

## 世界のサシバ属

久 貝 勝 盛

(沖縄県立博物館)

Genus *Butastur* in the World

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1991年1月から3月までの3ヶ月間、県人材育成財団の御好意で国外研究員として米国スミソニアン研究所へ派遣された。その間、スミソニアン自然史博物館(73個体)をはじめ、ニューヨークのアメリカ自然史博物館(78個体)、デラウェア自然史博物館(19個体)、シカゴ自然史博物館(23個体)、ハーバード大学自然史博物館(46個体)、イギリスのトリンという町にある大英博物館のランチである動物博物館(161個体)で世界のサシバ属(アフリカサシバ、メジロサシバ、チャバネサシバ、サシバ)、約400個体の標本調査をした。その標本調査をもとにして、世界のサシバ属の分布地図を作成した。また、それぞれの種の翼長、脚の長さ、嘴の長さ、尾羽の長さ等を比較し、さらに Brown, L., D. Amadon, 1968. Ben King, 1975. John Mackinnon, 1991. Dodolphe Meyer De Schauensee, 1989. Lynx Edicions Bird Life International, 1994等を参考にしてそれぞれの形態的な特徴や生態をまとめた。

The author was dispatched to the Smithsonian Institution, Washington D.C. as a overseas researcher sponsored by Okinawa Prefectural Government Human Resources Development Foundation from January to March, 1991. The author has examined specimens of the Genus *Butastur* at the following museums: National Museum of Natural History, Smithsonian Institution, Museum of Comparative Zoology, Harvard University, American Museum of Natural History in New York, Chicago Museum of Natural History, Delaware Museum and National Museum of Natural History, British Museum.

The author, at the same time, has consulted the references; Leslie Brown, 1968, Ben

King, 1975, John Mackinnon, 1991 and Dodolphe Meyer De Schauensee, 1989 and made the following distribution maps of the Genus *Butastur*.

#### Species Within the Genus *Butastur*

There are four species in the Genus *Butastur*; *Butastur indicus*, *Butastur teesa*, *Butastur liventer* and *Butastur rufipennis*. Here, the author will introduce briefly the features of the Genus *Butastur* and the general characteristics of four species consulting above mentioned references.

#### 1 Genus *Butastur*

Medium-sized hawks. Wings are long and pointed. The tail is medium length. Bill is rather weak, the basal portion and cere brightly colored. Tarsi not long; reticulate, but with a row of larger polygonal scales down the front. Colour pattern subdued, rufous brown, grey and whitish; young not very different from adult.

The position of this Genus is puzzling. The tarsal covering suggests that it may be an early offshoot of some kite, harrier or snake hawk stock, though it is little specialised. The voice of all species is buzzard-like.

*Butastur* is found in Africa and tropical Asia. The four species form essentially a super-species; though there may be a little overlap between three of them. One nests in Japan and North Asia, but is highly migratory (L.Brown and D.Amadon 1968).

#### (1) *Butastur teesa* (White-eyed Buzzard)

RANGE: SE Iran, Afghanistan and Pakistan through India and Nepal to Burma and Tenasserim. Found in open dry country and cultivation.

FIELD CHARACTERS: In flight, upper wing coverts and patch at base of primaries paler than rest of wing. Adult bird is like Gray-faced Buzzard-eagle, but has white eyes; white patch on nape; dark brown upper tail coverts; rufous-brown to tail with no bands. From *Butastur liventer* it is distinguished by its black throat streaks, barred under side and lack of chestnut in the wing. Juveniles like adult but have a whitish head and

pale under sides, with a rufous tail.

VOICE: It is said that 'Pit-Weer, Pit-Weer', repeated, very like the cries of *B. liventer* and *B. indicus*.

GENERAL HABITS: In india, it is a common bird of dry, open country, thin woodland, or of cultivated areas, usually in lowlands, but occasionally as high as 300 meters, such as Himarayas. It perches on trees, telegraph poles and even on wires, and from them makes short circling flights over the open ground, with a few rapid wing beats followed by a short glide. It flies low above the ground and sweeps upwards on to the next perch looking rather like a large accipiter. It is in some areas decidedly shy and will not allow close approach. According to L. Brown, 1968, an adult has been seen to squat on telephone wires when approached in the intruder reaction posture.

It does most of its hunting from perches, dropping to the ground to kill, but it also spends some time walking about on the ground in a purposeful way, especially in such areas as recently burned ground (L. Brown and D. Amadan, 1968).

FOOD: Small mammals, insects, lizards, frogs snakes, crabs and occasionally birds, with a preference for insects and lizards. All prey is taken from the ground. Hunts from perch, making short flights to ground to capture prey.

BREEDING HABITS: Breeding season is February to May. In the early breeding season the birds are very noisy, continually calling from perches. Single birds or pairs may also soar over territory, calling continually. It may constitute display.

The nest are built by pair 8~12 meters up tall tree, in open country and very often solitary, but sometimes in a grove or a village. They are slight structures loosely made of sticks, without lining, from eight to eithteen inches across by three to four inches deep, with an ill-defined depression in the center. Both sexes build, and nest construction may occupy a long time. A new nest appears tobe built each year.

Two or usually three eggs are laid, broad ovals, fine and close-textured, smooth and almost glossy, bluish or greyish white, often unmarked, but sometimes with reddish spots and undermarkings of gray. Incubation by female only, reported to last 19 days, but probably much longer. Chicks have white down, buff-colored on back. Both parents feed

young. According to Handbook of the Birds of the World Vol. 2, 1994, fledging and dependency periods unrecorded. Eggs are laid in India from February to April, occasionally may, usually February - March in the North, tending to be later elsewhere. More observations are needed on the breeding cycle (L. Brown and D. Amadon 1968).

MOVEMENT: Mainly sedentary. Some local movements in N Pakistan, in region of border with Afghanistan. Vagrant to Tibet (Handbook of the Birds of the World Vol. 2, 1994).

STATUS AND CONSERVATION: Not globally threatened. Common to fairly common locally; abundant in Pakistan (Handbook of the Birds of the World Vol. 2, 1994).

(2) *Butastur liventer* (Rufous-Winged Buzzard Eagle)

RANGE: Burma, SW Yunnan to Indochina and Malay peninsula, Java, Sulawesi.

FIELD CHARACTERS: The bright chestnut tail with four narrow black bars and black terminal band and wings distinguish it from all other species in its range, in all plumages. Slender, rather pointed wings and long, slender, square cut tail of Genus *Butastur* distinctive.

VOICE: According to L. Brown, 1968, 'Chip-Kweeeo, Chip-Kweee', or 'Hiu-Keek', also 'Hieek-Hieek' very like that of other members of Genus; noisy at times.

GENERAL HABITATS: It is found in open dry forest near rivers or swamps. In such places it perches singly on a tree branch or a post, sitting for long periods at times, and making short flights from one perch to another, or dropping on prey. Generally, hunts from tree perches near open water or in open cultivated patches.

FOOD: Small mammals, frogs, lizards, crabs and insects.

BREEDING HABITS: It builds its nest often in solitary trees in paddy fields, not very high, and usually inside the tree. They may rarely be found also in tracts of jungle.

Breeding begins in March and April; the birds are noisy at the beginning of the breeding season like their congeners. Two or three eggs are laid, indistinguishable from those of *Butastur teesa*, bluish white, unmarked, or spotted with brown and grey. Laying date: Java, February; Celebes, June. No other details are available. (Coomans de Ruiter, L., 1947. *Limosa* 20, pp. 213-229).

MOVEMENT: A resident, non-migrant species.

STATUS AND CONSERVATION: Not globally threatened. Throughout most of range fairly common to uncommon, but local; rare in SS china.

(3) *Butastur Rufipennis* (Grasshopper Buzzard Eagle)

RANGE: Senegambia E to Ethiopia, migrating S to Sierra Leone. Cameroon. NE Zaire, Kenya and N Tanzania. Found ranges from woodland and forest edge to arid thorn savanna; sometimes on edges of swamps and over burnt ground.

FIELD CHARACTERS: In the field it is unmistakable because of the clear rufous patch on the wings at the carpal joint, and by reason of its buoyant flight. Juvenile with head and neck also rufous and darkly streaked below. Sex indistinguishable. At rest on a perch it looks a little like a kite, *Milvus migrans*, but the very prominent yellow cere and eye and black wing tips and tail, contrasting with generally rufous plumage, are good field marks (L. Brown and D. Amadon, 1968).

VOICE: A loud repetitive yelping 'ki-ki-ki-ki-ki-kee' with variations. Far from being completely mute, as hitherto supposed, this is a very noisy bird that calls frequently in breeding quarters, but not on migration in winter quarters. (L. Brown and D. Amadon, 1968).

GENERAL HABITATS: According to L. Brown, within its range this species is migratory, breeding in the northern part between about latitude 9° N to 15° N (though not in the whole of that range) between March and May, remaining in the north for rainy season, and migrating south about September. In West Africa the pattern appears clear,

the birds moving south in September-October, reaching about latitude 8° N in West African savannahs, but in some years reaching farther south than in others, and not always found in apparently suitable localities. In East Africa the movements are much less clear, but it is found in Eritrea from June to October, passes through Somalia, probably moving south, in October, and occurs in Kenya and Tanganyika as far south as Morogoro (7°) between October and February, frequenting arid thornbush areas, and so avoiding the worst of the equatorial short rains season, from October to December. In West Africa it is far more numerous generally than in East Africa, often seen in numbers together, while in East Africa, only a few are seen at any time, not more than ten together.

In its winter or dry season, non-breeding quarters, it is generally found in areas of savannah, grassland, of cultivation. On its way to winter quarters it appears in numbers, especially attracted in flocks to fires, newly burnt areas and insects emergences; also follows flocks of egrets or herds of game for the insects they flush. Later it takes up a temporary territory, and the same bird may be seen frequenting the same patch of bush or cultivation, perching on the same trees day after day.

**FOOD:** Mainly insects, especially grasshoppers, together with mantids, termite and ant alates, beetles, stick insects and spiders. Will take some other arthropods and a few small birds, reptiles and rodents (Handbook of the Birds of the World, Vol. 2)

**BREEDING HABITS:** Laying during rainy season: March-April across Sahel zone. Probably disperses to breed in territorial pairs. Builds substantial stick nest in fork of tree, often rather low down and lined with green leaves. 1-3 eggs: further details unrecorded (Handbook of the Birds of the World, Vol. 2).

**MOVEMENTS:** A widespread and common intra-African sub-Saharan migrant, moving across 22° latitude, S to the border of Guinea woodland and forest during the October-March dry season. When fires and grazing reduce cover, then departing N with first heavy rains to breed in semi-arid steppe during March-September. Also non-breeding migrant to E Africa, moving N through Taru Desert of lowland Kenya in January-March and through NW Somalia in September-October. Well studied only on non-breeding range of W Africa (Handbook ).

STATUS AND CONSERVATION: Not globally threatened. Locally abundant in several areas of W Africa during dry season, outnumbering all other raptors but *Mulvis migrans*. Vulnerable to overgrazing and drought in Sahel, but nomadic to take advantage of local situations of plentiful prey. Recent decline in non-breeding visitors to Kenya. Not known to be affected by pesticides, but may be vulnerable to spraying for locusts (Handbook ).

(4) *Butastur indicus* (Grey-faced Buzzard Eagle)

RANGE: NE China to Amurland and Ussuriland. Mainland of Japan, South of Akita. Winters from S and SE China and Taiwan through Indochina and Malay Peninsula to Greater Sundas. Philippines, Sulawesi and New Guinea.

FIELD CHARACTERS: The feathers of the male Buzzard-eagle are rufous-tinged, and the head is grayish brown. The feathers and head of the female differ from the male in that they are dark brown (Kiyozumi 1952, Yamashina 1980). The female bird is slightly larger than the male. The iris of the juvenile bird is dark blue or bluish brown and changes into reddish yellow as the young bird grows older. Also, the vertical streaks on the breast of the juvenile change into lateral streaks after the young bird molts.

VOICE: 'Pi-kwee, Pi-Kwee', the second syllable accented.

GENERAL HABITS: In breeding quarters it frequents wooded country, often mountainous, with open spaces in which it can hunt. It is during the autumnal migratory season that the birds stop in large flocks at the islands of Okinawa. The first records of *Butastur indicus* in the Okinawa Islands are found in Cyuzan Denshinroku (1721). Scientific records are noted in Ishigakijima Kiko-hen written by Mr. Takuji Iwasaki (1927). In breeding quarters pairs occur well spread out, but on migration it becomes gregarious, spreading out again over suitable country when winter quarters are reached. In winter quarters it frequents paddy fields and plains with scattered trees.

Prefers low mountains, hills and foothills to absolutely flat land and mixed woods to unvaried deciduous woods: generally favours evergreen trees for nesting and perching in: nests in woods.

FOOD: Mainly frogs, reptiles (snakes, lizards), rodents and possibly birds. Often hunts from perch, typically at top of dead tree, waiting to spot prey and dive down on it; forages mainly in morning and evening.

BREEDING: Laying May~June. Fairly small nest of twigs and sometimes sedges, built in tree, normally conifer, 4~14 meters above ground; lined with bits of bark, grass and green leaves, which continue to be added throughout breeding. 2~4 eggs; incubation about 30 days; fledging about 5 weeks; in Ussuriland chicks start to hunt for themselves in second half of August.

MOVEMENTS: It is the most strongly migratory of the Genus; flocks of thousands of birds sometimes gather. Sets off for winter quarters mainly in the end of September or upto mid-October from Japan. Major migration route along Pacific coast of Japan, through Ryukyu Island, especially the Miyako Islands to Taiwan and S to Philippines.

STATUS AND CONSERVATION: Size and trends of populations very poorly known. Not uncommon in Japan, nor perhaps in Ussuriland, where distances of 4~5km between pairs are normal in large river valleys; however, Russian population apparently undergoing major decline; up to 1000 migrants shot annually on Twaiwan. Abundant on migration in various parts of Japan; one of commonest migrant raptors in Thailand (Handbook of the Birds of the World Vol. 2)

## 2 Morphological Comparisons of the Four mentioned Species

Morphological comparisons of the Genus *Batasur* have conducted by checking each specimens and consulting abovementioned reference books.

### (1) *Butastur teesa* (White-eyed Buzzard)

Adult: Striking white eye and rufous brown upper side of tail. White throat with wide dark central stripe. Tail is narrow, rather long; square at extremely. Six or seven narrower blackish bands, obscure basally, sometimes indistinct or absent. Wing coverts brown, paler than back, mottled and barred with white. Wing quills brown-rufous brown,

edged grey, largely white on inner webs, broadly tipped and narrowly barred black (on inner webs). Chin and throat white with a black. Sides of head, neck, and breast brown with black shafts. Lower breast brown, barred buffywhite becoming wholly buff or pale rufous on under-tail coverts and things. Under-wing coverts white toward tip, brown and white at base of wings, axillaries brown. Frequently conspicuous when bird is perched. Base of bill and cere yellow, legs and feet yellow-orange. Wing (male) 278-296, (female) 294-314, tail 151-169, tarsus 58-61 wing span 800-825.

Immatures have a broad white forehead and eyebrow; feathers of crown and nape brown, edged paler, streaked black. Feathers of upper parts brown, more or less edged paler. Slender, pointed wings, long narrow, aquaretipped tail and rather long legs help identify this Genus. Similar to adult, but paler on head and less heavily marked below.

Downy yuong-white, buffy on black, with a buffy circle on crown (L. Brown and D. Amadon 1968).

(2) *Butastur indicus* (Gray-Faced Buzzard-Eagle)

Adult: Tail brown with a subterminal and three dark bars. Leading edge of wing white. Upper-wing coverts brown, tinged rufous, the greater edged white and indistinctly barred darker brown. Wing quills blackish, paler and more rufous on inner webs, which are barred back. Chin and throat white, with a central and two lateral blacks, more or less distinct. Breast pale rufous brown to dark brown, spotted and barred white. Sides of head blackish; upperparts brown, streaked and barred blackish; underparts buff barred or washed rufous and streaked black. Tail quills below pale grey, broadly barred darker on inner pairs. Wing quills below white to pale pinkish grey, barred black on inner webs, primaries tipped black. Eyes bright yellow, gape and cere orange-yellow. Wing (male) 315-325, (female) 322-336, tail 190-193, tarsus 55-59. Weight (male) 375-433.

Immature: Underparts are barred vertically. Soars in circles with flat wings. Below white to rufous white, streaked on breast and barred on abdomen and flanks with rufous brown (L. Brown and D. Amadon, 1968).

(3) *Butastur liventer* (Rufous-Winged Buzzard-Eagle)

Adult: Small, buteo-like raptor with rufous wings and tail, tipped greyish, with a

broad subterminal and two or three other broken blackish bands. Back and upperwing coverts paler greyish brown, tinged rufous; darker and more rufous on upper-tail coverts and rump. Edge of wing white, outer and primary coverts rufous, tipped brown. Wing quills bright rufous chestnut, white basally on edges of inner webs, barred and tipped black. Innermost secondaries greyish brown. Below ashgrey, tinged brown, with darker shafts obscurely barred white on belly, becoming white on vent and under-tail coverts. Eye yellow, or golden; cere and gape yellow; legs and feet dull yellow. Wing (male) 261-275, (female) 264-280, tail 139-145, tarsus 62-66.

Immature: It has rufous buff head, neck and underparts. Like adult but head brown with whitish eyebrows and forehead; throat white. Chin and throat white, brown at the sides. Below pale gray with fine black shaft streaks, becoming white on things and under-tail coverts. Eye, legs and cere yellow.

Downy young: brownish; eye dark grey, base of bill, cere and legs, yellow (L. Brown and D. Amadon, 1968).

(4) *Butastur rufipennis* (Grasshopper Buzzard Eagle)

Adult: Rufous wing-coverts and underparts distinctive at all ages. Sexes indistinguishable. Tail greyish, with faint brown bars and a subterminal band. Greater coverts and primaries light rufous, the latter back-tipped, forming a conspicuous reddish patch when in flight. Secondaries basally rufous, terminally dark brown, tipped white. Chin and throat white or buff, with a median and two other black streaks on either side of throat. Under parts varying degrees of rufous, the breast with narrow shaft streaks of black, the belly and thighs unmarked. Axillaries grey-brown, spotted white or buff, underwing coverts and wing lining white. Eye gamboge yellow, legs and cere deep straw yellow, bill with yellow base and black tip, claws black. The female is only slightly larger than the male.

Immature: With head and neck also rufous and darkly streaked below. With age the crown assumes the same colour as the back, the tail acquires bars, and edging of rufous on the mantle and coverts becomes less distinct. Downy young undescribed. Wing (male) 290-311, (female) 305-330, tail (male) 160-175, (female) 172-182, tarsus (male) 55-58, (female) 57-61, weight 2 females 305, 408 (L. Brown and D. Amadon 1968).

### 3 The Specimens examined and name of the museum

#### 1) Smithsonian institution

#### *Butasutur indicus* (Adult, male)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	112685	32.3	18.7	20.40	6.2	Sulauesi	1886, 12, 1
2	114572	33.0	20.5	19.22	6.4	Fusan	1984, 4, 13
3	403981	31.3	19.2	21.00	6.6	Seoul	1948, 4, 18
4	314851	32.3	18.5	21.33	6.7	Culion	1892, 2, 16
5	161119	32.1	19.1	19.90	6.4	Siquijior	1888, 2, 14
6	95911	32.0	19.9	19.37	6.4	Mergui Ar.	1877, 1, 21
7	212619	32.3	19.3	18.82	6.3	Seoul	1909, 11, 7
8	161120	31.0	18.5	21.00	6.4	Mindanao	1887, 2, 24
9	86146	31.1	20.5	21.00	6.5	Luzon	1881, 11, 10
10	476443	31.7	20.3	-----	6.8	Taiwan	-----
Average		31.88	19.45	19.61	6.47		

#### *Butastur indicus* (Adult, female)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	306730	33.3	19.7	20.00	6.5	Thailand	1925, 11, 15
2	306731	32.4	18.5	20.08	6.5	Thailand	1926, 1, 1
3	114571	33.3	19.8	21.35	6.2	Unknown	1884, 4, 13
4	1801331	33.3	19.6	20.31	6.5	Burma	1903, 12, 17
5	16116	32.5	19.4	21.00	6.5	-----	-----
6	88707	33.0	19.8	18.20	6.5	Japan	1882, 7, 19
7	383213	32.2	19.2	21.65	6.7	Samar	1945, 3, 18
8	161120	31.0	18.5	21.00	6.4	Mindanao	1903, 12, 9
9	403979	32.0	20.2	21.95	6.5	Seoul	1948, 5, 12
10	200790	32.5	21.2	21.55	6.4	Basilan	1906, 1, 28
11	483576	33.4	22.5	20.23	6.0	Taiwan	1961, 4, 19
Average		32.8	19.9	20.59	6.4		

*Butastur indicus* (Juvenile Male)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	303064	30.6	18.2	19.70	6.4	China	1924, 6, 16
2	483577	31.5	18.1	19.60	6.6	Taiwan	1961, 4, 19
3	114574	31.0	19.8	21.00	6.4	Korea	1884, 4, 30
4	161122	32.1	19.6	20.10	6.3	Basilan	1887, 11, 5
5	377834	31.1	19.5	21.26	6.8	Siquijior	1945, 3, 5
6	314853	31.8	20.2	15.49	5.9	Siquijior	1891, 2, 26
7	191865	31.3	18.8	20.65	6.2	Cagayan	1904, 2, 26
8	336811	31.3	18.0	18.85	6.3	Thailand	1937, 4, 2
9	114755	----	----	19.45	6.2	Japan	1887, 7, 29
10	88708	----	----	-----	----	Japan	1880, 7, 22
Average		31.34	19.03	19.58	6.36		

*Butastur indicus* (Juvenile female)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	114575	33.0	20.5	19.94	6.8	Korea	1884, 4, 30
2	114573	31.5	19.4	21.20	6.8	Korea	1884, 4, 30
3	114576	33.5	19.7	22.20	6.6	Korea	1884, 4, 30
4	201816	32.3	19.3	20.09	6.5	Luzon	1907, 3, 13
5	161121	33.0	22.7	21.20	6.7	Negros	1888, 2, 8
6	161118	31.5	19.4	-----	6.5	Siquijok	1888, 2, 14
7	114756	----	----	18.00	6.3	Japan	1887, 7, 29
8	475180	29.7	18.4	20.00	6.3	Taiwan	1961, 4, 19
9	172968	31.9	18.8	19.40	6.3	Burma	1900, 1, 12
10	212618	32.8	20.0	20.66	6.8	Luzon	1909, 10, 25
11	96412	31.0	19.2	20.55	6.3	Japan	1877, 3, --
12	76943	31.7	19.2	19.66	6.5	Greenland	1800, -----
13	303065	30.7	18.6	20.58	6.5	Shanghai	1924, 6, 16
14	403980	31.8	19.8	20.86	6.7	Korea	1947, 4, 27
15	475181	32.4	19.8	20.70	6.5	Taiwan	1961, 4, 23
16	333656	31.1	18.4	20.29	6.4	Thailand	1933, 12, 4
Average		31.86	19.55	20.07	6.5		

*Butastur teesa* (male)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	390109	28.3	15.9	21.75	6.7	India	1947, 2, 6
2	408022	----	17.8	19.21	6.3	Nepal	1949, 11, 25
3	399827	29.5	19.4	20.00	6.9	Pakistan	1945, 11, 22
4	399830	29.5	19.7	21.01	6.9	Pakistan	1945, 12, 9
5	483845	30.0	19.3	20.85	7.0	Pakistan	1960, 1, 9
Average		29.33	18.42	20.56	6.8		

*Butastur teesa* (Female)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	099423	28.3	18.5	21.50	6.0	India	-----
2	099424	27.3	18.3	18.35	6.0	India	1869, 12, 11
3	146877	29.7	18.7	18.10	5.8	India	-----
4	399828	28.8	17.5	20.35	6.4	Pakistan	1945, 11, 9
5	399829	30.0	19.0	21.55	6.2	Pakistan	1945, 11, 5
6	483846	29.8	19.8	21.61	6.2	Pakistan	1960, 1, 9
7	483847	27.4	16.9	19.70	6.3	Pakistan	1960, 3, 22
Average		29.0	18.3	20.80	6.28		
No. 099423, 099424 and 146877 are sex unknown.							

*Butastur rufipennis* (Male)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	216337	30.5	18.5	16.25	6.3	Uganda	1910, 2, 13
2	216338	29.3	16.6	18.30	6.2	Sudan	1910, 2, 18
3	216339	30.3	17.6	19.20	6.3	-----	-----
4	216340	29.7	17.7	17.43	6.3	Uganda	1910, 2, 14
5	458208	32.4	18.6	19.05	6.7	Ghana	1952, 6, 1
Average		30.44	17.8	18.05	6.36		

*Butastur rufipennis* (Female)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	216335	30.3	17.5	20.04	6.5	Sudan	1910, 1, 13
2	216341	31.1	20.0	19.11	6.7	Sudan	1910, 2, 27
3	462640	29.0	16.5	18.20	6.2	Kenya	1956, 11, 4
4	519092	30.4	18.2	20.00	6.3	Kenya	1966, 2, 1
5	519093	31.8	19.0	19.65	6.3	Kenya	1966, 2, 1
6	519094	29.0	19.4	19.27	6.7	Kenya	1966, 2, 1
Average		30.27	18.43	19.38	6.45		

*Butastur liventer* (Male)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	335455	25.8	14.3	19.95	6.8	Chiengmai	1935, 9, 24
2	335965	26.4	14.5	20.10	6.8	Chiengmai	1936, 1, 4
3	349926	26.2	13.4	20.80	5.9	Ban Saleng	1936, 5, 1
Average		26.13	14.07	20.28	6.5		

2) Museum of Comparative Zoology, Harvard University

*Butastur indicus* (Adult male)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	69834	31.2	20.6	19.90	----	Fusan, Korea	1915, 1, 14
2	57561	32.5	22.7	19.20	----	Philippines	-----
3	275030	31.5	20.2	19.00	----	Suwon, Korea	1884, 4, 30
4	276854	32.5	21.6	19.00	6.8	Izu island	1947, 5, 1
5	275027	30.5	20.8	19.30	6.9	Suwon, Korea	1946, 4, 6
6	41228	31.5	22.0	19.65	----	Philippines	1887, 11, 4
7	275029	31.5	20.5	19.20	----	Suwon, Korea	1946, 4, 13
8	53210	31.5	20.5	19.00	----	Halviahena	1917, 2, --
9	132490	32.0	19.0	18.7	6.3	Foochou	1909, 2, --
10	92660	32.2	19.8	19.7	6.9	Balabac	1893, 12, 22

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
11	132486	32.0	19.4	18.7	----	Shaweishan	1910, 10, 20
12	132489	30.6	19.0	19.8	----	Fukien	1904, 3, 26
13	132482	33.1	20.6	19.9	----	Kiangsui	1910, 10, 20

Average            33.73   20.5     19.31     6.91

No. 69834, 57561 and 53210 are sex unknown

*Butastur indicus* (Adult female)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	277592	34.0	20.5	19.5	----	Negros	1950, 1, 15
2	275028	32.5	20.5	19.9	----	Suwon, Korea	1946, 4, 6
3	92659	31.3	21.0	21.1	----	Labuan	1893, 11, 3
4	194020	32.5	20.0	19.9	----	Mindro	1937, 4, 3
5	41229	32.8	21.5	21.1	----	Negros	1888, 2, 19
6	196008	32.0	21.8	19.5	----	Siam	1937, 2, 26

Average            32.52   20.88     20.16

*Butastur indicus* (Juvenile male)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	37354	30.5	21.0	19.7	----	-----	1899, 6, 1
2	132485	30.7	20.5	20.1	----	Shawei, China	1910, 10, 20
3	11189	30.6	20.4	20.4	----	Malay	-----

Average            30.6     20.66     20.07

No. 11189 is sex unknown

*Butastur indicus* (Juvenile female)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	132488	31.5	20.1	19.7	----	Fukien	1898, 4, 26
2	132484	32.5	20.8	21.0	----	Kishan	1910, 10, 6
3	37355	30.5	19.5	19.0	----	Ishigaki Is.	1899, 3, 23
4	132483	31.0	20.0	20.0	----	Shaweishan	1908, 5, 30

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
5	194021	32.5	21.5	19.3	----	Mindro	1937, 1, 3
6	194019	33.0	22.5	21.6	----	Laguna	1937, 1, 29

Average      31.83   20.73   20.09

*Butastur teesa* (Male)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	265567	28.5	16.8	21.25	----	Burma	1938, 2, 3
2	278133	28.2	19.0	20.03	----	Pandwr	1948, 3, 4
3	25239	29.0	17.6	-----	----	Plavis, India	-----
4	24627	29.0	18.0	18.90	----	Koolo, India	-----
5	33605	30.1	18.5	-----	----	North Beugal	-----
6	152264	29.2	18.5	18.50	----	Kesbafur	1931, 3, 5
7	24701	27.3	18.5	19.75	6.8	Ambala, India	-----
8	25007	27.0	18.5	19.40	7.2	Koolo, India	-----
9	24628	28.3	18.4	20.90	7.0	Koolo, India	-----
10	33633	29.0	18.5	19.2	7.47	Etawah, India	1871, 12, --
11	24626	----	19.0	19.4	7.13	Koolo, India	-----
12	24700	----	20.0	19.0	----	Ambala, India	-----

Average      28.56   18.44   19.63   7.12

No. 25239, 33605, 152264, 24701, 25007, 24628, 33633, 24626 and 24700 are sex unknown.

*Butastur teesa* (Female)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	92658	30.0	19.7	21.0	----	India	1893, 2, --

Average      30.0   19.7   21.0

*Butastur rufipennis* (Female)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	133184	29.5	18.20	18.80	----	Nairobi	1918, 1, 28

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
2	168530	30.5	19.30	18.90	----	Uganda	1933, 12, 2
Average		30.0	18.75	18.85			

*Butastur liventer* (Male)

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	93711	27.9	14.7	19.9	----	Java	-----
Average		27.9	14.7	19.9			

3 American Museum of Natural History

*Butastur indicus*

No.	Specimen No.	Adult or Juvenile	Sex	Locality	Date
1	417517	Juvenile	M	China	1901, 5, 14
2	534798	Adult	F	Ryukyu Island	----, 10, 25
3	534797	Adult	----	Amami-oh-shima	1904, 11, 14
4	534794	Juvenile	F	Amami-oh-shima	1904, 12, 28
5	534801	Adult	F	Amami-oh-shima	1904, 12, 24
6	734792	Juvenile	F	Okinawa	1902, 3, 14
7	534791	Adult	M	China	1911, 3, 30
8	534863	Juvenile	F	Amami-oh-shima	1905, 1, 26
9	534800	Juvenile	F	Amami-oh-shima	1904, 12, 3
10	205246	Subadult	F	Ovbi Province	1921, 8, 11
11	534793	Adult	M	Ryukyu	-----
12	468369	Adult	F	Ishigaki	1952, 10, 29
13	417515	Adult	M	Chefoo	1899, 4, 1
14	96707	Adult	M	Korea	1912, 5, 24
15	534796	Adult	M	Amami-oh-shima	1905, 1, 20
16	534795	Juvenile	M	Amami-oh-shima	1905, 1, 18
17	534802	Juvenile	F	Amami-oh-shima	1905, 1, 23
18	295870	Juvenile	F	Manila, Luzon	1913, 12, 21

No.	Specimen No.	Adult or Juvenile	Sex	Locality	Date
19	93557	Adult	M	Luzon	1903, 3, 4
20	459062	Adult	M	Lamao,Bataan	1947, 12, 3
21	142968	Adult	----	Fukien,China	1912, -----
22	417519	Subadult	M	China	1912, 5, 10
23	31291	Adult	M	-----	1910, 10, --
24	295871	Adult	M	-----	1915, -----
25	93558	Adult	F	Sorsogon,Luzon	1903, 3, 10
26	290393	Adult	F	Pokho (Lookay)	1929, 12, 23
27	417516	Juvenile	M	China	1901, 5, 10
28	459060	Juvenile	M	Bataan,Phili.	1985, 11, 2
29	31290	Juvenile	M	Caviti,Phili.	1910, 12, --
30	534809	Juvenile	M	Laguna	1895, 1, 10
31	31292	Juvenile	F	Cavite,Phili.	1910, 12, 10
32	203128	Adult	F	Tenaserium	1924, 1, 23
33	461571	Adult	M	Taipei,Taiwan	1956, 3, 22
34	416971	Juvenile	M	Laos	1932, 2, 11
35	90437	Adult	M	Negros	1898, 3, 9
36	161115	Juvenile	F	Cebu,Phili.	1888, 3, 7
37	161117	Adult	F	Siquijor,Phili.	1888, 2, 25
38	534813	Subadult	F	Mindanao	1887, 10, 25
39	534814	Juvenile	----	Basilan,Phili.	1889, 11, 18
40	534815	Juvenile	M	Philippines	-----
41	96144	Adult	F	Palawan	1907, 12, 5
42	534807	Adult	M	Luzon,Phili.	-----
43	96148	Adult	----	Palawan	1907, 4, 15
44	534812	Adult	F	Snimarg,Phili.	1888, 2, 1
45	90438	Adult	F	Negros,Phili.	1902, 2, 19
46	459061	Adult	M	Bataan,Phili.	1947, 12, 17
47	534811	Juvenile	M	Palawan	1888, 1, 3
48	534810	Adult	F	Palawan	1887, 11, 8
49	96145	Adult	M	Palawan	1907, 12, 20

No.	Specimen No.	Adult or Juvenile	Sex	Locality	Date
50	96147	Juvenile	M	Palawan	1907, 10, 7
51	96146	Juvenile	M	Palawan	1907, 12, 7
52	534820	Juvenile	----	Labuan, Borneo	1887, 11, --
53	534823	Juvenile	F	Benkoken, Borneo	1885, 11, 2
54	648226	Adult	F	Batu Patong, Bor.	1952, 12, 12
55	534824	Juvenile	M	Benkoken, Borneo	1885, 10, 22
56	534825	Adult	M	Benkoken, Borneo	1885, 11, 14
57	534827	Juvenile	M	Tampassuk, Borneo	1886, 2, 17
58	534833	Adult	F	Sulu Is.	1883, 12, 25
59	534822	Adult	F	Labuan	1887, 12, 29
60	49715	Juvenile	----	-----	-----
61	534825	Adult	F	Kina Balw, Borneo	1887, 3, 30
62	534831	Adult	F	Curshome Call	1894, 10, 21
63	534816	Adult	M	Talsut Islands	1897, 4, 22
64	534819	Adult	M	Labuan Borneo	1885, 12, --
65	648225	Adult	M	Pamain	1949, 11, 8
66	534818	Adult	F	Labuan, Borneo	1885, 11, --
67	534817	Adult	M	Celebes	1938, 11, --
68	534829	Subadult	----	Celebes	1938, 11, --
69	298320	Adult	F	N, Celebes	1938, 11, --
70	783122	Adult	M	Celebes	1938, 11, --
71	783123	Subadult	----	Celebes	1938, 11, --
72	534832	Subadult	----	Moluccas	1894, 11, 20
73	534830	Adult	----	Celebes	1894, 10, 25
74	534828	Adult	----	N, Celebes	1938, 11, --
75	298319	Adult	F	N, Celebes	1938, 11, 13
76	534805	Adult	F	Shomotsuke, Japan	-----
77	534804	Adult	F	Yakushima, Japan	1904, 10, 25
78	534799	Adult	F	Japan	1904, 11, 10
79	534808	Adult	M	Yokohama, Japan	1881, 10, 4
80	534806	Adult	M	Shimotsuke, Japan	-----

*Butastur teesa*

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	534787	30.2	17.7	19.0	6.7	-----	1938, 11, --
2	344154	30.8	21.0	20.20	6.9	SW Mysore	1939, 11, 29
3	534789	28.8	18.5	19.5	7.2	-----	1938, 11, --
4	98950	30.3	19.0	19.5	6.2	-----	1938, 11, --
5	448638	30.2	20.6	21.2	6.8	Pakistan	1931, 3, 1
6	776482	31.3	22.1	21.5	6.8	Boniberg	1938, 1, 23
7	448636	29.4	19.7	20.0	7.3	Pakistan	1931, 2, 14
8	776679	28.9	18.2	21.0	6.8	Pakistan	1946, 12, 19
9	534784	30.1	20.5	21.0	6.8	Pakistan	-----
10	534776	28.9	19.2	21.0	7.5	Panjab	-----
11	534783	29.8	19.8	20.3	7.3	Scinde	1890, 5, 28
12	534779	30.3	18.6	19.5	6.6	India	-----
13	534782	29.4	19.3	21.5	6.9	Hyderabad	1887, 2, 24
14	534781	28.2	----	19.0	7.1	India	1893, 2, 1
15	776680	29.3	17.3	19.0	6.7	-----	1847, 12, 11
16	534788	----	----	18.0	6.8	-----	-----
17	534775	28.0	18.4	21.0	6.8	India	-----
18	461934	28.9	19.3	18.0	6.4	Bombay, India	1938, 1, 26
19	534785	26.8	18.6	19.1	6.1	-----	-----
20	534778	29.1	18.4	20.8	6.8	Nepal	-----
21	461925	29.6	19.3	20.0	6.7	India	1946, 2, 21
22	778608	28.5	19.7	19.5	6.9	W. Ghati	1955, 11, 2
23	534786	29.2	20.2	20.08	6.2	Madras	-----
24	388559	28.5	18.2	20.5	7.0	India	1953, 9, 23
25	448637	29.3	18.3	20.5	6.6	Punjab	1931, 2, 1
26	534790	29.2	19.7	20.0	6.6	India	-----
27	534774	28.9	18.2	20.0	7.2	Pakistan	1901, 4, 2
28	534780	29.4	17.5	19.5	7.05	India	-----
29	534777	29.0	17.8	21.0	6.8	India	-----

*Butastur liventer*

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	298324	29.0	17.8	21.0	6.5	-----	1930, 5, 25
2	298323	27.5	16.0	20.0	7.5	-----	-----
3	534839	27.6	18.0	----	7.0	Lower Burma	1893, 3, --
4	534840, Chick	14.6	6.4	----	6.6	Lower Burma	1893, 4, --
5	534837	27.6	16.2	21.0	7.0	Celebes	1895, 4, --
6	534838	----	17.5	20.5	6.75	Thayelmyo	1911, 6, 18
7	298321	28.0	16.0	19.0	----	-----	1930, 5, 27
8	298322	29.4	16.9	----	7.3	-----	1930, 8, 12
9	534834	28.3	17.3	21.0	7.9	Celebes	1895, 4, --
10	534836	29.3	16.7	21.0	7.8	Celebes	1898, 4, --
11	298325	----	16.2	21.0	7.8	-----	1930, 8, 12
12	534835	28.5	16.5	21.0	7.4	Celebes	1895, 4, --

*Butastur rufipenis*

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
1	534855	31.6	20.3	19.0	6.3	-----	1918, 1, 31
2	157857	29.7	17.5	19.0	6.3	-----	1911, 2, 1
3	534844	30.0	19.2	19.0	6.3	Somaliland	1920, 9, 22
4	196753	31.6	20.0	19.0	6.2	Sudan, Egypt	1922, 3, 3
5	534849	32.7	21.4	20.0	7.1	Somaliland	-----
6	157859	31.8	18.2	21.0	6.8	Zaire	1912, 3, 8
7	157856	31.8	18.2	19.0	6.7	Niangaro	1911, 1, 13
8	534846	31.7	19.5	20.0	6.9	Somaliland	1918, 10, 15
9	534842	29.3	18.9	19.0	6.0	Ethiopia	1903, 7, 2
10	534848	30.0	18.5	22.0	6.4	Somaliland	-----
11	534843	27.2	16.9	20.0	6.7	Somaliland	1910, 9, 22
12	157860	31.3	20.0	19.0	6.9	Zaire	1913, 2, 1
13	157858	32.1	19.2	20.0	6.6	Taradje	1912, 1, 31
14	534847	30.4	20.3	19.0	7.0	Somaliland	1917, 10, 24

No.	Specimen No.	Wing (cm)	Tail (cm)	Mandible (mm)	Tarsus (cm)	Locality	Date
15	157854	----	----	----	----	Taradje	1912, 1, 31
16	534841	----	----	----	----	Niegria	1922, 4, 30
17	819469	----	----	----	----	-----	1973, 8, 20
18	534845	----	----	----	----	Somaliland	1917, 10, 10
19	534851	----	----	----	----	Central Afr.	1850, 8, 24
20	534853	----	----	----	----	Khartoum	1850, 8, 2
21	534852	----	----	----	----	Khartoum	1850, 10, 11
22	534850	----	----	----	----	Kahartoum	1850, 8, 20
23	534854	----	----	----	----	Kahartoum	1850, 8, 20

#### 4 Delaware Museum

##### *Butastur indicus*

No.	Specimen No.	Sex	Locality	Date
1	14874	M	-----	1971, 11, 13
2	14873	F	-----	1971, 11, 15
3	14872	F	-----	1971, 12, 8
4	28685	M	-----	1972, 3, 5
5	10092	F	Palawan	1971, 3, --
6	10204	F	Palawan	1971, 3, --
7	14452	M	Polillo	1972, ----
8	1829	M	-----	1957, 10, 16
9	10369	M	-----	1971, 1, --
10	25893	M	-----	1904, 8, --
11	2918	F	Laguna	1969, 1, --
12	68834	M	Negros	1927, 11, 22
13	55924	M	Laguna	1975, 10, --
14	55925	----	Laguna	1975, 10, --
15	43697	F	-----	-----
16	68360	M	-----	1980, 1, --

No.	Specimen No.	Sex	Locality	Date
17	55926	F	-----	1974, 1, --
18	46390	M	-----	1972, 4, --
19	35892	----	Louzon	1929, -----
20	35891	F	Davao	1929, -----
21	44871	M	Laguna	1975, 3, --
22	55922	----	Laguna	1975, 10, --
23	55923	F	Laguna	1974, 1, --

## 5 Chicago Museum

### *Butastur indicus*

No.	Specimen No.	Sex	Locality	Date
1	281574	F	Sulawesi	1931, 1, 3
2	226265	----	Nigata, Japan	-----
3	226266	----	Nigata, Japan	-----
4	226263	M	Miyakejima, Jap	1953, 5, 23
5	226264	F	Miyakejima, Jap	1952, 6, 25
6	89899	M	Laos	1931, 11, 26
7	281575	M	Malaysia	1986, 2, 18
8	281576	----	Malaysia	1887, 12, --
9	19891	F	Cagayan, Phili.	1903, 10, 25
10	11084	F	Guimarass, Phi.	1888, 1, 7
11	258771	F	Cagayan, Phili.	1960, 4, 21
12	265413	F	Camarines, Phi.	1961, 4, 23
13	252927	M	Luzon, Phili.	1959, 5, 6
14	252928	F	Luzon, Phili.	1939, 4, 26
15	252929	F	Luzon, Phili.	1959, 5, 1
16	19890	M	Mindanao, Phi.	1904, 11, 3
17	184013	F	Mt. Apo, Phili.	1946, 11, 6
18	185135	F	Mindanao, Phi.	1947, 2, 28

No.	Specimen No.	Sex	Locality	Date
19	184014	F	Mindanao,Phi.	1946, 12, 7
20	184015	F	Davao,Phili.	1946, 11, 28
21	185136	F	Davao,Phili.	1947, 3, 6
22	210844	M	Mindro,Phili.	1951, 1, 11
23	185442	F	Negros,Phili.	1947, 12, 21
24	185443	F	Negros,Phili.	1947, 12, 23
25	246872	----	Negros,Phili.	1956, 12, 23
26	184622	M	Palawan,Phili.	1947, 3, --
27	184623	M	Palawan,Phili.	1947, 3, 7
28	80531	M	Thailand	1927, 12, 12
29	77496	M	Vietnam	1929, 2, 28

## 6 British Museum

### *Butastur indicus* (Juvenile)

Female 13

Male 15

### *Butastur indicus* (Adult)

Female 42

Male 25

### *Butastur indicus* (Sex unknown)

Juvenile 39

Adult 27

7 Number of the specimens of *Butastur indicus* examined

	Juve.		Adult		Sex unknown		Juve. or Ad. unknown	
	M	F	M	A	Ad.	Juve	M	F
Smithsonian Institution	10	16	9	11	1	0	-----	-----
British Museum	15	13	25	42	39	27	-----	-----
Harvard University	2	6	10	6	3	1	-----	-----
American Museum	14	11	21	22	4	6	-----	-----
Delaware Museum	--	--	--	--	-----	-----	11	9
Chicago Museum	--	--	--	--	-----	-----	10	13
Sum	41	46	65	81	47	34	21	22

8 Ratio of the specimens of juvenile bird and adult bird examined  
(*Butastur indicus*)

Juvenile Bird	Adult Bird	Sum
121 (38.5%)	193 (61.5%)	314

9 Ratio of the specimens of female bird and male bird examined  
(*Butastur indicus*)

Male Bird	Female Bird	Sum
127 (46%)	149 (54%)	276

Fig. 1 The distribution of the Genus *Butastur* in the world.  
(L. Brown and D. Amadon, 1968. modified)

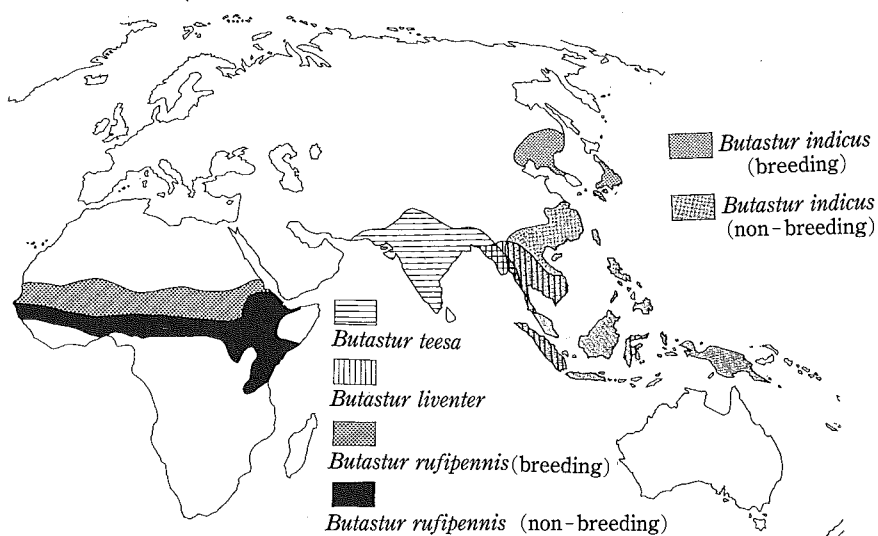


Photo. 1 *B. liventer*, *B. teesa*, *B. rufipennis* and *B. indicus*

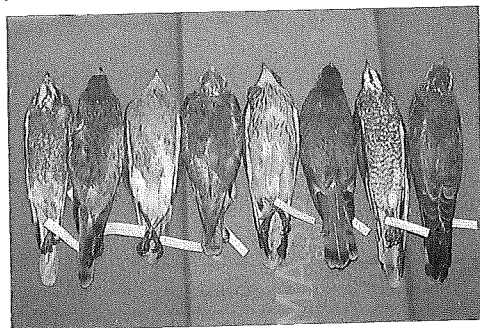


Fig. 2 The distribution of *Butastur teesa*.



Photo. 2 *Butastur teesa*

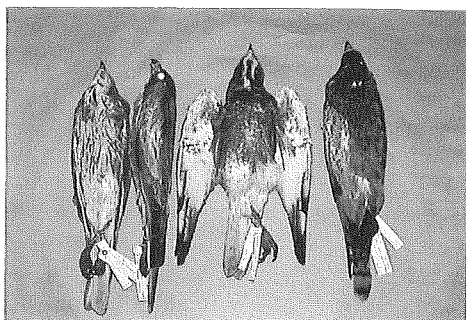


Fig. 3 The distribution of *Butastur indicus*.



Photo. 3 *Butastur indicus* (Adult and chick).

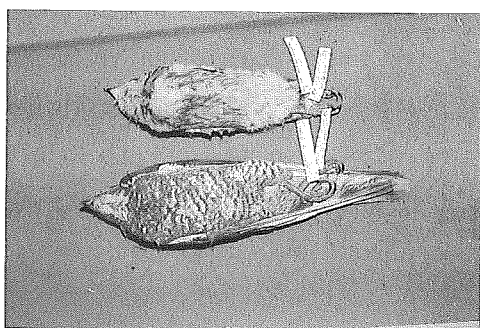


Fig. 4 The distribution of *Butastur liventer*.



Photo. 4 *Butastur liventer*.

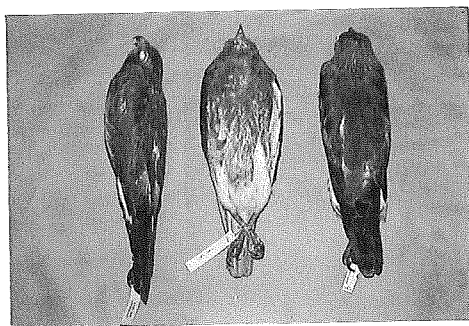


Fig. 5 The distribution of *Butastur rufipennis*.

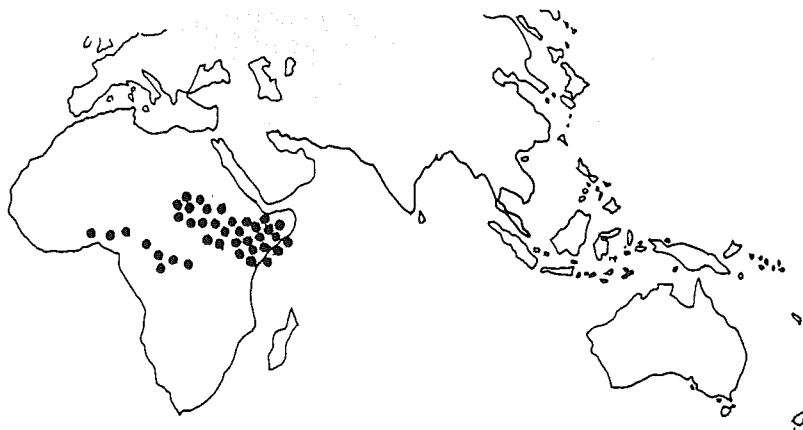
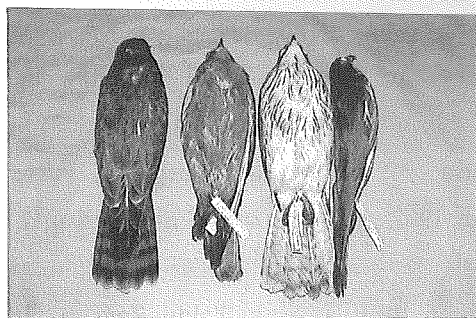


Photo. 5 *Butastur rufipennis*.



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