#### NOTES ON FISHES IN THE INDIAN MUSEUM.

XL. ON FISHES OF THE GENUS ROHTEE SYKES.

#### (Plate IV.)

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In an earlier note, one of us<sup>2</sup> discussed the systematic position of Matsya argentea, a species discovered by Day<sup>3</sup> among Col. Tickell's "Volume of beautiful coloured drawings of Burmese fishes with their descriptions", and attention was directed to two other freshwater fishes, Leiocassis fluviatilis and Rohtee cunma described by Day4 from the same source. Of these, the taxonomy of Rohtee cunma has been involved in great confusion, particularly as Day described its dorsal spine as "not serrated" In the fishes of the genus Rohtee, however, Sykes<sup>5</sup> characterised the dorsal "with the first complete ray serrated posteriorly". Vinciguerra<sup>6</sup>, on the nature of the dorsal spine alone, doubted the inclusion of R. cunma in the genus Rohtee, but adduced evidence to show that it may be a synonym of R. cotio (Ham.). Day's account of the dorsal spine also led Hora<sup>7</sup> to treat R. cunma in a separate group of Rohtee and to assign it to Parabramis Bleeker. Among the fishes collected by Mr. D. E. B. Manning, Divisional Forest Officer, Tavoy Division, Tavoy, Burma, we have found specimens which agree with R. cunma in all respects,

<sup>&</sup>lt;sup>1</sup> Some authors prefer the use of Osteobrama Heckel (Russegger's Reisen in Europa, Asien und Africa, etc., pt. 1, p. 1033, 1842) to Rohtee Sykes (Ann. Mag. Nat. Hist. IV, p. 364, 1840), but Hora (Rec. Ind. Mus. XXII, p. 187, 1921) and Mukerji (Journ. Rombay Nat. Hist. Soc. XXXVII, p. 69, 1934) have shown that Rohtee has priority over Osteobrama. Jordan (Genera of Fishes, pp. 210, 211, 1919) also had pointed out that Osteobrama is a synonym of Rohtee.

The first species described by Sykes under Rohtee is R. ogilbii but this has been shown by Hora (Rec. Ind. Mus. XXXIX, p. 312, 1937) to belong to Mystacoleucus Günther (Cat. Fish. Brit. Mus. VII, p. 206, 1858). If R. ogilbii is to be regarded as the type of the genus Rohtee then Mystacoleucus will have to be treated as a synonym of Rohtee, and in that case the species now included under Rohtee should bear the generic designation Osteobrama. Jordan (loc. cit., p. 210), whose main object in writing the Genera of Fishes was the fixation of the types for the various genera, however, named R. vigorsii Sykes as the orthotype of the genus Rohtee and if this is accepted then the present-day nomenclature of these fishes remains intact. In this paper we have followed Jordan and adopted the name Rohtee with R. vigorsii as its orthotype and have excluded R. ogilbii from it as it has a precumbent predorsal spine.

<sup>&</sup>lt;sup>2</sup> Hora, S. L., Rec. Ind. Mus. XLI, pp. 401-406 (1939).

<sup>&</sup>lt;sup>3</sup> Day, F., Fish. India Suppl., p. 807 (1888); Faun. Brit. Ind. Fish. I, p. 292, fig. 102 (1889).

<sup>&</sup>lt;sup>4</sup> Day, F., Fish. India Suppl., pp. 805, 807 (1888); Faun. Brit. Ind. Fish. I, pp. 164, 343 (1889).

<sup>&</sup>lt;sup>5</sup> Sykes, W. H., Trans. Zool. Soc. London II, p. 364 (1841).

<sup>&</sup>lt;sup>6</sup> Vinciguerra, D., Ann. Mus. Civ. Stor. Nat. Genova (2) IX, p. 188 (1890).

<sup>&</sup>lt;sup>7</sup> Hora, S. L., Rec. Ind. Mus. XXXIX, pp. 313, 314 (1937).

except that their dorsal spine is minutely serrated along the posterior border. Since the type of the species was obtained from Moulmein, an adjacent locality, we have no doubt that our specimens represent Day's R. cunma. A study of these examples has enabled us to confirm Vinciguerra's tentative conclusion that R. cunma is probably synonymous with R. cotio (Ham.).

An examination of the extensive material of *Rohtee* in the collection of the Indian Museum and a detailed study of the literature on this group of fishes has shown that considerable confusion prevails regarding the taxonomy of some of the species and that a very wide interpretation has been assigned to *Rohtee cotio* (Ham.). We propose to define the specific limits and the geographical range of each of the species represented in the material examined by us.

## Key to the species of Rohtee Sykes.

- I. With four well defined barbels-
  - A. More than 20 branched rays in anal fin; more than 60 scales along lateral line ... R. feae.
  - B. Less than 20 branched rays in anal fin; less than 60 scales along lateral line—
    - 1. A. 3/17; L. l. 59 .. R. neilli.
    - 2. A. 3/11; L. l. 44 .. .. .. R. bakeri.
- II. With two rudimentary maxillary barbels—
  - 1. A. 3/21-27; L. 1. 73-85 .. R. vigorsii.
  - 2. A. 3/16-18; L. l. 68-70 ... R. dayi, sp. nov.
- III. Without barbels-
  - A. Less than 20 branched rays in anal fin (A. 3/16-17); abdominal edge keeled throughout . . . . R. belangeri.
  - B. More than 20 branched rays in anal fin; abdominal edge keeled only between pelvic and anal fins—
    - 1. Generally more than  $10\frac{1}{2}$  scales between lateral line and pelvic fin; A. 3/28-33; L. 1. 57-70... R. cotio.
    - 2. Less than  $10\frac{1}{2}$  scales between lateral line and pelvic fin; A. 3/25-31; L. l.  $42\cdot60$  .. R. cotio var. cunma.

Rohtee ogilbii Sykes is not included in the above key as Hora<sup>1</sup> has shown that it belongs to the genus Mystacoleucus Günther. In the collection of the Indian Museum this species is represented from the Deccan, Poona, Kurnool and the Coorg State, and would thus seem to be generally distributed along the Western Ghats.

# Rohtee feae (Vinciguerra).

- 1877. Rohtee cotio, Day (in part, nec Hamilton), Fish. India, p. 587.
- 1878. Osteobrama cotio, Anderson (nec Hamilton), Zool. Res. Yunnan Exped. I, p. 869.
- 1889. Rohtee cotio, Day (in part, nec Hamilton), Faun. Brit. Ind. Fish. I, p. 340.

<sup>&</sup>lt;sup>1</sup> Hora, S. L., Rec. Ind. Mus. XXXIX, p. 312, text-figs. 1, 2 (1937).

1890. Osteobrama Feae, Vinciguerra, Ann. Mus. Civ. Stor. Nat. Genova (2), IX, p. 183, pl. x, fig. 10.

1890. Osteobrama Alfrediana, Vinciguerra (nec Cuvier & Valenciennes) ibid., p. 188.

1929. Rohtee feae, Prashad & Mukerji, Rec. Ind. Mus. XXXI, p. 205.

In the old collection of the Indian Museum we have found specimens belonging to Rohtee feae which had been assigned to R. cotio (Cat. No. 891 from Tagoung, Yunnan, collected by Dr. J. Anderson) and R. microlepis belangeri (Cat. No. 897, Burma, purchased from Dr. F. Day). Day seems to have confused R. feae with R. cotio, and for this reason he described the barbels of the latter as "absent or very rudimentary" In R. cotio the barbels are always absent; while small, but well defined, barbels are always present in R. feae.

According to Vinciguerra, in typical examples of R. feae the scales along the lateral line vary from 72 to 75, but in one specimen from the Myitkyina District and 3 specimens from Kalewa, Upper Chindwin Drainage, we found fewer scales, about 63 to 69. This difference is still more marked in the number of scales in transverse series. In typical examples there are  $14\frac{1}{2}$  to  $16\frac{1}{2}$  rows between the lateral line and the base of pelvic fin, while in the examples referred to above this number varies from 11 to 13. These differences in scale counts are sufficient to recognise varieties, but the material at our disposal is not enough at present to justify such a course, especially on account of the marked variations exhibited by the few specimens that we have examined.

The two examples, one from Mandalay and the other from Bhamo, referred by Vinciguerra to Osteobrama alfrediana were stated to be closely allied to O. feae but differed from it in having fewer scales, in the position of the dorsal fin, in having more rays in the anal fin and in possessing longer barbels. In our opinion Vinciguerra's O. alfrediana corresponds with the examples of R. feae with comparatively fewer scales referred to above, and treating the differences as individual variations, we have, for the time being, referred Vinciguerra's O. alfrediana to the synonymy of his O. feae.

Rohtee feae is found in Burma and Yunnan; it has so far been recorded from the Myitkyina District (Prashad & Mukerji), and from Bhamo, Mandalay and Kokarait (Vinciguerra). We have also examined specimens of this species from Kalewa, Upper Chindwin Drainage, collected by Mr. R. C. Raven, Vernay-Hopwood Chindwin Expedition, and Tagoung, Yunnan (Anderson).

In the collection of the Indian Museum the species is represented from the following localities:—

Burma .. Purchased from Dr. F. day 1 specimen. 2 specimens. Bhamo, Burma Genova Mus. (Fea Coll.) Dist., Upper Dr. B. N. Chopra 3 specimens. Myitkyina Burma. 3 specimens. Kalewa, Upper Chindwin Mr. H. C. Raven Drainage. 2 specimens. Tagoung, Yunnan .. Dr. J. Anderson

We give below a table of measurements, number of anal rays and scale counts of nine specimens of R. feae from different localities:

Measurements in millimetres, number of anal rays and scale counts.

			Burma.	Bhamo.	Myi	tkyina 	Dist.	Ka	lewa.	Tag	oung.
Standard length	••	••	155-4	67-0	81.5	153.5	156.0	100.0	108-0	114.0	132∙0
Length of head	• •		36.2	18.0	21.0	36.0	37.0	23.0	26.5	27.5	<b>2</b> ·0
Depth of body	••		79•0	31•0	41.5	77•0	75.5	42.3	46.0	62.5	68-3
Width of body	••	••	18.0	5•5	10.0	21.5	22.0	8.0	8.0	12.5	14.5
Diameter of eye	••		12.0	7.0	8•8	12.5	12.5	9.0	9.0	10.0	10.5
Length of snout	••	••	11.0	5.0	5•5	10-2	11.0	7.0	8.0	8.0	9.3
Interorbital width	••	••	15.5	5•0	8•0	16•0	16.0	8.2	8.5	11.5	13.0
Length of dorsal spine	• •	••	44.0	20.0	20.0	D¹.	44.5	D.	31.5	D.	35.0
No. of scales along L. l.	••	••	77	73	74 •	73	63	66	69	72	76
No. of scales between L. l. a	nd V.	••	161	16	16	141	11	12	13	16½	16 <del>}</del>
No. of predorsal scales	••		39	37	38	D.	34	34	34	38	38
No. of rays in anal fin	••	••	3/26	3/28	3/27	3/27	3/28	3/27	3/27	3/28	3/29

## Rohtee neilli Day.

1877. Rohtee neilli, Day, Fish. India, p. 586, pl. cxlvi, fig. 5.
1889. Rohtee neilli, Day, Faun. Brit. Ind. Fish. I, p. 340.
1937. Rohtee duvaucelii, Hora (nec Cuvier and Valenciennes), Rec. Ind. Mus. XXXIX, p. 17 (Tunga R., at Shimoga).
1937. Rohtee neilli, Hora, Rec. Ind. Mus. XXXIX, p. 19 (Coorg State).

Rohtee neilli was described by Day from the Bhavani River at the base of the Nilgiri Hills. We have examined one of the typical specimens from the Bhavani River which is now preserved in the collection of the Indian Museum. The species was recorded by Hora from the Cauveri River in Coorg State, and we have found that a very young specimen recorded by Hora from the Tunga River at Shimoga as Rohtee duvaucelii also belongs to this species. In the collection of the Indian Museum, R. neilli is represented from the following localities:—

Bhavani River, Nilgiri Hills, Madras.	Purchased from Dr. F. Day	1 specimen.
Sunkesula, Madras	Madras Fisheries Department.	3 specimens.
Cauveri River, Coorg State.	Mr. C. R. Narayan Rao	3 specimens.
Tunga River, Shimoga, Mysore.	Dr. H. S. Rao	1 specimen.
Mutha-Mula River, Poona	Mr. A. G. L. Fraser	1 specimen.

<sup>&</sup>lt;sup>1</sup> D. indicates that the structure is damaged,

We give below a table of measurements, number of anal rays and scale counts of the specimens of *R. neilli* from different localities as listed above:—

Measurements in millimetres, number of anal rays and scale counts.

		Bhavani River.			Tunga River.	Mutha- Mula River.				
						_				
Standard length		94.5	62.0	65.5	70.0	53-2	69.5	83.0	42.5	<b>78</b> ·0
Length of head		25.0	17.0	17.0	18.0	15.0	18.0	22.0	12.0	19.0
Depth of body		34.5	25.0	26.2	28.5	17.0	25.5	D.	15.0	27.5
Width of body		10.5	8.5	<b>∂·0</b>	9.5	6.8	7.5	12.5	5.3	10.0
Diameter of eye		11.3	7.5	7.5	8.0	6.9	8.0	14.0	5.5	7.5
Length of snout		5.8	4.4	4.4	4.5	4.0	5.0	6.0	3.5	5.0
Interorbital width	٠.	5.5	3.4	3.8	4.3	3.3	4.0	4.6	2.5	4.5
Length of dorsal spine		D,	16.5	16.0	16.5	13.0	16.0	20.5	12.5	22.0
No. of scales along L. l.		59	57	57	58	57	55	56	55	D.
No. of scales between L. l. and	ı v.	71	8	8	8	8	8	81	71	D.
No. of predorsal scales		21	21	21	20	21	22	21	22	20
No. of rays in anal fin		3/17	8/17	8/17	3/16	3/16	<b>8</b> /18	8/17	3/17	3/16

### Rohtee bakeri Day.

1877. Rohtee Bakeri, Day, Fish. India, p. 586, pl. cxlvii, fig. 1. 1889. Rohtee bakeri, Day, Faun. Brit. Ind. Fish. I, p. 340.

Rohtee bakeri is represented by a single specimen in the collection of the Indian Museum; it is one of Day's original specimens collected in Travancore. So far as we are aware this remarkable species, with fewer scales and only 11 branched rays in the anal fin, is restricted to the extreme southern part of Peninsular India.

We give below a table of measurements, number of anal rays and scale counts of the only specimen of R. bakeri examined by us:—

Measurements in millimetres, number of anal rays and scale counts.

Standard length	• •	• •	••	• •	68.3
Length of head	• •	••	••		19.0
Depth of body		• •	• •		22.0
Width of body	• •	• •			8.0
Diameter of eye	• •	• •			<b>7</b> ·3
Length of snout	• •				5.0
Interorbital width		• •	• •		4.0
No. of scales along L. l.					44
No. of scales between L. l	. and V.	• •	• •	• •	51
No. of predorsal scales		• •	• •		15
No. of rays in anal fin	• •	• •	• •		3/11

## Rohtee vigorsii Sykes.

1841. Rohtee Vigorsii, Sykes, Trans. Zool. Soc. London, II, p. 364, pl. lxiii,

1844. Leuciscus Duvaucelii, Cuvier & Valenciennes, Hist. Nat. Poiss. XVII, p. 77 (figured as Leuciscus Alfredianus on pl. ccclxxxviii) and not L. duvaucelii described on p. 95.

1849. Abramis Vigorsii, Jordon, Madras Journ. Litt. & Sci. XV, p. 319.

1853. Systomus Vigorsii, Bleeker, Verh. Bat. Gen. XXV, p. 62.
1868. Osteobrama cotio, Günther (nec Hamilton), Cat. Fish. Brit. Mus. VII, p. 323.

1868. Osteobrama rapax, Günther, ibid., p. 324. 1877. Rohtee Vigorsii, Day, Fish. India, p. 587, pl. exlvii, fig. 3. 1889. Rohtee vigorsii, Day, Faun. Brit. Ind. Fish. I, p. 341.

Though Rohtee ogilbii is the first species described by Sykes in his genus Rohtee, Jordan<sup>1</sup> regarded R. vigorsii as the orthotype of the genus. The latter species was described by Sykes from "the Beema river, at Pairgaon" and on account of its long anal fin and small scales it has often been confused with R. cotio. The two species can, however, be distinguished readily by their general facies, especially by the form of the dorsal profile, and the nature of the dorsal spine. In R. vigorsii there is a distinct concavity from the snout to over the nape, while in R. cotio the profile is concave just over the nape. The dorsal spine is very strong in R. vigorsii, while it is weak in R. cotio. The other main differences in the two species are given in the key on page 156.

Leuciscus duvaucelii (=L. alfredianus) has generally been regarded as a subspecies of R. cotio, but the study of the relevant literature has convinced us that it is a synonym of R. vigorsii. Though in describing the species Cuvier and Valenciennes gave Nepal as its locality, in an introductory paragraph to Cyprinus cotio, Leuciscus duvaucelii and L. rhomboidalis on page 76 they stated that:

"M. Agassiz dit qu'il connaît des brèmes de l'Inde. On doit, en effet, rapporter à ce groupe la description suivante tirée de M. Buchanan. Je n'ai pas vu ce poisson,

mais il nous en est venu de Bombay une autre espèce, voisine de celui de Buchanan.
"Les figures des dessins chinois, si souvent citées par Lacépède, représentent aussi

The above note hardly leaves any doubt as to the provenance of L. duvaucelii, a species allied to Cyprinus cotio; it was not found in Nepal but in Bombay. Further, the type specimen of L. duvaucelii is stated to be over 10 inches in length which also indicates that it cannot belong to R. cotio, but may belong to the Deccan form, R. vigorsii. Moreover, in L. duvaucelii the dorsal spine is stated to be strong whereas in R. cotio it is comparatively weak. Our studies have shown that the typical form of Rohtee cotio, with small scales, is not found in Peninsular India where it is replaced by the variety cunma (vide infra, p. 169). Cuvier and Valenciennes' figure, labelled as L. afredianus, though bearing a general similarity to R. cotio, shows a form with very small scales. view of the above considerations, we have no hesitation in assigning L. duvaucelii to the synonymy of R. vigorsii. It may be noted that in the fin formula of L. duvaucelii "A. 36" is probably a misprint for "A. 26", or "A. 30". In R. vigorsii the anal rays do not exceed 30 in number.

<sup>&</sup>lt;sup>1</sup> Jordan, D. S., Genera of Fishes, p. 210 (1919); for further details see foot-note 1 on page 155.

Enquiries were made from Dr. J. Pellegrin regarding the precise diagnosis and provenance of Cuvier and Valenciennes' type of L. duvaucelii, but he replied that the type could not be found in the collection of the Museum National d'Histoire Naturelle, Paris. He further informed us that Alfred Duvaucel, the French Naturalist, who died in Madras in 1824, made his collections of fishes in Bengal, Sylhet and the Indian Peninsula. This information also supports our contention that L. duvaucelii was described from a specimen obtained in Bombay and not in Nepal.

We are in entire agreement with Day<sup>1</sup> that Osteobrama cotio and O. rapax (characterised by long anal fin and small scales) described by Günther in his Catalogue should be treated as synonyms of R. vigorsii.

In the collection of the Indian Museum, R. vigorsii is represented by a large number of specimens from Deolali, Poona, Deccan and the Kistna River. A damaged specimen from Orissa (Cat. No. 889) and two other specimens from Kistna river (Cat. No. 888) identified by Day as R. cotio, are also referred to this species.

In the collection of the Indian Museum R. vigorsii is represented from the following localities:—

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Deccan ... Purchased from Dr. F. Day 1 specimen.

Darna R., Deolali ... Mr. A. G. L. Fraser ... 1 specimen.

Mutha-Mula R., Poona Mr. A. G. L. Fraser Several specimens.

Mutha-Mula R., Poona Mr. C. V. Kulkarni ... 3 specimens.

Kistna River ... Purchased from Dr. F. Day 2 specimens.

Orissa ... Purchased from Dr. F. Day 1 specimen.
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We give below a table of measurements, number of anal rays and scale counts of the specimens of *R. vigorsii* from different localities as noted above:—

Measurements in millimetres, number of anal rays and scale counts.

	Deccar	. Deolali	•		Poon	B.			Kistna River.	Orissa.
Standard length .	. 115.0	133-0	46.0	115.0	120.0	181.0	150·0	66-6	) 106·0	74.0
Length of head .	. 80.5	37.0	12.5	30.5	32.0	35.0	45.0	10.0	26.5	20.0
Depth of body .	. 40.5	46.0	18-0	41.5	41.0	47.1	58.0	25.0	37.0	26.3
Width of body .	10.5	15.3	4.3	13.2	12.9	15.0	18.0	7.0	16.0	7.1
Diameter of eye .	10.0	10.3	4.3	0.2	11.0	10.2	12.0	6.5	8.0	7.1
Length of snout .	9.0	8.8	8.2	8.6	<b>9.0</b>	0.0	13.0	5.2	7•5	6.0
Interorbital width	6.5	7.0	2.8	5.7	5.0	6.5	7.5	4.0	5.5	4.2
Length of dorsal spine	D.	85.0	12.5	80.5	D.	D.	D.	D.	$\mathbf{D}_{ullet}$	D.
No. of scales along L. l	85	78	D.	88	79	81	78	78	74	74
No. of scales between L. 1.	111	11	D.	111	11	11	11	111	111	11
and V. No. of predorsal scales	87	84	D.	85	84	84	34	84	88	34
No. of rays in anal fin	8/27	8/21 8	/22 8	/22 8/	124 8	/2 <b>4</b> 8/	28 8	/28	8/27	8/25

#### Rohtee dayi, sp. nov.

1877. Rohtee Belangeri Day (in part), Fish. India, p. 587. 1889. Rohtee belangeri, Day (in part), Faun. Brit. Ind. Fish. I, p. 342.

D. 4/8; A. 19-21 (3/16-18); P. 16-17; V. 9; L. 1. 68-70.

In Rohtee dayi the body is much compressed and both the dorsal and the ventral profiles are greatly arched; the form is that of a trapezoid. The rise in the dorsal profile is more sharp posterior to the head, which is short and bluntly pointed anteriorly. The length of the head is contained from 4·1 to 4·3 times in the standard length. The greatest width of the head is contained about 1·7 times and its height at occiput from 1·1 to 1·2 times in its length. The eyes are large and lateral in position; the diameter of the eye is contained from 2·6 to 2·9 times in the length of the head, from 0·6 to 0·8 times in the length of the snout and from 0·7 to 1·2 times in the interorbital width. The eyes are proportionately larger in younger specimens. The mouth is small and somewhat directed upwards and forwards; its gape does not extend to the anterior border of the eye. There are two minute maxillary barbels, which are liable to be overlooked if not properly searched.

The greatest depth of the body is below the commencement of the dorsal fin and is contained from  $2\cdot1$  to  $2\cdot3$  times in standard length. The caudal peduncle is almost as high as long. The body is covered with small, closely set scales; there are 68-70 scales along the lateral line,  $13\frac{1}{2}$  to  $14\frac{1}{2}$  rows between the lateral line and the base of the pelvic fin and 28-30 scales in front of the dorsal fin.

The commencement of the dorsal fin is almost equidistant between the base of the caudal fin and the tip of the snout or is somewhat nearer to the former than to the latter; its last denticulated spine is moderately strong and about  $1\frac{1}{2}$  times as long as head. Towards the end the spine is devoid of serrations, is flexible and filamentous. The pectoral fins are placed low, pointed above, and slightly shorter than the head; they almost reach the base of the pelvic fins. The pelvic fins are similar to the pectorals, but do not extend to the base of the anal fin. The anal fin is considerably higher anteriorly and is moderately long. The caudal fin is deeply forked.

The colour is bleached in all the three examples, but there is a marked indication of a black band behind the gill-cover.

Type-specimen.—Cat. No. 902, Zoological Survey of India, Indian Museum, Calcutta.

Distribution.—Godavari river; ? Deccan.

Remarks.—Rohtee dayi is proposed for two specimens from the Godavari river and one other specimen, presumably from the Deccan, identified by Day as R. belangeri and R. ogilbii respectively. In these examples the ventral surface in front of the pelvic fins is rounded, and the dorsal spine is moderately strong. Moreover, they possess two rudimentary maxillary barbels. In the small size of its scales and the length of the anal fin, R. dayi shows a superficial resemblance to R. belangeri, but the two species can readily be distinguished by the nature of their ventral edge.

Measurements in millimetres, number of anal rays and scale counts.

				Goda	vari.	Locality?.	
Standard length	••	• •	••	92.5	112.0	127.5	
Length of head	• •	• •		22.5	26.0	29.5	
Width of head	• •	• •		13.3	15.5	18· <b>0</b>	
Height of head	• •	• •	• •	19.0	22.5	25.0	
Height of body	• •	• •		43.0	<b>48·0</b>	57.0	
Width of body	• •	• •		11.0	13.0	16.0	
Diameter of eye	• •	• •	• •	8.5	10.0	10.0	
Length of snout		• •	• •	5.5	<b>7·0</b>	8.0	
Interorbital width	• •	• •	• •	6.0	10.0	12.0	
Length of dorsal fin		• •	• •	31.5	36.5	43.5	
Length of pectoral fin	1	• •	• •	$22 \cdot 0$	24.0	26.5	
Length of pelvic fin	• •	• •	• •	19.0	23.0	23.5	
No. of scales along la			• •	<b>6</b> 8	68	70	
No. of scales between	lateral l	ine and v.	• •	14	14 <del>1</del>	13 <del>1</del>	
No. of predorsal scale	es .	• •	• •	28	<b>3</b> 0	29	
No. of rays in anal fir	ı	• •	• •	16	18	18	

#### Rohtee belangeri Cuvier & Valenciennes.

1844. Leuciscus Belangeri, Cuvier & Valenciennes, His. Nat. Poiss. XXII,

1858. Systomus microlepis, Blyth, Journ. As. Soc. Bengal XXVII, p. 289.

1860. Osteobrama microlepis, Blyth, Journ. As. Soc. Bengal XXIX, p. 158. 1863. Smiliogaster Belangeri, Bleeker, Atl. Ichth. Cyprinidae III, p. 33. 1868. Osteobrama microlepis, Günther, Cat. Fish. Brit. Mus. VII, p. 325.

1868. Smiliogaster belangeri, Günther, Cat. Fish. Brit. Mus. VII, p. 328.

1871. Rohtee microlepis, Day, Journ. As. Soc. Bengal XL, p. 139.
1877. Rohtee Belangeri, Day (in part), Fish. India, p. 587, pl. cxlvii, fig. 4.
1878. Osteobrama microlepis, Anderson, Zool. Res. Yunnan Exped. I, p. 869.
1889. Rohtee belangeri, Day (in part), Faun. Brit. Ind. Fish. I, p. 342.
1890. Osteobrama Belangeri, Vinciguerra, Ann. Mus. Civ. Stor. Nat. Genova
(2) IX, p. 318.

1921. Rohtee belangeri, Hora, Rec. Ind. Mus. XXII, p. 188, fig. 2a.

1929. Rohtee belangeri, Prashad & Mukerji, Rec. Ind. Mus. XXXI, p. 204.

Robtee belangeri can be readily distinguished from all the other species of the genus by the fact that the whole of its abdominal edge is trenchant and sharp, whereas in other species it is sharp only between the bases of the pelvic and anal fins. On this character alone it was placed by Bleeker<sup>1</sup> in a separate genus Smiliogaster, which is now regarded as a synonym of Robiec. The relationships of these forms could be better expressed by treating Smiliogaster as a subgenus of Rohtee.

Cuvier and Valenciennes described this species from the fresh waters of Bengal, but we think there must have been some inaccuracy about the locality label. This fish has not since been found in Bengal waters<sup>2</sup>. but is very common in Burma and the adjacent territories<sup>3</sup>. Day recorded it from the Godavari, and we have examined two specimens from Godavari (Cat. No. 902) referred by him to this species. In these

<sup>&</sup>lt;sup>1</sup> Bleeker, P., Nat. Tijdschr. Neder.-Indie XX, p. 428 (1859).

<sup>2</sup> Day in his Fishes of India (p. 588) refers to Bengal specimens of R. belangeri, though in the habitat of the species no mention is made of Bengal. Presumably Day refers to the type-specimens which he may have examined in the Paris Museum.

It may be noted that Hora's specimens from the Manipur Valley in Assam were collected from the Chindwin Drainage System which forms part of the Irrawaddy System.

examples the ventral surface in front of the pelvic fins is rounded and they possess two rudimentary maxillary barbels. Another specimen (No. 2698), determined by Day as R. ogilbii, is similar to the abovementioned Godavari examples, but unfortunately it bears no locality label though from the specific name given to it by Day it can be inferred that the example may have been collected in South India. These specimens possess fewer scales along the lateral line (68-70 versus 70-78) and also between the lateral line and the base of the pelvic fins ( $13\frac{1}{2}$ - $14\frac{1}{2}$  versus  $15\frac{1}{2}$ - $18\frac{1}{2}$ ). The number of predorsal scales is also less (30 versus 31-34). In view of the above noted differences we regard the Godavari examples as representing a distinct species which we have described above as new, R. dayi, sp. nov.

In 1871, Day doubted the specific validity of Cuvier and Valenciennes' Leuciscus belangeri and recognised Systomus microlepis Blyth as a valid species. Though he gave the habitat of the species as "The Godavery river, and throughout Burma," he seems to have described it from the examples collected in Burma; this is clear from the fact that the anal fin formula is given as  $\frac{3}{18}$  and the scales along the lateral line as 71-73. In the description of R. belangeri in the Fishes of India he included the characters of the Godavari specimens (A. 3/17-18; L. 1. 68-73; 14 rows of scales between L. 1. and tase of pelvic fins, etc.), which we have now referred to a new species.

In giving the distribution of Osteobrama belangeri, Vinciguerra states that "La specie si trova nel Bengala e in Birmania, Anderson la raccolse nel fiume Godavery" Anderson collected two specimens of this species, which are now preserved in the collection of the Indian Museum, in Yunnan and not from the Godavari river as stated by Vinciguerra.

In the collection of the Indian Museum R. belangeri is represented from the following localities<sup>1</sup>:—

Indo-China		?	2 specimens.
Tagoung, Yunnan		Dr. J. Anderson	2 specimens.
Burma		?	3 specimens.
Indawgyi Lake, Myitky District.	ina	Dr. B.N. Chopra	1 specimen.
Mandalay		Purchased from Dr. F. Day.	5 specimens.
Mandalay Market		Dr. N. Annandale	2 specimens.
Prome		Purchased from Dr. F. Day.	3 specimens.
Pegu		Purchased from Dr. F. Day.	1 specimen.
Rangoon .		Genova Mus. (Fea Coll.)	1 specimen.
Rangoon .	• •	Mr. V. Ball	l specimen.
Rangoon .		Prof. F. J. Meggitt	1 specimen.
?	• •	Purchased from Dr. F. Day.	l specimen.

We give below a table of measurements, number of anal rays and scale counts of the specimens of R. belangeri from different localities.

<sup>&</sup>lt;sup>1</sup> Hora (Rec. Ind. Mus. XXII, p. 189, 1921) obtained two specimens of this species from the Manipur Valley (Loktak Lake and Khurda stream), but we could not find them in the collection now.

Measurements in millimetres, number of anal rays and scale counts of Rohtee belangeri Cuvier & Valenciennes.

Measurem	ents in n	nilli <b>m</b>	etres, nu	mber of c	anal rays	and scale	e counts of	Rohtee	belanger	Cuvier	& Valence	riennes.		1940.]
			Indo-C	China.	Tagoung,	Yunnan.	Jyitkyina District.	Mand	alay.	Prome.	Pegu.	Ran	goon.	<u>.</u>
													<u> </u>	
Standard length	••	••	110-0	127-0	175.0	192.5	231.5	189-0	220.0	82.5	107-5	60-0	136-3	S. L.
Length of head	••	••	27.0	29.3	40-0	45-3	62.0	44.5	50.0	23.0	27.0	18-5	32.5	. Hora
Depth of body	••		56.5	60-0	77-0	82.0	106.0	68.0	83.0	37.0	<b>5</b> 0·0	35.5	<b>59·</b> 0	₽ &*
Width of body	••	••	16.5	16.5	25.5	27.5	40.0	22.3	30.0	10.0	13.0	10.0	18.0	K. S.
Diameter of eye	••	••	9.6	10-0	12.5	13.7	18-0	13.0	16.0	8.0	9-8	9.0	10.5	. Misra
Length of snout	••	• •	7.0	<b>7·</b> 5	10.0	11.5	18-0	10.3	13.5	5.5	8-0	6.0	8.0	••
Interorbital width	••	• •	11.0	12.5	18-0	19•0	27.5	16.0	20.0	8.0	10-0	7.5	12.5	Notes
No. of scales along L	. 1.	••	76	<b>7</b> 5	78	78	78	78	73	73	77	70	77	on F
No. of scales between	n L. l. and	₹.	18 <del>1</del>	17	16 <del>1</del>	16 <del>1</del>	16 <del>]</del>	16 <del>1</del>	$16\frac{1}{2}$	16 <del>1</del>	16 <del>1</del>	15 <del>1</del>	16 <del>1</del>	Fishes.
No. of predorsal scale	28	••	33	33	34	33	33	34	<b>32</b>	33	32	31	34	
No. of rays in anal fir	D	••	3/18	3/17	3/18	3/17	3/19	3/18	3/18	3/17	3/17	3/17	3/17	1

### Rohtee cotio (Hamilton).

1822. Cyprinus (Cabdio) cotio, Hamilton, Fish. Ganges, pp. 339, 393, pl. xxxix, fig. 93.

According to Hamilton, Rohtee cotio is common in the ponds and ditches of Bengal, grows to about four inches in length and is full of bones. From the literature we find that a very wide interpretation has been given to this species and in the collection of the Indian Museum there are specimens belonging to R. feae, R. vigorsii, etc., which had been assigned by earlier workers to R. cotio. To a certain extent the cause of this confusion can be traced to Leuciscus duvaucelii Cuv. & Val., the precise specific limits of which have been elucidated above (vide supra, p. 160); its type was obtained from Bombay, but in the description it was wrongly stated to have come from Nepal. In view of the confusion of L. duvaucelii with R. cotio widely divergent forms, with and without barbels, with comparatively small and very small scales, etc., came to be included in the latter species.

Though in its diagnostic features, R. cotio is a very variable species, its most salient features are a very long anal fin, small scales, absence of barbels and a rounded abdominal edge in front of the pelvic fins. The scales are somewhat deciduous and irregularly arranged. The number of scales along the lateral line varies from 57 to 70, and that of the scales between the lateral line and the base of the pelvic fins from  $10\frac{1}{2}$  to 13. The number of branched rays in the anal fin varies from 28 to 33. For variation in proportions, etc., reference may be made to the table of measurements, scale counts and number of fin rays given below.

We have examined a very large number of specimens of  $R.\ cotio$  in the collection of the Indian Museum, and find that it is distributed in Assam (Brahmaputra Drainage), Bengal, Bihar, Central Provinces and the Punjab. The following list gives the localities of the specimens examined by us and definitely assigned to  $R.\ cotio$  (sensu stricto):—

Sibsagar, Assam	Mr. S. E. Peal	2 specimens.
Tangrai, D. S. Ry., Assam	Mr. B. H. Singh .	28 specimens.
Mangaldai, Assam	Dr. S. L. Hora	1 specimen.
Tezpur, Assam	Drs. B. Prashad and S. L. Hora.	4 specimens.
Cachar, Assam	Purchased	8 specimens.
Siliguri, Bengal	Messrs. G. E. Shaw and E. O. Shebbeare.	1 specimen.
Maltipur, Bengal	Dr. S. L. Hora	2 specimens.
Pulta Waterworks, Calcutta.	Pulta Survey	5 specimens.
Calcutta	Purchased from Dr. F. Day.	1 specimen.
Saraghat, Bihar	Mr. R. A. Hodgart	3 specimens.
Champaran, Bihar	Messrs. McKenzie and Walker.	1 specimen.
Purneah, Bihar	Museum Collector	2 specimens.
Bhagalpur, Bihar	Mr. D. D. Mukerji	1 specimen.

Santal Parganas, Bihar		Dr. H. A. Hafiz	1 specimen.		
Deoli, C. P.	••	Col. Biddulph	1 specimen.		
Jubbulpore, C. P.	• •	Purchased from Dr. F. Day.	1 specimen.		
Orissa	••	Purchased from Dr. F. Day.	2 specimens.		
?	••	Purchased from Dr. F. Day.	1 specimen.		
Lahore, Punjab	••	Purchased from Dr. F. Day.	1 specimen.		
Amritsar, Punjab		Mr. G. C. L. Howell	l specimen.		
Ludhiana, Punjab		Acad. Nat. Sci. Philadel- phia.	l specimen.		
Sursutta R., Punjab	••	Acad. Nat. Sci. Philadel-	6 specimens.		

We give below a table of measurements, number of anal rays and scale counts of specimens of Rohtee cotio (Ham.) from different localities.

Measurements in millimetres, number of anal rays and scale counts of Rohtee cotio (Hamilton).

		Calcutta.	Pu	lta.	Sibsagar.	Tengrai.	Bhagalpur.
Standard length	••	55-0	45.0	85.0	71.0	52-5	<b>75</b> ·0
Length of head ••	••	12.5	10.3	8.2	17.0	15.0	18.5
Depth of body ••	••	21.5	17.0	18.0	34.3	22.5	85.0
Width of body ••	••	<b>5</b> ·0	5·Q	4.0	7.2	5.5	8-0
Diameter of eye .	••	<b>5</b> ·5	4.5	8.5	7.5	5.5	8.0
Length of snout ••	••	3.0	8.0	2·1	5.0	4.5	4.0
Interorbital width ••	••	4.0	8-8	2.8	5.0	8-6	5-0
Length of dorsal spine	••	D,	$\mathbf{D}_{\phi}$	9-4	D.	15.0	D• ,
No. of scales along L. 1	••	59	58	60	62	70	62
No. of scales between L. 1. and	ı v.	11	101	111	18	13	11}
No. of predorsal scales	••	24	24	24	27	27	20
No. of rays in anal fin	••	3/82	8/81	3/3 <b>3</b>	3/32	8/30	3/81

Measurements in millimetres, number of anal rays and scale counts of Rohtee cotio (Hamilton)—contd.

	Pur	neah.	Santal Parganas.	Orissa.	Jubbul- pore.	Amritear.	Sursutta River.
Standard length	81.5	78.0	40.5	61.0	59•0	70.0	43.0
Length of head	19-0	19.0	10.0	14.5	15.0	18.0	12.0
Depth of body	36-0	35.0	15.5	23·5	25.5	30•5	18·3
Width of body	9.0	9.5	4.5	6.0	6.0	8.0	4.5
Diameter of eye	8.0	8.0	4.5	6.3	6.5	7.0	4.5
Length of snout	4.3	5.0	2.8	4.0	<b>4·0</b> ·	5.0	3.0
Interorbital width	4·3	4.5	3.0	4.0	4.0	ō·4	3.0
Length of dorsal spine	D.	21.5	D.	15.0	D.	18-5	D.
No. of scales along L. 1.	62	62	58	65	70	61	62
No. of scales between L. 1. and V.	11	111	101	111	121	111	11
No. of predorsal scales	28	D.	24	29	28	27	25
No. of rays in anal fin	3/32	3/30	3/28	3/31	3/31	3/28	3/38

### Rohtee cotio var. cunma Day.

#### Plate IV, figs. 1—9.

- 1860. Osteobrama cotio, Blyth (nec Hamilton), Journ. As. Soc. Bengal XXIX, p. 158.
- 1877. Rohtee cotio var. Alfrediana, Day (nec Cuvier & Valencienues), Fish. India, p. 587, pl. exlvii, fig. 2.

- 1888. Rohtee cunma, Day, Fish. India Suppl., p. 807.
  1889. Rohtee cunma, Day, Faun. Brit. Ind. Fish. I, p. 343.
  1889. Rohtee cotio var. alfrediana, Day (nec Cuvier & Valenciennes), Faun.
  Brit. Ind. Fish. I, p. 341, fig. 109.

1889. Rohtee cunma, Day Faun. Brit. Ind. Fish. I, p. 343.

- 1890. Osteobrama cotio, Vinciguerra (nec Hamilton), Ann. Mus. Civ. Stor. Nat. Genova (2) IX, p. 186.
  1921. Rohtee alfrediana, Hora (nec Cuvier & Valenciennes), Rec. Ind. Mus.
- XXII, p. 188.
- 1924. Rohtee roeboides, Myers, Amer. Mus. Novitates, No. 150, p. 3 (1924).
- 1929. Rohtee alfrediana, Prashad & Mukerji (nec Cuvier & Valenciennes),
  Rec. Ind. Mus. XXXI, p. 203.
  1934. Rohtee duvaucelii, Mukerji (nec Cuvier & Valenciennes), Journ. Bombay
- Nat. Hist. Soc. XXXVII, p. 71.

As indicated in the introduction, Day's wrong description of the nature of the dorsal spine in Rohtee cunma was mainly responsible for 1940.]

our lack of knowledge regarding the precise systematic position of this variety in spite of the fact that Col. Tickell had found it to be common at Moulmein. From the number of specimens which can now be assigned to this form, it seems that it is the commonest form of Rohtee in Burma and Peninsular India. It differs from Rohtee cotio in having somewhat larger and more regularly arranged scales (L. l. 42-58 versus 57-70; predorsal 18-24 versus 24-28; between lateral line and pelvics  $7\frac{1}{2}$ - $9\frac{1}{2}$  versus  $10\frac{1}{2}$ -13) and fewer rays in the anal fin (28-34 versus 31-36). In all other respects, except that the variety cunma probably grows to a somewhat larger size, the two forms are very similar, and there seems no doubt that they must have become differentiated not very long ago. Even now there is no hard and fast dividing line between the two forms, but it is significant that while cotio is found only in northern India, cunma is found in Burma and Peninsular India. The distribution of the two forms indicates that cunma is probably a more generalised type.

In the collection of the Indian Museum the variety cunma is represented from the following localities:—

Tavoy, Lower Burma	Mr. D. E. B. Manning		6 specimens.
Irrawaddy, Burma	Purchased from Dr. Day.	F.	2 specimens.
Rangoon, Burma	Purchased from Dr. Day.	F.	2 specimens.
Mandalay, Burma	Purchased from Dr. Day.	F.	l specimen.
Bhamo, Burma	Mr. Coggin Brown	••	8 specimens.
Indawgyi Lake, Burma	Dr. B. N. Chopra	• •	9 specimens.
Mali Hka R., Myitkyina District, Burma.	LtCol. R. W. Burton	••	1 specimen.
Kaung Hein, Chindwin Drainage.	Amer. Mus. Nat. Hist.	••	1 specimen.
3314111480.			
Manipur Valley, Chindwin Drainage.	Dr. S. L. Hora		7 specimens.
Manipur Valley, Chindwin Drainage.	Dr. S. L. Hora  Purchased from Dr. Day.	· F.	-
Manipur Valley, Chindwin Drainage.	Purchased from Dr. Day.	г. 	-
Manipur Valley, Chindwin Drainage.  Deccan	Purchased from Dr. Day.  Mr. A. G. L. Fraser		l specimen.
Manipur Valley, Chindwin Drainage.  Deccan	Purchased from Dr. Day.  Mr. A. G. L. Fraser  Mr. A. G. L. Fraser	••	1 specimen. 3 specimens.
Manipur Valley, Chindwin Drainage.  Deccan  Darna R., Deolali, Bombay Presidency.  Poona, Bombay Presidency  Sabari R., tributary of	Purchased from Dr. Day.  Mr. A. G. L. Fraser  Mr. A. G. L. Fraser	••	1 specimen. 3 specimens. 73 specimens. 2 specimens.

We give below two tables of measurements, number of anal rays and scale counts of specimens of *R. cotio* var, *cunma* from Burma and Peninsular India respectively.

Measurements in millimetres, number of anal rays and scale counts of specimens of Rohtee cotio var. cunma Day from Burma.

					Tavoy.			Irrawady.	Rangoon. 1	Iandalay.	Bhamo.	Indawgyi L.	Mali Hka R.	Kaung Hein.	Manipur.	
Standard length	••		116.5	90.0	89.0	79•0	68.0	82.0	87.0	115.5	70.0	105.5	101.5	64.0	45.0	
Length of head	••	••	27.0	22.5	22.0	18.5	17.5	20.0	20.5	27.0	19.0	28·3	27.8	16.0	12.0	
Depth of body	••	••	57.0	40.5	40.7	35.5	29.5	35.0	37.0	51.0	29.0	43.0	43.0	24.5	15.0	Records
Width of body	••	••	15•0	11.0	10.7	9.0	7.0	8.7	9.0	13.0	8.0	12.7	11.5	7.0	5.3	rds
Diameter of eye	••	••	10.0	8.5	8.5	<b>7</b> ·5	7.0	8.1	8·1	10.0	7.0	10·1	9.9	7.0	5.0	of ti
Length of snout	••	••	8.5	7.0	7.0	5.0	4.9	5.5	5-8	8.0	5.0	9.0	7.0	5.0	3.0	the Is
Interorbital width	••		7.0	6.0	6.0	5.0	4.3	<b>5</b> ·5	5·5	7.0	4.0	7.0	6.5	5.0	3.0	Indian
Length of dorsal spine	· .		D.	28.5	29.0	25.5	22.5	D.	D.	33.0	D.	D.	30.0	D.	D.	Museum.
No. of scales along L.	1.	••	46	44	45	42	42	48	45	53	45	48	49	44	48	um.
Nc. of scales between	n L. 1. and	٧.	71	73	71	71	71	8 <del>]</del>	71	8 <del>1</del>	71	81/2	8 <del>1</del>	71	81	
No. of predorsal scales	3	••	20	19	19	19	18	20	19	20	19	19	20	19	20	[Vol.
No. of rays in anal fin	ı	••	3/29	8/29	3/26	3/29	3/27	3/29	3/29	3/28	3/27	3/25	3/26	3/27	3/28	XLII

Measurements in millimetres, number of anal rays and scale counts of specimens of Rohtee cunma Day from Peninsular India.

		Deccan.	Deolali.		P001	Godavari R.	()rissa.		
Standard length		70.0	85.0	80-0	72.0	71.0	68.0	48.0	55.0
Length of head		16.0	9.0	18.0	16.5	15.5	15.5	11.0	13.0
Depth of body		30.0	13.0	35.0	81.5	28.5	27.0	19.0	20.0
Width of body		6.5	4.0	11•5	۶۰5	7.5	9.0	5.5	4.0
Diameter of eye		6.5	4.3	7.1	6.5	6.5	6.5	5.0	5.0
Length of snout		4.0	2.5	5.5	4.7	4.5	4.5	3.0	3.0
Interorbital width		5.0	2.5	5.0	4.9	4.9	4.9	3.0	3.5
Length of dorsal spine	• •	D.	D.	D.	D.	D.	20	14	D.
No. of scales along L. 1.	٠.	56	55	55	60	55	58	56	55
No. of scales between L and V.	. 1.	71	8 <del>3</del>	91	91	81	91	9	9}
No. of predorsal scales		24	21	23	22	22	22	24	28
No. of rays in anal fin	••	3/29	3/29	3/30	3/28	3/28	3/28	3/31	3/31

#### GENERAL REMARKS.

Recently one of us1 discussed the systematics and geographical distribution of the fishes of the genus Rohtee, but unfortunately he was not then aware of the precise specific limits of R. cunma. It is now possible to say that Rohtee-like fishes without a serrated dorsal spine included in the genus Parabramis Bleeker are restricted to the Amur System, North China, Kiao-Ho, Yangtse-Kiang and Hainan, while Rohtee is found in Yunnan, Burma and India. Anderson<sup>2</sup> recorded two species of Rohtee (=Osteobrama) from Tagoung in Yunnan, viz., R. cotio (Ham.) and R. microlepis (Blyth) (=R. belangeri). We have examined Anderson's specimens and find that those assigned to R. cotio belong Thus the two species of Rohtee from Yunnan are the same as are to be commonly found in Burma.

In dealing collectively with the fishes of the genus Rohtee, it is of interest to note the great similarity between the forms found in Peninsular India on the one hand and in Burma on the other. Though there is only one species, R. cotio (sensu stricto), found throughout Northern India, in Peninsular India we have 5 species and in Burma 3 species. One form, R. cotio var. cunma, is common to both Peninsular India and Burma, and among the species found in both the regions we have forms with and without barbels. The geographical distribution of Rohtee thus affords a striking instance of the great similarity between the fauna of Southern India and Burma. In this connection attention may also be invited to the similar distribution3 of Mystacoleucus Günther, an allied genus with a procumbent, predorsal spine.

Hora, S. L., Rec. Ind. Mus. XXXIX, pp. 314, 315 (1937).
 Anderson, J., Zool. Res. Yunnan Exped. I, p. 869 (1878).
 Hora, S. L., Rec. Ind. Mus. XXXIX, p. 314 (1937); ibid. XLI, pp. 401-406 (1939).

#### SUMMARY.

A revision of the fishes of the genus Rohtee Sykes, based on the material preserved in the collection of the Indian Museum, is given. A key to various species is given and notes are added to elucidate the taxonomy of each. One new species, R. dayi, is described from the Godavari River.

The specimens of the various species in the collection of the Indian Museum are listed, and tables of measurements and counts of anal fin rays and scales are given to indicate individual variations.

Geographical distribution of the genus is discussed and attention is directed to the great similarity between the species found in Burma and Yunnan on the one hand and in Peninsular India on the other. Reference is also made to the parallelism between the distribution of the genera Rohtee and Mystacoleucus.