen; X., Length, along rhachis, of the white tip of the outermost tail feather.

Measurements given within round brackets in the Tables are approximate.

## II. KEY TO THE SUBSPECIES OF *STREPTOPELIA DECAOCTO*, AND THEIR DESCRIPTIONS.

A. Bare orbital skin around eye white to pale slaty-gray (never yellow) in fresh specimens.

a. Darker and smaller. Under tail-coverts dark gray. 'White' tip to outermost tail-feather usually with slight gray tinge (rarely pure white), and measures along rhachis 33-48 mm., once 53 mm. Wings 160-176 mm., average 168 mm. ..

*S. d. decaocto*, p. 440.

b. Paler and larger. Under tail-coverts pale gray. 'White' tip to outermost tail-feather usually pure white (rarely tinged with very pale gray), and measures along rhachis 50-65 mm., rarely as low as 43 and 45 mm. Wings 175-190 mm., average 182 mm., rarely 169 mm.

*S. d. stoliczkae*, p. 444.

B. Bare orbital skin around eye bright yellow in fresh specimens. Under tail-coverts very dark gray. Size large. General plumage much darker and more vivid than in *S. d. decaocto*. 'White' tip to outermost tail feather with distinct gray tinge, and measures along rhachis about 60 mm. Wings 181-182.5 mm., once 165 mm.

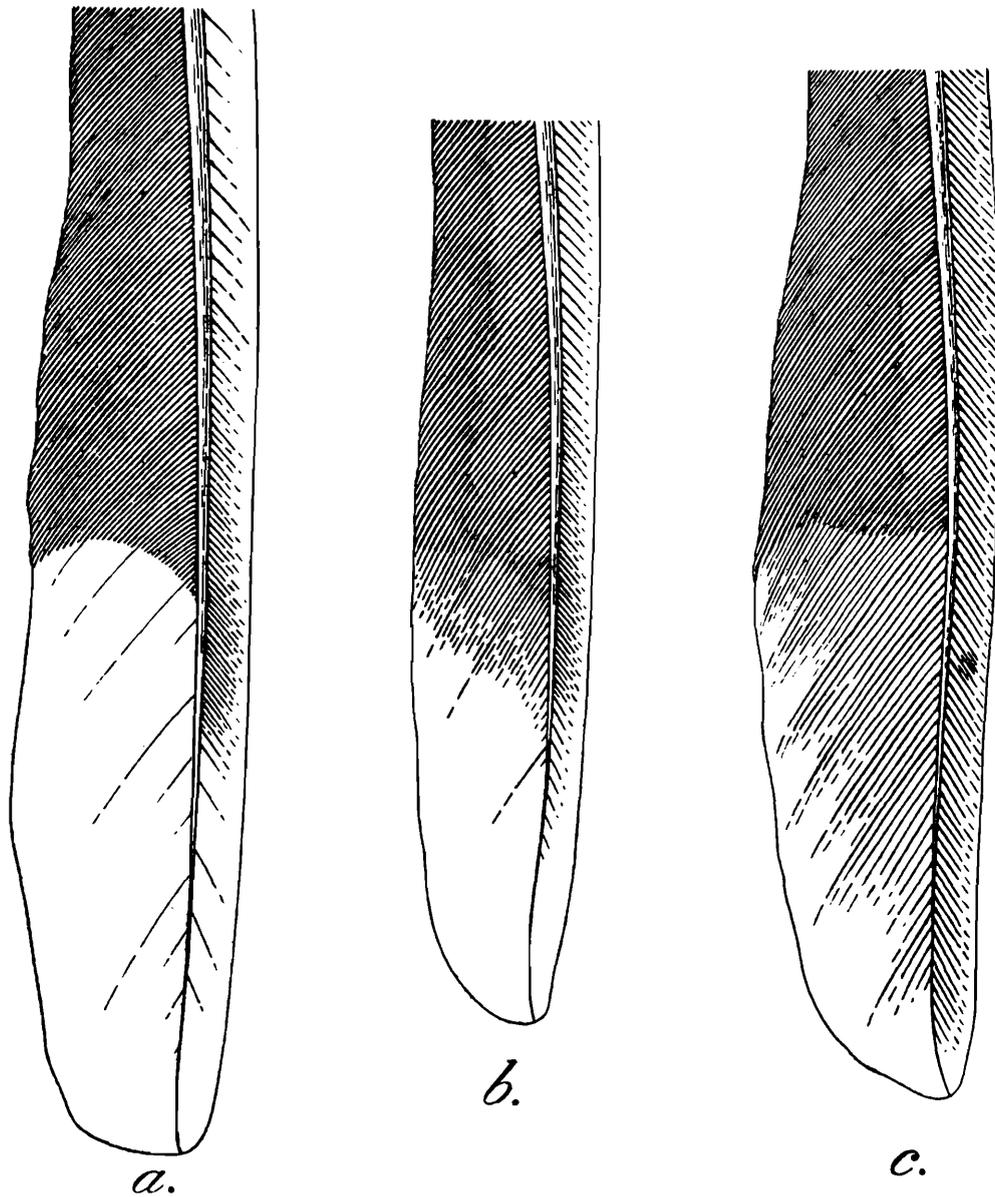
*S. d. xanthocyclus*, p. 449.

As given in the key, the extent and colour of the 'white' tip of the outermost tail feather is an important distinguishing character between the various races. The same structure provides yet another distinguishing character. If the dorsal aspect of the outermost tail feather is viewed from the *distal* end, the sharp line which divides the 'white' tip of the inner web from the dark gray proximal portion of the feather, presents a characteristic curve in each race as follows, provided a series of skins is examined:—

*S. d. stoliczkae*.—The *median* (towards the rhachis) end of the line tends to extend further distally than does the outer or marginal end (text-figs. 1a and 2a).

*S. d. decaocto*.—The curve of the line tends, in a series, to be intermediate between *stoliczkae* and *xanthocyclus* (text-figs. 1b and 2b).

*S. d. xanthocyclus*.—The *outer* or marginal end of the line tends to extend further distally than does the median (towards the rhachis) end (text-figs. 1c and 2c). (Only one specimen examined.)

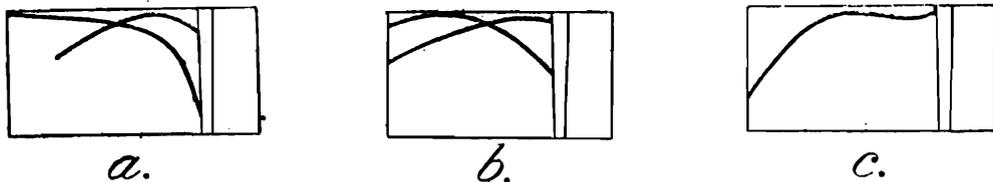


TEXT-FIG. 1.—Dorsal views of the distal portion of the outermost right tail feathers showing the 'white' tip: nat. size.

*a. Streptopelia decaocto stoliczkae* (Hume). I. M. skin No. 26534 (Holotype), adult ♂ from Kashgar (Eastern Turkestan), Feb. 5, 1874.

*b. Streptopelia decaocto decaocto* (Frivaldszky). I. M. skin No. 25733, adult ♀ from Rajadara (Ranchi District, Bihar, India), Oct. 18, 1927.

*c. Streptopelia decaocto xanthocyclus* (Newman). I. M. skin No. 9064, sex unknown, from the upper defile of the Irrawady, about 40 miles below Bhamo (Northern Burma), Sept. 1868.



TEXT-FIG. 2.—Extremes of curves of the sharp line which divides the 'white' tip of the inner web of the outermost tail feather from its dark-gray proximal portion. Drawn from the dorsal aspect as viewed from the distal end: *ca.* nat. size.

*a. Streptopelia decaocto stoliczkae* (Hume). (From five Eastern Turkestan specimens.)

*b. Streptopelia decaocto decaocto* (Frivaldszky). (From ten Indian specimens.)

*c. Streptopelia decaocto xanthocyclus* (Newman). (From one Burmese specimen only.)

1. **Streptopelia decaocto decaocto** (Frivaldszky).THE TURKISH RING-DOVE<sup>1</sup>.

1758. ? *Columba risoria*, Linnaeus, *Syst. Nat.* (10th ed.) I, p. 165. (India.) Considered by some as applying to domesticated forms only and, therefore, not applicable to the wild bird.
- \*1838. *Columba risoria* Linn., variety *decaocto*, Frivaldszky, *K. magyar tudós Társaság Evkönyvi* III, Pt. 3, p. 183. (Turkey.)
1844. *Turtur douraca*, Hodgson, in Gray's *Zool. Misc.*, p. 85. (Nepal.) *Nomen nudum*.
1849. *Turtur risorius* (part ?), Blyth, *Catal Birds Mus. Asiat. Soc. Bengal*, p. 235. (Part habitat North Africa is a mistake.)
- \*1855. ? *Peristera intercedens*, Brehm, *Vögel Fang*, p. 258. (North Africa, by mistake. Hartert in *Vögel paläarkt. Fauna* II, p. 1496, 1920, points out that Brehm's type had gray-blue under tail-coverts and probably came from tropical India.)
1864. *Turtur risoria*, Jerdon, *Birds of India* III, p. 481.
- 1873-1888. *Turtur risoria*, several records in *Stray Feathers* I-XI.
1876. *Turtur risorius*, Blanford, *East Persia* II, p. 270.
1880. *Turtur risorius* (part), Legge, *Hist. Birds Ceylon* II, p. 702.
1893. *Turtur (Streptopelia) douraca* (part), Salvadori, *Catal. Birds Br. Mus.* XXI, p. 430.
1898. *Turtur risorius* (part), Blanford, *Fauna Br. India. Birds* (1st ed.) IV, p. 46.
1913. *Streptopelia risoria risoria* (part), Stuart Baker, *Indian Pigeons & Doves*, p. 219.
1920. *Streptopelia decaocto decaocto* (part), Hartert, *Vögel paläarkt. Fauna* II, p. 1495.
- \*1928(1927). *Streptopelia decaocto zarudnyi*, Serebrowskij, *Compt. Rend. Acad. Sci. URSS.*, Leningard, p. 326. (Husseinabad, Seistan, East Iran.) See Hartert & Steinbacher, *Vögel paläarkt. Fauna*, *Ergänzungsbd.*, p. 460, 1936.
1928. *Streptopelia decaocto decaocto* (part), Stuart Baker, *Fauna Br. India, Birds* (2nd ed.) V, p. 248. *Vide* also Vol. VII, pp. 440, 441 (1930), *Synonymies*.
- \*1928. *Streptopelia decaocto decaocto*, Boetticher, *Anz. ornith. Gesell. Bayern* XII, p. 132. Discussion on races.
1931. *Streptopelia decaocto decaocto*, Wait, *Man. Birds Ceylon* (2nd ed.), p. 297.
- \*1934. *Streptopelia decaocto koreensis*, Buturlin, *Polnyi opredelitel pitts S S S R.* I, p. 226. New name for *S. d. torquata* Bogdanov (part).
- \*1935. *Streptopelia risoria alba*, H. H. Bailey, *Bailey Mus. & Libr. Nat. Hist. Bull.* No. 9, p. 2. (Vicinity of Miami, Florida, N. America.) *Aviary variety, vide Peters infra*.
1935. *Streptopelia decaocto decaocto* (part), Stuart Baker, *Nidification Birds Ind. Emp.* IV, p. 168.
1936. ? *Streptopelia decaocto decaocto*, Shaw, *Biol. Sinica* (B) XV, Fasc. 1, vol. 2, p. 487. (Hopei Province, north-eastern China.)
1937. *Streptopelia decaocto decaocto*, Peters, *Check-list Birds World* III, p. 92.
1938. ? *Streptopelia decaocto decaocto*, Wilder & Hubbard, *Birds N. E. China*, p. 508. Gives *S. d. stoliczkae* as its synonymy!
1938. ? *Streptopelia decaocto* (subspecies ?), Meinertzhagen, *Ibis* II (14th Ser.), p. 709. (Kabul; Upper Kabul River near Undi Pass, about 7,000 feet; and Jelalabad—all in Afghanistan.) Not mentioned whether the birds were typical *decaocto* or of race *stoliczkae*.

While the typical race, *S. d. decaocto*, with its type locality in Turkey, extends from central Europe to the whole of India (as far east as Assam) and Ceylon, in the following account the Indian birds alone have largely been taken into consideration. I have not been able to examine many extra-Indian specimens. Other authors do not mention any difference between Indian and extra-Indian specimens of this subspecies.

<sup>1</sup> This name is preferable to "The Indian Ring-Dove" used by Stuart Baker (*Fauna Br. India, Birds*, 2nd ed. V, p. 248, 1928), because the type-locality is Turkey, and not a place in India.

\* Not seen in original.

TABLE 1.

*Specimens of S. d. decaocto in the Indian Museum, Calcutta.*

| Reg. No.           | Sex.                | Locality.  | Date.         | Collector or Donor.      | Measurements (mm.). |       |     |      |      |
|--------------------|---------------------|--|---------------|--------------------------|---------------------|-------|-----|------|------|
|                    |                     |  |               |                          | W.                  | Tl.   | Tr. | C.   | X.   |
| 24858              | ♂                   | Khwaja Ahmad (Seistan, E. Iran) ..                     | May 7, 1905   | J. W. N. Cumming .. ..   | (164?)              | 140   | 23  | 16   | ...  |
| 9980               | ♀<br>(Juv. ?)       | Pishin (Baluchistan) .. ..                             | Feb. 10, 1872 | W. T. Blanford .. ..     | [161                | 128   | 23  | 15   | 36]  |
| 17822              | ♂                   | Mt. Abu (Rajputana) .. ..                              | May 22, 1868  | S. King .. ..            | 167                 | (135) | 23  | ..   | 48   |
| 25733              | ♀                   | Rajadara (Ranchi Dist., Bihar) ..                      | Oct. 18, 1927 | Dr. S. C. Law .. ..      | 173                 | 143   | 23  | 16   | 43   |
| 25739              | ♀                   | Chandwa (Ranchi-Palamau border, Bihar) ..              | Oct. 22, 1927 | Dr. S. C. Law .. ..      | 168                 | 139   | 23  | 16   | 42   |
| 4058               | (?)                 | Manbhumi (E. Bihar) .. ..                              | (?)           | "Mus. Coll." .. ..       | 167                 | 133   | 24  | 15   | 40   |
| 4060               | (?)                 | Manbhumi (E. Bihar) .. ..                              | (?)           | "Mus. Coll." .. ..       | 176                 | 148   | 25  | 17   | 45   |
| 4061               | (?)                 | Singhbhumi (E. Bihar) .. ..                            | (?)           | V. Ball .. ..            | 175                 | 140   | 27  | 15   | 40   |
| 4333               | (?)                 | Nepal .. ..  | (?)           | (?) .. ..                | 172                 | 140   | ..  | 16   | 45   |
| 4059               | ♂                   | Nagpur (Central Prov.) .. ..                           | (?)           | W. T. Blanford .. ..     | 171                 | 150   | 24  | 17   | 53   |
| 4062               | (?)                 | S. E. Berar .. ..                                      | (?)           | W. T. Blanford .. ..     | 161                 | 131   | 22  | 15   | 33   |
| 11902              | ♂                   | Phonda (Devgarh Taluk, Ratnagiri Dist., Bombay Pres.). | Mar. 23, 1878 | J. Armstrong .. ..       | 161                 | 136   | 25  | (13) | 44   |
| 18442              | ♀                   | Near Bangalore (Mysore State) .. ..                    | (?)           | "Mus. Coll. Jaffa" .. .. | 160                 | 132   | 22  | 15.5 | 38   |
| 26533 <sup>1</sup> | (Juv.?)<br>(Albino) | Calcutta .. ..   | (1842-45)     | Asiat. Soc. Bengal .. .. | [155                | (?)   | 23  | 18   | ...] |

<sup>1</sup> This is No. 1430 H of Blyth's *Catal. Birds Mus. Asiat. Soc. Bengal*, pp. 235, 236, 1849, where it is described as: "Young (White race)" under *Turtur risorius*. The plumage is entirely white, and the small size suggests that the specimen is probably a juvenile. I have accepted this identification on Blyth's authority.

*Vernacular Names.*—See Stuart Baker<sup>1</sup>. Not *Pākhtak* (Turki) which applies to *S. d. stoliczkae*.

*Description.*—Based on Indian material. Sexes alike; according to some authors, female perhaps slightly smaller than male.

The entire head and neck lilac-gray, sometimes with a faint tinge of brown, the forehead and the sides of the neck paler than the rest; the throat pale vinaceous and the chin albescent; on the neck a narrow white collar formed by white tips of lilac-gray feathers, followed by a black crescentic collar, 5-9 mm. wide, composed of black feathers tipped white, the white tips forming a narrow posterior collar; middle and inner wing-coverts, back, rump and upper tail-coverts pale-earthy to fawn-brown, sometimes (in specimens from Manbhum, eastern Bihar, in the Indian Museum collection) suffused with gray; secondaries brownish-gray, the gray specially marked around the rhachis; primaries dark brown, sometimes tending to black, edged narrowly with pale white especially on the outer edge; the inner primaries with a small faintly pale gray area (sometimes hardly distinguishable) towards the tip; outer wing-coverts pale gray, gradually changing into the colour of back; central tail feathers brown, more or less suffused with ashy gray; succeeding tail feathers more gray and with diffuse, narrow, grayish-white margin; outermost tail-feather black at base, and with extensive grayish-white tips, 33-48 mm. (in one case 53 mm.) long along rhachis (text-figs. 1*b* and 2*b*); lower aspect of tail feathers very much paler than upper; breast vinaceous-gray (less gray than brown), changing to pale dove-gray on the abdomen and lower flanks; under tail-coverts dark gray; upper flanks, axillaries and under wing-coverts silvery-gray; under aspect of primaries and secondaries light silvery-brown; bastard wing silvery-gray.

Some birds, *e.g.*, Reg. No. 17322 from Mt. Abu and Reg. No. 4333 from Nepal, are almost as pale as the race *stoliczkae*.

According to Hartert<sup>2</sup>, Ceylon and South Indian birds are probably smaller and have darker backs.

*Colour of Soft Parts.*—*Iris.* Red. *Naked orbital skin.* In fresh specimens, white or pale-gray (not yellow); narrower than in *S. d. xanthocyclus*. (Dull ochreous brown to ochreous yellow in dried skins.) *Bill.* Black. *Legs and toes.* Purple-red. *Claws.* Black.

*Measurements and Weight* (based on Indian material).—*Total length.* 311-313 mm. (Cripps<sup>3</sup>; and Scully<sup>4</sup>). *Wing.* 160-176 mm., average 168 mm. *Tail.* 128-158 mm. (Stuart Baker<sup>5</sup> gives the minimum as 117 mm.). *Tarsus.* 22-27 mm. *Culmen.* 15(13?)-17 mm. *Whitish tip to outermost tail-feather (along rhachis).* 33-48 mm., once 53 mm. *Weight.* ♂ 6.12 oz., ♀ 6.25 oz. (Cripps, *loc. cit.*).

*Distribution.*—“Resident from Hungary over south-eastern Europe, Asia Minor, Turkestan, northern China and Japan, south to Palestine, Iraq, Persia, India, Ceylon and Western China. A pale variety found

<sup>1</sup> Stuart Baker, E. C., *Fauna Br. India, Birds* (2nd ed.) V, p. 248 (1928).

<sup>2</sup> Hartert, E., *Vögel paläarkt. Fauna* II, p. 1497 (1920).

<sup>3</sup> Cripps, J. R., *Stray Feathers* VII, p. 297 (1878).

<sup>4</sup> Scully, J., *Stray Feathers* VIII, p. 342 (1879).

<sup>5</sup> Stuart Baker, E. C., *Fauna Br. India, Birds* (2nd ed.) V, p. 248 (1928).

under domestication" (Peters<sup>1</sup>). The Turkestan, northern Chinese and Japanese birds would seem, by their size, to be nearer to the Eastern Turkestan race than to *S. d. decaocto*. (Also see under *stoliczkae*, p. 448.)

The Indian distribution is given by Stuart Baker<sup>2</sup> and others as follows:—Throughout India (excluding Burma), except in the wettest, most heavily forested regions of the eastern Himalayas. Probably entirely absent from the Malabar Coast, only once met with in the extreme east of Kanara. Davison<sup>3</sup> found it not uncommon in southern Mysore. (Not uncommon in the Nilgiris; occurs in the Palnis and in the Pittur Valley in South India, *vide* Whistler & Kinnear<sup>4</sup>). Found near Cape Comorin. (Ali & Whistler<sup>5</sup> also recently obtained it at Cape Comorin and Aramboli, but state that it is decidedly rare.) Common in eastern Bengal and western Assam, but rare in the extreme east and in Cachar and Sylhet. Ali & Whistler<sup>6</sup> record it as common in Central India.

Birds from the Manipur Valley have recently been shown by Higgins<sup>7</sup> to belong to the Burmese *xanthocyclus*; it appears that this subspecies is probably replaced by *xanthocyclus* in the Chittagong area. The exact dividing line between *decaocto* and *xanthocyclus* has yet to be worked out. The bird ascends the Himalayas up to about 9,000 feet.

Birds from Kashmir (Osmaston<sup>8</sup>; and Hellmayr<sup>9</sup>) and the North-West Frontier Province (Peshawar District) (Briggs & Osmaston<sup>10</sup>) are typical *decaocto* (not *stoliczkae*). Osmaston (*loc. cit.*) found a flock at 10,000 feet at Dras in Kashmir, but says that they were apparently on their way elsewhere, and that the usual maximum height is 6,000 feet.

The bird is locally migratory in many areas in India, and Stuart Baker<sup>11</sup> is wrong in asserting to the contrary. Thus, it is a summer visitor in British Baluchistan, but is resident in central and coastal Mekran and in Las Bela State (Ticehurst<sup>12</sup>). In Bombay and Salsette Islands it is a winter visitor (Ali & Abdulali<sup>13</sup>). In the southern portion of the Bombay Presidency, *viz.*, Ratnagiri District, it is a winter visitor "disappearing entirely at the approach of the hot weather and in all probability returning to the Deccan plains to breed" (Vidal<sup>14</sup>). There are several other records of its migratory habit.

<sup>1</sup> Peters, J. L., *Check-list Birds World* III, p. 92 (1937).

<sup>2</sup> Stuart Baker, E. C., *Indian Pigeons & Doves*, p. 221 (1913).

<sup>3</sup> Davison, W., *Stray Feathers*, X (5), p. 408 (1883).

<sup>4</sup> Whistler, H. & Kinnear, N. B., *Journ. Bombay Nat. Hist. Soc.* XXXVIII, p. 680 (1936).

<sup>5</sup> Ali, S. & Whistler, H., *Journ. Bombay Nat. Hist. Soc.* XXXIX, p. 342 (1937).

<sup>6</sup> Ali, S. & Whistler, H., *Journ. Bombay Nat. Hist. Soc.* XLI, p. 478 (1940).

<sup>7</sup> Higgins, J. C., *Journ. Bombay Nat. Hist. Soc.* XXXVII, p. 303 (1934).

<sup>8</sup> Osmaston, B. B., *Journ. Bombay Nat. Hist. Soc.* XXXVII, p. 144 (1934).

<sup>9</sup> Hellmayr, C. E., *Chicago Field Mus. Nat. Hist. (Zool.)* XVII, No. 3, pp. 132, 133 (1929).

<sup>10</sup> Briggs, F. S. & Osmaston, B. B., *Journ. Bombay Nat. Hist. Soc.* XXXII, p. 758 (1928).

<sup>11</sup> Stuart Baker, E. C., *Fauna Br. India, Birds* (2nd ed.) V, p. 249 (1928).

<sup>12</sup> Ticehurst, C. B., *Journ. Bombay Nat. Hist. Soc.* XXXII, p. 73 (1927).

<sup>13</sup> Ali, S. & Abdulali, H., *Journ. Bombay Nat. Hist. Soc.* XL, p. 378 (1938).

<sup>14</sup> Vidal, C. S., *Gazetteer Bombay Pres. X. Ratnagiri and Savantvadi. Birds*, pp. 86, 87 (1880).

In Ceylon *S. d. decaocto* is confined to the north-western region of the island.

*Breeding*.—In India it breeds throughout the year in the plains and lower hills, but in eastern Bengal few birds lay during the heaviest rains in July, August and September. In the hills they lay from April to September. All pairs have at least two broods a year, and many have four to five. Incubation period is about thirteen days in India. Breeds up to 8,000 feet, but usually not above 4,000 to 5,000 feet. (Stuart Baker <sup>1</sup>.) Whistler & Kinnear <sup>2</sup> remark that there is no information about its breeding season in the Madras Presidency, although the bird appears to be resident there.

*Nest*.—As in other doves, the nest is made of twigs but is more cup-shaped and perhaps a little better made. It may be placed low down in any kind of bush or tree, thorny ones being frequently preferred, either in the open country, scrub-jungle, round villages or in gardens, but never in buildings (cf. *S. d. stoliczkae*). The nest is usually from 5 to 15 feet above ground, but rarely it may be on the ground, or 30 to 40 feet above it (Stuart Baker, *loc. cit.*).

*Eggs*.—Two in a clutch, rarely one or three. Smooth and white. *Size*. Average: 30.1 × 23.2 mm. Maxima: 32.2 × 23.9 mm. Minima: 27.8 × 21.8 mm. These figures, taken from Stuart Baker (*loc. cit.*), presumably also include the eggs of the Eastern Turkestan race, *S. d. stoliczkae*, which Stuart Baker does not separate from *S. d. decaocto*.

*Habits*.—In India it frequents open country, and is tolerant of great heat and sandy deserts, but less tolerant of heavy forest and excessive rainfall. Common in cultivated country and near human habitations. Goes about in pairs or in small flocks and is very sociable. Feeds almost entirely on the ground on seeds, grains, berries, but also on trees when the fruit is ripe. Is locally migratory.

*Call*.—In Indian birds it is a tri-syllabic "coo", sounding like *koo-koo-koo*, *koo-koo-koo*, continually repeated. In birds from north-eastern China which are said to belong to *S. d. decaocto*, though this is doubtful, the call, according to Wilder & Hubbard <sup>3</sup>, is *coo-coo*, *coo-roo*, repeated about seven times.

## 2. *Streptopelia decaocto stoliczkae* (Hume).

### THE KASHGAR RING-DOVE.

[*Holotype in the Indian Museum, Calcutta.*]

1831. ? *Columba* (misprinted *Colubam*) *risoriam*. Pallas (*nec* Linnaeus), *Zoogr. Rosso-Asiatica* I, p. 565. (Ghilan, Asiatic Russia.)  
 \*1873. *Columba chinensis*, Severtz (*nec* Scopoli), *Turk. Jevont.*, p. 68. Name preoccupied.  
 1874. *Turtur stoliczkae*, Hume, *Stray Feathers* II, p. 519. (Kashgar, Eastern Turkestan.) Holotype in Indian Museum, Calcutta.

<sup>1</sup> Stuart Baker, E. C., *Fauna Br. India, Birds* (2nd ed.) V, p. 248 (1928); and *Nidification Birds Ind. Emp.* IV, p. 168 (1935).

<sup>2</sup> Whistler, H. & Kinnear, N. B., *Journ. Bombay Nat. Hist. Soc.* XXXVIII, p. 680 (1936).

<sup>3</sup> Wilder, G. D. & Hubbard, H. W., *Birds N. E. China*, p. 509 (1938).

\* Not seen in original

1875. *Turtur risoria*, Stoliczka, *Stray Feathers* III, p. 217. (Kashgar.) In a foot-note on the same page Hume points out that this bird=*T. stoliczkae* Hume.
1875. *Turtur Stoliczkae*, Hume, *Stray Feathers* III, p. 415. (Kashgar.)
1876. *Turtur Stoliczkae* (? *intercedens*), Scully, *Stray Feathers* IV, p. 178. (Yarkand and Kashgar, Eastern Turkestan.)
1881. *Turtur stoliczkae*, Sharpe, *Sci. Res. Second Yarkand Miss., Aves*, p. 117, and pl. xiv (inaccurate in some details). (Sanju and Kashgar, Eastern Turkestan.)
- \*1881. ? *Streptopelia torquata*, Bogdanov (*ex* Brisson, *nec* Brisson), *Tr. Siber. Obsch. Jestestv.* XII, p. 98. (Turkestan.)
- \*1884. ? *Streptopelia torquata*, Bogdanov (*nec* Brisson), *Consp. Av. Imp. Ross.* I, p. 9.
1885. *Streptopelia torquata*, Menzbier, *Ibis* III (5th Ser.), p. 357. (Aksu and Kashgar, Eastern Turkestan.)
1888. ? *Streptopelia torquata*, Pleske, *Mem. Acad. St. Petersbourg* XXXVI (7th Ser.), No. 3, p. 46. (Turkestan.)
- \*1891. *Turtur douraca*, Biandri & Berezowski, *Aves Gansu* (Kansu ?), p. 27. (? Kansu, China.)
1893. *Turtur (Streptopelia) douraca* (part), Salvadori, *Catal. Birds Br. Mus.* XXI, p. 430.
1896. *Turtur douraca stoliczkae*, Richmond, *Proc. U. S. Nation. Mus.* XVIII, p. 588. (Uchturfan, 5,000 ft., Eastern Turkestan.)
1898. *Turtur risorius* (part), Blanford, *Fauna Br. India, Birds* (1st ed.) IV, p. 46.
1899. *Streptopelia stoliczkae*, Sharpe, *Hand-List Gen. & Sp. Birds* I, p. 79. (Central Asia.)
1901. *Turtur risorius*, Schalow, *Journ. f. Ornith.* XLIX, p. 410. (Kashgar, Eastern Turkestan.)
1913. *Streptopelia risoria risoria* (part), Stuart Baker, *Indian Pigeons & Doves*, p. 219.
1920. *Streptopelia decaocto decaocto* (part), Hartert, *Vögel paläarkt. Fauna* II, p. 1495.
1928. *Streptopelia decaocto decaocto* (part), Stuart Baker, *Fauna Br. India, Birds* (2nd ed.) V, p. 248. *Vide* also vol. VII (1930), pp. 440, 441, Synonymies.
1929. *Streptopelia decaocto stoliczkae*, Hellmayr, *Chicago Field Mus. Nat. Hist. (Zool.)* XVII, p. 132. (Echitgo, Carshamba Bazar, Yarkand River; and Kashgar. Both places in Eastern Turkestan.)
1934. *Streptopelia decaocto stoliczkae*, Ludlow & Kinnear, *Ibis* IV (13th Ser.), p. 99. (Chinese Turkestan.)
1935. *Streptopelia decaocto decaocto* (part), Stuart Baker, *Nidification Birds Ind. Emp.* IV, p. 168.
1936. *Streptopelia decaocto stoliczkae* (part ?) Hartert & Steinbacher, *Vögel paläarkt. Fauna, Ergänzungsbd.*, p. 459.
1936. ? *Streptopelia decaocto decaocto*, Shaw, *Biol. Sinica* (B) XV, Fasc. 1, vol. 2, p. 487. (Hopei Province, north-eastern China.)
1937. *Streptopelia decaocto stoliczkae*, Peters, *Check-list Birds World* III, p. 92.
1937. *Streptopelia decaocto stoliczkae*, Stresemann, Meise & Schönwetter, *Journ. f. Ornith.* LXXXV, p. 441. (North-western Kansu, China.)
1938. ? *Streptopelia decaocto decaocto*, Wilder & Hubbard, *Birds N. E. China*, p. 508. Gives *S. d. stoliczkae* as its synonymy.

This bird was first described as a separate species *Turtur stoliczkae* by Hume<sup>1</sup> in 1874, from a ♂ obtained at Kashgar (Eastern Turkestan) on February 5, 1874, by Dr. F. Stoliczka during Forsyth's Second Yarkand Mission. Sharpe<sup>2</sup> admitted the species and published a re-description of the Holotype, and also a coloured figure (his Plate XIV). The Plate, however, is inaccurate in the following details:—(i) The naked orbital skin is not shown. (ii) The collar is shown purplish-violet instead of black. (iii) The bill is shown light pink instead of quite black. Subsequently a number of authors, *e.g.*, Richmond (1896),

\* Not seen in original.

<sup>1</sup> Hume, A., *Stray Feathers* II, p. 519 (1874).

<sup>2</sup> Sharpe, B., *Sci. Res. Second Yarkand Miss., Aves*, p. 117 (1881).

Hellmayr (1929), Stresemann, Meise & Schönwetter (1937, 1938) and Peters (1937) have recognised the distinctness of the Eastern Turkestan bird (*stoliczkae*) which is both paler and larger than the Indo-European form. Hartert <sup>1</sup> at first did not recognise the race *stoliczkae*, although he admitted that the Eastern Turkestan and Chinese birds were much larger than the Indo-European ones; later, however, Hartert & Steinbacher <sup>2</sup> recognised it and gave its range as from Eastern Turkestan to Jehol (China), Korea and Hondo Is. (Japan). Stuart Baker <sup>3</sup>, unfortunately, did not separate *S. d. stoliczkae* from *S. d. decaocto*.

The Holotype of *S. d. stoliczkae* is in the Indian Museum, Calcutta (I. M. Reg. No. 26534), and an examination of it, as also of a number of other specimens from the type-locality (Kashgar) and other localities in Eastern Turkestan, has convinced me of the validity of the race *stoliczkae*. Characters which best distinguish it from *S. d. decaocto* are the paler colour, the larger size and the greater length of and the absence of gray in the white apical tip of the outermost tail feather. According to Hellmayr <sup>4</sup>, the blackish colour at the base of the lateral tail feathers used by Buturlin <sup>5</sup> as a criterion for the Turkestan race is exceedingly variable in extent, and does not seem to afford a reliable character for subspecific differentiation. The following description is based on specimens in the Indian Museum collection, and also on the published accounts of the bird.

TABLE 2.

*Specimens of S. d. stoliczkae in the Indian Museum, Calcutta.*

| Reg. No.            | Sex. | Locality. | Date.             | Collector or Donor. | Measurements (mm.). |     |     |      |      |    |
|---------------------|------|-----------|-------------------|---------------------|---------------------|-----|-----|------|------|----|
|                     |      |           |                   |                     | L.                  | W.  | Tl. | Tr.  | C.   | X. |
| 26534<br>(Holotype) | ♂    | Kashgar   | Feb. 5,<br>1874.  | F. Stoliczka        | 318<br>(Sharpe.)    | 187 | 167 | 23.5 | 14   | 58 |
| 17325               | ♀    | Kashgar   | Oct. 23,<br>1874. | J. Scully           | 375<br>(Scully.)    | 169 | 144 | 23   | 16   | 43 |
| 17323               | ♂    | Yarkand   | Feb., 1875        | J. Scully           | 343<br>(Scully.)    | 176 | 145 | ...  | 16.5 | 45 |
| 17326               | ♀    | Yarkand   | Feb., 1875        | J. Scully           | 332<br>(Scully.)    | 175 | 140 | 26   | 16   | 50 |
| 17324               | ♂    | Yarkand   | Mar. 22,<br>1875. | J. Scully           | 348<br>(Scully.)    | 184 | 165 | 26   | 15.5 | 57 |

*Remarks.*—Specimen No. 17324 (♂, Yarkand) has its plumage dark, oily and with traces of soot. This condition is explained by the following remarks of Scully <sup>6</sup>: “A favourite trick of the Yarkand boys is to capture one of these Doves, and smear its feathers all over with

<sup>1</sup> Hartert, E., *Vögel paläarkt. Fauna* II, p. 1495 (1920).

<sup>2</sup> Hartert, E. & Steinbacher, *Vögel paläarkt. Fauna, Ergänzungsbd.*, p. 459 (1936).

<sup>3</sup> Stuart Baker, E. C., *Fauna Br. India, Birds* (2nd ed.) V, p. 248 (1928); and *Nidification Birds Ind. Emp.* IV, p. 168 (1935).

<sup>4</sup> Hellmayr, C. E., *Chicago Field Mus. Nat. Hist. (Zool.)* XVII, p. 132 (1929).

<sup>5</sup> See Boetticher, H. v., *Anz. Ornith. Gesell. Bayern* XII, p. 132 (1928).

<sup>6</sup> Scully, J., *Stray Feathers* IV, p. 178 (1876).

soot mixed up with oil. The bird is then allowed to fly away, and after a few days, when the feathers have been shaken into their ordinary positions the Ring-dove presents quite a natural appearance. Only as it moves about with its fellows, it looks truly a dove in mourning."

*Vernacular Name.*—Turki : *Pākhtak* ; cf. *Fākhtah*, a Dove, in Persian. (Scully <sup>1</sup>.)

*Description.*—Sexes alike ; according to some authors, female perhaps slightly smaller than male.

Paler than *S. d. decaocto*. Under tail-coverts pale gray ; "white" tip to outermost tail feather pure white. Hume's <sup>2</sup> excellent and accurate description of the type-specimen (♂) applies to all specimens that I have examined, and is quoted below in full : "The entire head, neck all round, and breast, pale pure vinaceous, albescent on the chin and upper throat ; abdomen paler and tinged with pearl grey ; vent and lower tail-coverts very pale French grey ; on the crown there is the faintest possible brown tinge ; there is a black nuchal collar, fully double the width <sup>3</sup> of that in *risorius* <sup>4</sup>, margined distinctly both above and below with white ; the vinaceous of the sides of the neck extends in a broad band on either side *behind* the nuchal collar, and is only faintly tinged with brown towards the middle ; mantle and tertiaries dull, rather pale, earthy brown ; rump and upper tail-coverts and central tail feathers very pale pearl grey, more or less tinged and suffused with pale earthy brown. These parts are decidedly paler, while the mantle is slightly darker than in *risorius* ; shoulder of the wing, winglet, secondary coverts, and secondaries pale pure pearl grey ; primary greater coverts grey, tinged more or less with dusky ; primaries dark brown, margined albescent and the later ones especially much suffused towards their bases with grey ; the lateral tail feathers next the central pair a delicate French grey on the upper surfaces, paling to white towards the tips, and faintly tinged brown on part of the outer webs ; on the lower surface the terminal 3 inches greyish white, below this blackish dusky, paling again towards their bases ; the external tail feathers of all with the terminal 2.4 inches, and the whole outer web, except a slatey grey (on the upper surface) or dusky patch towards the middle of this latter, white [*vide* text-figs. 1a and 2a of present paper] ; basal portion of the inner webs brownish, slatey on upper, and black on lower surface, paling slightly only, towards the extreme bases. The intermediate feathers are intermediate in character between these two."

*Colour of Soft Parts.*—*Iris.* Lake-red, dark-red or crimson (Scully, *loc. cit.*, ♂ and ♀) ; or reddish-brown (Schalow <sup>5</sup>, ♀). *Naked orbital skin.* Colour not recorded. Probably whitish or pale gray (not yellow), paler than in *S. d. decaocto*. Pale ochreous-brown in dried skins. Lower eye-lid slate-coloured—Scully's labels on specimens in the Indian

<sup>1</sup> Scully, J., *Stray Feathers* IV, p. 178 (1876).

<sup>2</sup> Hume, A., *Stray Feathers* II, p. 519 (1874).

<sup>3</sup> This does not seem to be an important differentiating character, as in other specimens of the race the collar is quite narrow. Even in the type-specimen, the collar appears very wide because the head is bent forwards too much, thus spreading the collar unnaturally.

<sup>4</sup> *Turtur risorius* (Linn.) = *Streptopelia decaocto decaocto* (Frisvaldszky)-

<sup>5</sup> Schalow, H., *Journ. f. Ornith.* XLIX, p. 410 (1901).

Museum, ♂. *Bill*. Black. *Legs and toes*. Purple-red (Scully<sup>1</sup>). *Claws*. Dusky or black, with brown tips (Scully, *loc. cit.*).

*Measurements and Weight*.—*Total length*. 318-348 mm. *Wing* 175-190 mm., once 169 mm. *Tail*. 140-167 mm. *Tarsus*. 23-26 mm. *Culmen*. 14-16 mm. *Whitish tips to outermost tail feather (along rachis)*. 50-65 mm., in two cases 43 and 45 mm. *Weight*. 6.00-7.25 oz. (Scully, *loc. cit.*).

*Distribution*.—*S. d. stoliczkae* has been recorded from several places in Eastern Turkestan, *viz.*, Kashgar, Yarkand, Sanju, Cherchen Darya, Uchturfan, Aksu and Echitgo (Carshamba Bazar); and from some places in western China, *e.g.*, Sinnig-fu and the foot-hills of Rhiethofen Mountain in north-western Kansu Province. It is very common in Yarkand (Scully *loc. cit.*). Probably it extends further east into the eastern portions of Kansu Province. Hartert & Steinbacher<sup>2</sup>, however, extend its range as far north as Jehol and east to Korea and Hondo Is. (Japan). It is possible that the north Chinese, Korean and Japanese birds are larger than those from Eastern Turkestan, in which case they may have to be subspecifically separated. I have, however, not examined birds from north-eastern China and the adjoining regions. The western range is equally uncertain, and it is not known whether birds from Russian Turkestan are referable to *stoliczkae*.

The southern range is, however, more certain and, as pointed out by Hellmayr<sup>3</sup>, the bird does not cross the mountains south of the Tarim Basin (Eastern Turkestan), and birds from Kashmir and Nepal are unquestionably referable to *S. d. decaocto*. This is supported by the finding of typical *decaocto* in Kashmir, even up to 10,000 feet at Dras by Osmaston<sup>4</sup>; and in the Peshawar District of the North-West Frontier Province by Briggs & Osmaston<sup>5</sup>. Afghanistan birds might *presumably* be intermediate between *S. d. stoliczkae* and *S. d. decaocto*, but definite proof is wanting, and in a recent account Meinertzhagen<sup>6</sup> lists Afghanistan birds simply as *S. decaocto*, without giving the subspecies.

*Breeding*.—Breeds from beginning of April to about middle or end of June (Scully, *loc. cit.*; and Stresemann, Meise & Schönwetter<sup>7</sup>).

*Nest*.—In Yarkand, according to Scully (*loc. cit.*) it builds nests on the top of walls (*S. d. decaocto* never does so) and on low trees, about 7 to 8 feet from the ground. The nest, according to Stoliczka's observations (quoted by Sharpe<sup>8</sup>), is made of a few twigs and a thick lining of cotton-wool inside.

*Eggs*.—Two in a clutch. Smooth and glistening white. *Size*. 28.7 × 23.9 mm. to 31.5 × 24.3 mm. (Stresemann, Meise & Schönwetter, *loc. cit.*).

<sup>1</sup> Scully, J., *Stray Feathers* IV, p. 178 (1876).

<sup>2</sup> Hartert, E. & Steinbacher, *Vögel paläarkt. Fauna, Ergänzungsbd.*, p. 459 (1936).

<sup>3</sup> Hellmayr, C. E., *Chicago Field Mus. Nat. Hist. (Zool.)* XVII, p. 132 (1929).

<sup>4</sup> Osmaston, B. B., *Journ. Bombay Nat. Hist. Soc.* XXXII, p. 144 (1927).

<sup>5</sup> Briggs, F. S. & Osmaston, B. B., *Journ. Bombay Nat. Hist. Soc.* XXXII, p. 758 (1928).

<sup>6</sup> Meinertzhagen, R., *Ibis* II (14th Ser.), p. 709 (1938).

<sup>7</sup> Stresemann, E., Meise, W. & Schönwetter, M., *Journ. f. Ornith.* LXXXVI, p. 194 (1938).

<sup>8</sup> Sharpe, B., *Sci. Res. Second Yarkand Miss., Aves*, p. 118 (1881).

*Habits*.—Very common in the plains of Eastern Turkestan where it is a permanent resident. Always found near villages and houses, perching on trees or running about on the ground and picking up grains and seeds. Are very tame. (Scully<sup>1</sup>.)

*Call*.—Not recorded. Wilder & Hubbard<sup>2</sup> record the call of the bird of the Hopei Province in north-eastern China as *coo-coo*, *coo-roo*, repeated seven times. It will be noticed that the last *coo* is *roo*, not *coo*. It is not, however, clear whether the birds from north-eastern China are nearer to *S. d. decaocto* or *S. d. stoliczkae*.

### 3. *Streptopelia decaocto xanthocyclus* (Newman).

#### THE BURMESE RING-DOVE.

1875. *Turtur risorius*, Blyth, *Journ. Asiat. Soc. Bengal* XLIV, Pt. 2 (Extra No., *Catal. Mammals & Birds Burma*, p. 146). (Thayetmyo, Burma.)
1875. *Turtur risorius*, Hume & Oates, *Stray Feathers* III, p. 165. (Upper Pegu, Burma. *Rare*.)
- 1879 (1878). *Turtur risorius*, Anderson, *Anat. & Zool. Res. Yunnan Exped.* I, p. 666. (Upper Burma, about 40 miles below Bhamo.)
1883. *Turtur risorius* (part), Oates, *Handb. Birds Br. Burma* II, p. 293. (Upper Burma. *Rare*.)
1887. *Turtur risorius*, Oates, *Stray Feathers* X, p. 235. (Thayetmyo, Burma. *Rare*.)
1888. *Turtur risorius* (part), Hume, *Stray Feathers* XI, p. 299. (Manipur basin, *common*; and northern Arakan and northern Pegu, Burma, *rare*.)
1893. *Turtur* (*Streptopelia*) *douraca* (part), Salvadori, *Catal. Birds Br. Mus.* XXI, p. 430.
1898. *Turtur risorius* (part), Blanford, *Fauna Br. India, Birds* (1st ed.) IV, p. 46.
1899. *Streptopelia douraca* (part), Sharpe, *Hand-List Gen. & Sp. Birds* I, p. 79.
- \*1906. *Turtur decaocto xanthocyclus*, Newman, *Avicult. Mag.* (N. S.) IV, p. 321. (Burma.)
1907. *Turtur xanthocyclus*, Mears & Oates, *Journ. Bombay Nat. Hist. Soc.* XVIII, p. 86. (Chindwin, Upper Burma.)
1908. *Turtur exanthocyclus* (obviously misprint for *xanthocyclus*), Harington, *Journ. Bombay Nat. Hist. Soc.* XVIII, p. 687. (Burma. *Common in dry zone*.)
- <sup>2</sup>1909. *Turtur xanthocyclus*, Harington, *Birds Burma*, p. 68.
1913. *Streptopelia risoria xanthocyclus*, Stuart Baker, *Indian Pigeons & Doves*, p. 225.
1920. *Streptopelia decaocto xanthocyclus*, Hartert, *Vögel paläarkt. Fauna* II, p. 1497.
1922. *Streptopelia decaocto xanthocyclus*, Stuart Baker, *Journ. Bombay Nat. Hist. Soc.* XXVIII, p. 837.
1928. *Streptopelia decaocto xanthocyclus*, Stuart Baker, *Fauna Br. India, Birds* (2nd ed.) V, p. 249.
1934. *Streptopelia decaocto xanthocyclus*, Higgins, *Journ. Bombay Nat. Hist. Soc.* XXXVII, p. 303. (Manipur Valley, E. Assam. *Common*.)
1935. *Streptopelia decaocto xanthocyclus*, Stuart Baker, *Nidification Birds Ind. Emp.* IV, p. 169.
1937. *Streptopelia decaocto xanthocyclus*, Peters, *Check-List Birds World* III, p. 92.
1938. *Streptopelia decaocto*, Stanford, *Journ. Bombay Nat. Hist. Soc.* XL, p. 572. (Shwebo, Northern Burma.)

<sup>1</sup> Scully, J., *Stray Feathers* IV, p. 178 (1876).

<sup>2</sup> Wilder, G. D. & Hubbard, H. W., *Birds N. E. China*, p. 509 (1938).

<sup>3</sup> Not seen in original. So quoted by Stuart Baker (*Indian Pigeons & Doves*, p. 225, 1913). It may be added in this connection that many references given by that author on the same page are incorrect. Thus, "Mears" should be "Mears & Oates", "Macdonald, p. 496" should be "Harington, p. 687", and "Oates, Cat. Eggs B. M.", does not list any Burmese representative of the dove at all.

\* Not seen in original.

*Remarks.*—Very little is on record about *S. d. xanthocyclus* and the greater part of all that we know is contained in four accounts by Anderson (1879), Oates (1883), Newman (1906) and Hartert (1920). Anderson had noted its larger size and darker and more vivid colour as compared to the Indian specimens. Oates first noted the yellow colour of the orbital skin, but apparently did not consider it as an important character. Newman re-noted the broad yellow bare skin around the eye (as contrasted with the whitish or grayish orbital skin in the Indian and the Turkestan birds) and distinguished the Burmese birds under a separate subspecies *xanthocyclus*. I have re-examined Anderson's specimen which is in the Indian Museum collection, and am able to confirm his description. Its measurements and other particulars are given in Table 3 below; the measurements of the race published by Oates and by Hartert are also included. These are the only measurements so far available for this race. Stuart Baker's<sup>1</sup> statement that the measurements are the same as in *S. d. decaocto* is not correct; the Burmese birds are much larger.

TABLE 3.

*Specimen of S. d. xanthocyclus in the Indian Museum, Calcutta.*

| Reg. No.                                       | Sex. | Locality.  | Date.     | Collector or Donor. | Measurements (mm.). |     |     |     |      |    |
|--|------|--|-----------|---------------------|---------------------|-----|-----|-----|------|----|
|  |      |  |           |                     | L.                  | W.  | Tl. | Tr. | C.   | X. |
| 9064   | (?)  | "Upper defile, Irrawady", about 40 miles below B h a m o (N. Burma). | Sep. 1868 | J. Anderson         | ..                  | 182 | 151 | 27  | (17) | 60 |
| Oates' measurements for the subspecies .. ..   |      |  |           |                     | 344                 | 165 | 140 | 25  | ..   | .. |
| Hartert's three specimens :—Wing 181-182.5 mm. |      |  |           |                     |                     |     |     |     |      |    |

*Vernacular Names.*—Manipuri (spoken in eastern Assam): *Khunu halamān* (Hindu) or *Khunu gurumān* (Mohammedan). Burmese: *Gyo-lin-pya*.

*Description.*—Sexes alike; according to some authors, female perhaps slightly smaller than male.

Compared to *S. d. decaocto*, the Burmese birds have the following characters:—Colour of both upper and lower sides much darker and more vivid. Under tail-coverts very dark gray. 'White' tip of outermost tail feather more gray and longer, being about 60 mm. long (*vide text-figs. 1c and 2c*). Black collar on neck slightly larger and perhaps more crescentic.

*Colours of Soft Parts.*—As in *S. d. decaocto*, except that the naked orbital skin is, in fresh specimens, yellow (instead of whitish or grayish) and is larger. In dried specimens the naked orbital skin is ochreous brown.

*Measurements (from a few examples) and Weight.*—Total length. 344 mm. Wing. 181-182.5 mm., once 165 mm. Tail. 140-151 mm. Tarsus

<sup>1</sup> Stuart Baker, E. C., *Fauna Br. India, Birds* (2nd ed.) V, p. 249 (1920).

25-27 mm. Culmen. 17 mm. Whitish tip to outermost tail-feather (along rachis). 60 mm. Weight. Not recorded.

*Distribution*.—Hartert<sup>1</sup> gives its distribution as: Burma, Shan States, Yunnan and Cochin-China. Stuart Baker<sup>2</sup> adds to this: "South and Central China and the Indo-Chinese countries", while Peters<sup>3</sup> adds: "eastern China (lower Yangtse valley and Fohkien)". I do not know on what authority Yunnan, Indo-China and eastern China have been included in the range of *xanthocyclus*. Neither Rothschild<sup>4</sup> gives it in his list of Yunnan birds, nor do Delacour & Jabouille<sup>5</sup> record it in their account of the birds of French Indo-China. The only record from China appears to be that of a bird with pale yellow eyelids recorded long ago by Swinhoe<sup>6</sup> from "Seuenhwafoo" in eastern China and which Newman<sup>7</sup> considered as belonging to the Burmese race because of its pale-yellow eyelids.

In Burma itself, it has been so far recorded from the upper and central regions north up to about 40 miles south of Bhamo (Anderson<sup>8</sup>), west in Thayetmyo and Arakan, and south to Pegu (Oates<sup>9</sup>). Stanford<sup>10</sup>, however, points out that Oates never got further south than Thayetmyo. Most observers consider it a rare bird in Burma, but according to Harington<sup>11</sup> it is common in dry zones.

Higgins<sup>12</sup> records it from the Manipur Valley (eastern Assam) where it is common. Hume<sup>13</sup> had previously noted that it is common in the Manipur basin, but is seen nowhere in the surrounding hills.

*Breeding*.—Breeds throughout the year (Stuart Baker<sup>14</sup>).

*Nest*.—As in *S. d. decaocto* (Stuart Baker<sup>15,16</sup>).

*Eggs*.—Average size: 29.6×24.1 mm. Maxima: 31.1×25.6 mm. Minima: 27.0×23.0 mm. (Stuart Baker<sup>17</sup>.)

*Habits*.—Frequents open spaces and cultivated areas, showing partiality towards proximity to human habitations. Harington<sup>18</sup>, however, says that it is essentially a jungle bird. Goes about singly, or in pairs or in small flocks (Oates, *loc. cit.*). Probably undertakes local migrations, but nothing is actually known about the subject.

*Call*.—Deeper than in the Indian bird; also, as it flies, it is said to have an almost hawk-like call quite different from its ordinary notes (Harington, *loc. cit.*).

<sup>1</sup> Hartert, E., *Vögel paläarkt. Fauna* II, p. 1497 (1920).

<sup>2</sup> Stuart Baker, E. C., *Fauna Br. India, Birds* (2nd ed.) V, p. 249 (1928).

<sup>3</sup> Peters, J. L., *Check-List Birds World* III, p. 92 (1937).

<sup>4</sup> Rothschild, Lord, *Novitat. Zool.* XXXIII, pp. 222-224 (1926).

<sup>5</sup> Delacour, J. & Jabouille, P., *Oiseaux l'Indochine Française* II, pp. 8-44 (1931).

<sup>6</sup> Swinhoe, R., *Proc. Zool. Soc. Lond.*, p. 446 (1870).

<sup>7</sup> Newman, T. H., *Avicult. Mag.* (N. S.) IV, p. 321 (1906).

<sup>8</sup> Anderson, J., *Anat. & Zool. Res. Yunnan Exped.* I, p. 666 (1879).

<sup>9</sup> Oates, E., *Stray Feathers* X, p. 235 (1887).

<sup>10</sup> Stanford, J. K., *Journ. Bombay Nat. Hist. Soc.* XL, p. 572 (1938).

<sup>11</sup> Harington, H. H., *Journ. Bombay Nat. Hist. Soc.* XVIII, p. 687 (1908).

<sup>12</sup> Higgins, J. C., *Journ. Bombay Nat. Hist. Soc.* XXXVII, p. 303 (1934).

<sup>13</sup> Hume, A. O., *Stray Feathers* XI, p. 299 (1888).

<sup>14,15</sup> Stuart Baker, E. C., *Nidification Birds Ind. Emp.* IV, p. 170 (1935).

<sup>16</sup> Stuart Baker, E. C., *Fauna Br. India, Birds* (2nd ed.) V, p. 249 (1928).

<sup>17</sup> Same as 14.

<sup>18</sup> Harington, H. H., *Journ. Bombay Nat. Hist. Soc.* XVIII, p. 687 (1908).

## III. SUMMARY.

1. The distinguishing characters of the three subspecies of the Ring-Dove *Streptopelia decaocto* (Frivaldszky) are discussed in detail, and their distribution critically examined on the basis of available data. A list of the specimens present in the collection of the Indian Museum, Calcutta, is given.

2. *S. d. decaocto* (Frivaldszky).—Its Indian range includes practically the whole of the country, except extreme eastern Assam where (Manipur Valley) it is replaced by *S. d. xanthocyclus*. The exact dividing line between the races *decaocto* and *xanthocyclus*, however, remains to be worked out.

3. *S. d. stoliczkae* (Hume).—Stuart Baker's (*Fauna Br. India, Birds*, 2nd ed., V, p. 248, 1928) inclusion of this subspecies under *decaocto* is not justified. The Holotype of *stoliczkae* is in the Indian Museum, Calcutta. This subspecies is found in Eastern Turkestan and N. W Kansu (China) and probably a little further north-east.

4. *S. d. xanthocyclus* (Newman).—This subspecies is found in the Manipur Valley (eastern Assam), Central Burma and parts of Upper Burma. (Not found in Yunnan and Indo-China.) Its exact northern and eastern limits have yet to be worked out.