

## A MONOGRAPH OF THE FLYCATCHER GENERA HYPOTHYMIS AND CYANONYMPHA.

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Among the many East Indian birds of Dr. W. L. Abbott's collecting, now in the U. S. National Museum, that Mr. Ridgway, the curator of birds, has referred to the writer for determination, are a considerable number of blue flycatchers of the genus *Hypothymis*. These specimens are largely of forms more or less nearly related to *Hypothymis azurea*; and in order satisfactorily to work out their relationships it has been necessary to make as thorough an examination as possible of all the species of the genus.

The genus *Hypothymis* at present consists nominally of 11 species and subspecies. Of these, *Hypothymis superciliaris* and its close ally, *H. samarensis*, are clearly out of place in *Hypothymis*, but even more so in *Rhipidura*, where some recent authors have placed them. It seems necessary, therefore, to create for them a new genus, which I hereinafter accordingly do. Nor am I fully satisfied regarding the correct position of *Hypothymis rowleyi*, but leave it here pending further investigation. The bird from Celebes, *Hypothymis puella puella*, and its subspecies from the Sula Islands, *Hypothymis puella blasii*, are very distinct from the other members of the genus, as is also *Hypothymis abbotti* Richmond.

All the other forms, including several new ones, are clearly geographical races of *Hypothymis azurea*, though some of them pass for species. We are now able to distinguish sixteen forms of *Hypothymis azurea*, most of them island races, and, with two exceptions, of comparatively limited distribution. Each intergrades with some other, either through individual variation or (in one instance) continuity of range, so that there is just cause for considering them all subspecies. Most of the color characters exist only in the males, the females in nearly every case being separable, if at all, only by size, so that in the following pages the diagnoses apply to the

males alone unless otherwise specified. Individual variation in the group is not excessive, although there is usually some difference in the shade and extent of the blue; so that the characters are preserved with fair uniformity. Newly molted birds are usually of brighter, sometimes slightly more purplish, blue, than when much worn, but this color does not appear otherwise to undergo any material change.

Like so many other birds of the same general region, some of the forms of *Hypothymis* are peculiar in their geographical distribution. The race of *Hypothymis azurea* occurring on the Tambelan Islands, off the western coast of Borneo, is *H. a. opisthocyanea*<sup>a</sup> of the Anamba Islands, instead of the Borneo-Malay Peninsula form. The subspecies found on the island of Car Nicobar, Nicobar Islands, *Hypothymis azurea idiochroa*,<sup>b</sup> is much more like *Hypothymis azurea prophata*<sup>c</sup> from the Malay Peninsula than like *Hypothymis azurea calocara*<sup>d</sup> from the other Nicobar Islands. Still more remarkable, and showing again the apparent kinship or parallel development of forms from the western coast islands of Sumatra with forms from the Andaman Islands that exists in birds of other genera, is the close similarity of *Hypothymis azurea consobrina*, from Simalur Island, and *Hypothymis azurea richmondi*,<sup>e</sup> from Engano Island, to *Hypothymis azurea tytleri*, from the Andaman Islands, and their great difference from both *Hypothymis azurea prophata*,<sup>f</sup> of the Sumatra mainland, and all the island races that geographically intervene between Engano and Simalur islands. Furthermore, the bird from the Pagi Islands, *Hypothymis azurea leucophila*,<sup>g</sup> which is the one of these island races geographically nearest *Hypothymis azurea richmondi*,<sup>h</sup> from Engano, is, in appearance, the most different; while between *Hypothymis azurea amelis*,<sup>i</sup> from Nias, and *Hypothymis azurea consobrina*, from Simalur Island, there comes in the totally distinct species *Hypothymis abbotti*, on Pulo Babi and Pulo Lasia.

The literature relating to this group of very beautiful little flycatchers is to be found mostly as scattered notes on individual species in systematic and faunal papers; and the only complete recent account of the genus is that of Dr. R. B. Sharpe, in the Catalogue of Birds in the British Museum, volume 4, 1879, pages 273 to 279.

The material which has been available as the basis of this review of *Hypothymis* consists of 205 specimens, in large part of the fortunately excellent series (180 specimens) in the U. S. National Museum. Aside from this we are indebted for altogether 25 specimens to Mr. J. H. Fleming, and to the Academy of Natural Sciences of Philadelphia, through the kindness of Mr. Witmer Stone.

<sup>a</sup> See p. 602.

<sup>b</sup> See p. 604.

<sup>c</sup> See p. 597.

<sup>d</sup> See p. 610.

<sup>e</sup> See p. 613.

<sup>f</sup> See p. 597.

<sup>g</sup> See p. 607.

<sup>h</sup> See p. 613.

<sup>i</sup> See p. 608.

CYANONYMPHA,<sup>a</sup> new genus.

*Chars. gen.*—Similar to *Hypothymis* Boie, but bill more slender; rictal bristles much longer, reaching nearly or quite to end of bill; feathers of crown not stiffened; tarsus much less distinctly scutellate. Similar to *Rhipidura* Vigors and Horsfield, but tail not decidedly longer than wing, and only rounded, not strongly graduated; tarsus less distinctly scutellate; rictal bristles relatively shorter, not reaching appreciably beyond tip of bill.

*Type of the genus.*—*Hypothymis superciliaris* Sharpe.

*Geographical distribution.*—Southern Philippine Islands.

## KEY TO THE FORMS OF CYANONYMPHA, BASED ON ADULT MALES.

- a.* Pileum lighter, brighter, more bluish; light-blue eyebrow and frontal line broader.  
*Cyanonympha superciliaris superciliaris.*
- a*<sup>1</sup>. Pileum darker, duller, less bluish; light-blue eyebrow and frontal line more narrow.  
*Cyanonympha superciliaris samarensis.*

## CYANONYMPHA SUPERCILIARIS SUPERCILIARIS (Sharpe).

*Hypothymis superciliaris* SHARPE, Trans. Linn. Soc. Lond., ser. 2, vol. 1, pt. 6, 1877, p. 326 (Isabella de Basilan, Basilan Island, Philippine Islands).

*Chars. sp.*—Upper parts of male deep verditer blue, the pileum indigo blue, the forehead and a supraloral line bright azure blue; wings and tail fuscous, margined with cobalt or purplish indigo blue; throat and breast purplish china blue; posterior lower parts white washed with blue. Female similar to male, but of a rather lighter, slightly more greenish blue.

*Measurements.*—Seven males: Wing, 73–81 (average, 78.1); tail, 75.5–83.5 (average, 77.9); exposed culmen, 11–12 (average, 11.6); tarsus, 15.5–16.5 (average, 15.9) mm. Six females: Wing, 72–78.5 (average, 74.9); tail, 73.5–79 (average, 76.5); exposed culmen, 11–12 (average, 11.6); tarsus, 15–16 (average, 15.5) mm.

*Type-locality.*—Isabella de Basilan, Basilan Island, Philippine Islands.

*Geographical distribution.*—Islands of Basilan and Mindanao, Philippine Archipelago.

Specimens from the island of Basilan seem to average somewhat lighter, more greenish blue above than those from Mindanao, but this is not sufficient to warrant any subspecific separation, at least with the material at our present disposal. There is apparently very little sexual difference in this species, aside from the inferior size of the female.

<sup>a</sup> κύανος, cyanos; νύμφη, nymphe.

Detailed millimeter measurements of the specimens examined are as follows:

*Measurements of specimens of Cyanonympha superciliaris superciliaris examined.*

Museum and No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Ex-posed cul-men.	Tar-sus.
U.S.N.M. 190250..	Male....	Pantar, Minda-nao, Philip-pine Islands.	Aug. 26, 1903	Dr. E. A. Mearns	79	79	11.5	15.5
U.S.N.M. 202321..	...do....	Catagan, Min-danao, Philip-pine Islands.	May 12, 1906	.....do.....	81	83.5	12	15.5
U.S.N.M. 202322..	...do....	.....do.....	.....do.....	.....do.....	75	76.5	11.5	16
U.S.N.M. 202524..	...do....	.....do.....	June 9, 1906	Robert A. Schroder.	73	75.5	12	16
J. H. Fleming 10415.	...do....	Isabella, Basi-lan, Philip-pine Islands.	Nov. 15, 1887	E. L. Moseley ..	79	77	11.5	16
U.S.N.M. 201267..	...do....	.....do.....	Feb. 1, 1906	Dr. E. A. Mearns	80	76	11	16.5
U.S.N.M. 191849..	...do....	.....do.....	Jan. 26, 1904	.....do.....	79.5	78	12	16
U.S.N.M. 202525..	Female	Catagan, Min-danao, Philip-pine Islands.	June 9, 1906	Robert A. Schroder.	78.5	79	12	15.5
U.S.N.M. 202523..	...do....	.....do.....	May 21, 1906	.....do.....	77	78	11.5	15.5
U.S.N.M. 202320..	...do....	.....do.....	May 12, 1906	Dr. E. A. Mearns	72	76.5	11	15
U.S.N.M. 190251..	...do....	Pantar, Minda-nao, Philip-pine Islands.	Sept. 3, 1903	.....do.....	75	78.5	11.5	15.5
U.S.N.M. 191850..	...do....	Basilan, Phil-ippine Is-lands.	Jan. 26, 1904	.....do.....	74	73.5	11.5	15.5
U.S.N.M. 201266..	...do....	.....do.....	Feb. 20, 1906	.....do.....	73	73.5	12	16

CYANONYMPHA SUPERCILIARIS SAMARENSIS (Steere).

*Hypothymis samtrensis* STEERE, List Birds and Mammals Steere Expedition Philippines, 1890, p. 16 (Samar Island, Philippine Islands).

*Chars. subsp.*—Similar to *Cyanonympha superciliaris superciliaris*, but pileum darker, more dusky (less bluish), and thus more contrasted with the back; remaining upper parts more greenish blue; the bright azure forehead and supraloral lines more narrow.

*Measurements.*—One male: Wing, 80; tail, 80; exposed culmen, 12; tarsus, 16 mm.

*Type-locality.*—Samar Island, Philippine Islands.

*Geographical distribution.*—Islands of Samar, Leyte, and Bohol, Philippine Islands.

The only specimen examined is an adult male (U.S.N.M. No. 211005) from Servilla, Bohol Island, collected April 18, 1906, by A. Celestino and M. Canton. It is very much like some specimens of *Cyanonympha superciliaris superciliaris*, and indicates that *C. s. samarensis* is only a subspecies.

Genus HYPOTHYMIS Boie.

*Hypothymis* BOIE, Isis, 1826, p. 973.

*Chars. gen.*—Similar to *Rhipidura*, but bill stouter; nostrils within basal half of bill, measured from rictus; rictal bristles much shorter,

reaching barely beyond middle of bill; feathers of crown stiffened; tail not decidedly longer than the wing, and not so strongly rounded or graduated.

*Type*.—"Musc. caerulea Vaill. Afr. pl. 153" (= *Muscicapa azurea* Boddaert).

*Geographical distribution*.—Philippine Islands, Formosa, Hainan, Cochin China, Burmah, Malay Peninsula, and India; south to Ceylon, Sumatra and its islands, Java, Lombok, Sumbawa, and Flores; east to Celebes and the Sula Islands.

KEY TO THE SPECIES AND SUBSPECIES OF HYPOTHYMIS, BASED ON ADULT MALES.

A. No blackish occipital patch.

a. Upper parts deep pure blue.....*Hypothymis abbotti*.

a<sup>1</sup>. Upper parts lighter, grayish blue.

b. Size averaging smaller; lower parts not decidedly paler than upper surface.

c. Blue above and below paler.....*Hypothymis puella puella*.

c<sup>1</sup>. Blue above and below darker.....*Hypothymis puella blasii*.

b<sup>1</sup>. Size larger; lower parts decidedly paler than upper surface..*Hypothymis rowleyi*.

B. A black or blackish occipital patch.

a. Flanks and crissum pure white.

b. No black collar on foreneck; black occipital spot indistinct.

*Hypothymis azurea ceylonensis*.

b<sup>1</sup>. A black collar on foreneck; black occipital spot distinct.

c. Larger (wing 75 mm. or more); upper parts darker.

*Hypothymis azurea forrestia*.

c<sup>1</sup>. Smaller (wing less than 75 mm.); upper parts lighter.

d. Blue of upper surface more purplish; wing averaging less than 70 mm.

*Hypothymis azurea azurea*.

d<sup>1</sup>. Blue of upper surface less purplish; wing averaging more than 70 mm.

e. Crown much paler than back.....*Hypothymis azurea coeruleocephala*.

e<sup>1</sup>. Crown not much paler than back.....*Hypothymis azurea leucophila*.

a<sup>1</sup>. Flanks and crissum grayish or tinged with blue.

b. Crown decidedly paler than the back.

c. Wing less than 73 mm.

d. Back lighter, less purplish; pileum less strongly contrasted with back.

*Hypothymis azurea ponera*.

d<sup>1</sup>. Back darker, more purplish blue; pileum more strongly contrasted with back.....*Hypothymis azurea prophata*.

c<sup>1</sup>. Wing 73 mm. or more.

d. Upper parts paler, less purplish blue.....*Hypothymis azurea idiochroa*.

d<sup>1</sup>. Upper parts deeper, more purplish blue.

e. Larger (wing averaging 77.7 mm.); posterior lower parts usually more bluish.....*Hypothymis azurea opisthocyanea*.

e<sup>1</sup>. Smaller (wing averaging 74 mm.); posterior lower parts usually less bluish.....*Hypothymis azurea gigantoptera*.

b<sup>1</sup>. Crown not decidedly paler than the back.

c. Posterior lower parts less heavily overlaid with blue, the white of median abdomen more extended, never nearly absent.

d. Larger (wing over 70 mm.); blue less purplish..*Hypothymis azurea isocara*.

d<sup>1</sup>. Smaller (wing under 70 mm.); blue more purplish.

*Hypothymis azurea calocara*.

c<sup>1</sup>. Posterior lower parts more heavily overlaid with blue, the white of median abdomen more restricted, sometimes absent.

d. Wing averaging less than 70 mm.

e. Pileum paler, and appreciably contrasted with back; posterior lower parts more whitish; axillars more whitish, less washed with blue.

*Hypothymis azurea amclis.*

e<sup>1</sup>. Pileum darker, and not appreciably contrasted with back; posterior lower parts more bluish; axillars more grayish and more washed with blue.

*Hypothymis azurea consobrina.*

d<sup>1</sup>. Wing averaging more than 70 mm.

e. Blue of upper and lower surfaces lighter; posterior lower parts more whitish and less overlaid with blue. . . . . *Hypothymis azurea tytleri.*

e<sup>1</sup>. Blue of upper and lower surfaces darker; posterior lower parts more grayish and more overlaid with blue. . . *Hypothymis azurea richmondi.*

#### HYPOTHYMIS ROWLEYI (Meyer).

*Zeocephus rowleyi* MEYER, Rowley's Ornith. Misc., vol. 3, 1878, p. 163.

*Chars. sp.*—Similar to *Hypothymis puella puella*, but much larger; upper surface darker, and contrasted strongly with the paler lower parts.

*Description of adult male.*<sup>a</sup>—“Upper parts bluish, brighter on the back; wing-feathers blackish grey, margins of the outer webs greyish blue, of the inner whitish. Underparts light pale blue, somewhat whitish on the belly; wing-feathers beneath grey, margins of the outer webs and under wing-coverts white. Rectrices bluish grey above, outer webs blue, of the same colour as the back; beneath grey. Bill blackish, under mandible paler. Bristles very long, some reaching the tip of the bill. Feet and claws greyish.”

*Measurements (of type).*—“Total length 180 millims., bill 13, wing 96, tail 92, tarsus 21.”<sup>b</sup>

*Type-locality.*—Tabukan, Great Sangi Island, Sangi Islands.

*Geographical distribution.*—Sangi Islands.

The type of this pretty flycatcher is in the Dresden Museum, and apparently still remains unique. From what Meyer and Wiglesworth say,<sup>c</sup> the species appears to be doubtfully placed in *Hypothymis*; but, not having seen a specimen, I am, of course, not able to make any change in its currently accepted generic position.

#### HYPOTHYMIS PUELLA PUELLA (Wallace).

*Myiagra puella* WALLACE, Proc. Zool. Soc. Lond., 1862, p. 340.

*Chars. sp.*—Upper and lower parts nearly uniform campanula blue, the abdomen paler; wings and tail fuscous, margined with campanula blue; a narrow blackish line around the base of the maxilla; iris gray; bill, legs, and feet black.

*Measurements.*—Six males: Wing, 71–77 (average, 74.1); tail, 72–78 (average, 73.8); exposed culmen, 11.5–13 (average, 12.3);

<sup>a</sup> Original description of type, Meyer, Rowley's Ornith. Misc., vol. 3, 1878, p. 163.

<sup>b</sup> Meyer, Rowley's Ornith. Misc., vol. 3, 1878, p. 163.

<sup>c</sup> Birds of Celebes, vol. 1, 1898, p. 378.

tarsus, 16–17 (average, 16.4) mm. Five females: Wing, 70–76 (average, 72.9); tail, 68–76.5 (average, 73.2); exposed culmen, 11.5–13 (average, 12.2); tarsus, 15.5–16.5 (average, 16.3) mm.

*Type-locality*.—Menado, northern Celebes.<sup>a</sup>

*Geographical distribution*.—Celebes.

Although the only specimens examined were taken in northern Celebes, this form occurs in all parts of the island, to which, however, it is apparently confined. There is considerable individual variation among adults, in the shade of the blue, this in some being much richer than in others. There is apparently no sexual difference in color, but the female averages slightly smaller than the male. Immature birds, however, seem to be paler and of a more grayish blue.

*Measurements of specimens of Hypothymis puella puella examined.*

Museum and No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Ex-posed culmen.	Tar-sus.
U.S.N.M. 178228....	Male....	Northern Celebes.	1883.....	F. Von Faber.	73.5	72	13	16
J. H. Fleming 10864.	...do....	T o t o k, Minahasa, Celebes.	Apr. —, 1899	.....	75	74	12	16
J. H. Fleming 10862.	...do....	.....do.....	Jan. 27, 1899	.....	77	78	13	16.5
J. H. Fleming 10865.	...do....	.....do.....	Mar. 13, 1899	.....	74	72	12	16.5
J. H. Fleming 10863.	...do....	.....do.....	Jan. 27, 1899	.....	74	74.5	12	17
A.N. S. Phila. 51715.	...do....	Rorakan, Minahasa, Celebes.	Oct. —, 1895	Chas. Hose....	71	72	11.5	16.5
U.S.N.M. 178229....	Female.	Northern Celebes.	1883.....	F. Von Faber.	71	73.5	11.5	16.5
A.N. S. Phila. 51716.	...do....	M o u n t Masarang, Celebes.	Oct. —, 1895	Chas. Hose....	70	68	12.5	16.5
J. H. Fleming 10861.	...do....	Rorakan, Minahasa, Celebes.	Apr. —, 1899	.....	76	76.5	12	16.5
J. H. Fleming 10868.	...do....	K o t t a B u n a, Minahasa, Celebes.	May —, 1899	.....	72.5	72	13	16.5
J. H. Fleming 10866.	...do....	Bojat, Minahasa, Celebes.	June —, 1899	.....	75	76	12	15.5

#### HYPOTHYMIS PUELLA BLASII Hartert.

*Hypothymis puella blasii* HARTERT, Nov. Zool., vol. 5, 1898, p. 131 (Sula Besi and Sula Mangoli islands, Sula Islands).

*Chars. subsp.*—Similar to *Hypothymis puella puella*, but upper parts, throat, and jugulum deeper, more azure, blue.

*Type-locality*.—Sula Besi Island,<sup>b</sup> Sula Islands, east of Celebes.

*Geographical distribution*.—Sula Islands; Peling and Banggai islands, east of Celebes.

No specimens of the Sula Islands race have been examined in the present connection, but judging from Doctor Hartert's description,<sup>c</sup> *Hypothymis p. blasii* is undoubtedly distinct from the Celebes form. Birds from Peling and Banggai islands are said by Doctor Hartert<sup>c</sup> to be the same as those from the Sula Islands.

<sup>a</sup> Type in British Museum, examined by Mr. Gerrit S. Miller, jr.

<sup>b</sup> Doctor Hartert, *in litt.*

<sup>c</sup> Nov. Zool., vol. 5, 1898, p. 131.

## HYPOTHYMIS ABBOTTI Richmond.

*Hypothymis abbotti* RICHMOND, Proc. Biol. Soc. Wash., vol. 15, 1902, p. 189 (Pulo Babi, western coast of Sumatra).

*Chars. sp.*—Entire plumage of male uniform bright cyanine blue; but wing-quills and tail blackish clove brown, broadly edged externally with marine blue; no black on occiput or jugulum; a tiny chin spot and the narial bristles black. Female blackish sepia brown, washed with marine blue, less so on wing-quills and tail, the whole head and throat dull, dark cyanine blue.

*Measurements.*—Six males: Wing, 75–79.5 (average, 77.7); tail, 75.5–80.5 (average, 78); exposed culmen, 11–12.5 (average, 11.8); tarsus, 17–19 (average, 17.9) mm. One female: Wing, 77; tail, 76; exposed culmen, 12; tarsus, 18 mm.

*Type-locality.*—Pulo Babi, off the western coast of Sumatra.

*Geographical distribution.*—Pulo Babi and Pulo Lasia, off the western coast of Sumatra.

This remarkable distinct species is most closely allied to *Hypothymis azurea richmondi*,<sup>a</sup> from Engano Island, which, except for the lack of black jugular band and black occipital crescent, it closely resembles. In its lack of black on occiput and jugulum it agrees with *Hypothymis rowleyi*, but in size and color is very different. The feathers of the jugulum are peculiarly truncated, and end in a sharp line posteriorly, as in *Hypothymis azurea* and its forms; and sometimes there are small hidden black spots on a few of the feathers at this line of demarcation between the square ended feathers of the jugulum and the normal feathers of the breast. Thus *Hypothymis abbotti* seems to be virtually a *Hypothymis azurea richmondi* that has lost practically all the black of occiput and jugulum, not, as might at first sight appear, a close ally of *Hypothymis rowleyi* or *Hypothymis puella puella*.

The five adult males of our series are very uniform in coloration. Birds from Pulo Lasia seem to be identical in size and color with those from Pulo Babi. An immature female is essentially like the single adult female.

*Measurements of specimens of Hypothymis abbotti examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>b</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
179431	Male....	Pulo Lasia, west- ern Sumatra.	Jan. 6, 1902	Dr. W. L. Abbott.	181	75	77	12	17
179430	...do.....	...do.....	...do.....	...do.....	181	78	78	11.5	17.5
179426c	...do.....	Pulo Babi, west- ern Sumatra.	Jan. 11, 1902	...do.....	181	77.5	78	11	18.5
179427	...do.....	...do.....	Jan. 10, 1902	...do.....	187	79.5	80.5	11.5	18.5
179428	...do.....	...do.....	Jan. 13, 1902	...do.....	179	79	79	12	17
179429	...do.....	...do.....	Jan. 8, 1902	...do.....	178	77	75.5	12.5	19
179432	Female .	Pulo Lasia, west- ern Sumatra.	Jan. 6, 1902	...do.....	178	77	76	12	18

<sup>a</sup> See p. 613.<sup>b</sup> Measured in the flesh by the collector.<sup>c</sup> Type.



## HYPOTHYMIS AZUREA AZUREA (Boddaert).

*Muscicapa azurea* BODDAERT, Tabl. Planch. Enlum., 1783, p. 41 (based on the "Gobe-mouche bleu des Philippines" of Daubenton, Planch. Enlum., 666, fig. 1).

*Muscicapa caerulea* GMELIN, Syst. Nat., vol. 1, pt. 2, 1788, p. 943 (Philippine Islands).

*Muscicapa occipitalis* VIGORS, Proc. Zool. Soc. Lond., 1831, p. 97 (Manila, Luzon, Philippine Islands).

*Chars. subsp.*—Upper parts, throat, and breast of male hyacinth blue, the pileum lighter; a narrow line across forehead, a small chin spot, a somewhat crescentic bar across jugulum, and a crescentic patch on occiput black; abdomen, sides, flanks, and crissum white, the first two sometimes washed anteriorly with blue; axillars white, little, if at all, tinged with blue.

Female with head, throat, and breast dull cyanine blue, paler on the last; posterior lower parts white, washed with grayish laterally; rest of upper surface rufescent bistre brown; wings and tail clove brown, margined with the warmer brown of back, and with little or no tinge of blue; a narrow black line on extreme forehead, but no black on occiput or jugulum.

*Measurements.*—Twenty-five males: Wing, 65–72.5 (average, 67.6); tail, 64.5–73.5 (average, 67.9); exposed culmen, 10–12 (average, 11); tarsus, 14–17 (average, 15.7) mm. Twenty-two females: Wing, 63–69.5 (average, 66.2); tail, 62–72.5 (average, 67.9); exposed culmen, 10–12 (average, 11); tarsus, 14.5–17 (average, 15.8) mm.

*Type-locality.*—Philippine Islands.

*Geographical distribution.*—Philippine Islands, including the Palawan group; and Formosa.

A good series from the Philippine Islands shows that this race is almost as white below as *Hypothymis azurea coeruleocephala* from India; the lower tail-coverts, flanks, and lower abdomen are white, but the blue of the breast extends somewhat farther back than in the Indian form. Daubenton's plate,<sup>a</sup> on which *Muscicapa azurea* Boddaert<sup>b</sup> was based, is thus not so inaccurate as has been supposed, and there now seems to be no satisfactory reason for not applying the name *azurea* to the Philippine bird, to which it exclusively refers. The *Muscicapa caerulea* of Gmelin,<sup>c</sup> founded upon the "Petit azur" of Buffon,<sup>d</sup> the "Gobe-mouche bleu des Philippines" of Daubenton,<sup>e</sup> and the "Azure flycatcher" of Latham,<sup>f</sup> is of course synonymous; and the same is to be said of *Muscicapa occipitalis* Vigors,<sup>g</sup> from Manila.

<sup>a</sup> Planch. Enlum., 666, fig. 1.

<sup>b</sup> Tabl. Planch. Enlum., 1783, p. 41.

<sup>c</sup> Syst. Nat., vol. 1, pt. 2, 1788, p. 943.

<sup>d</sup> Hist. Nat. Ois., vol. 4, 1778, p. 534.

<sup>e</sup> Planch. Enlum., 666, fig. 1.

<sup>f</sup> Gen. Syn. Birds, vol. 2, pt. 1, 1783, p. 339.

<sup>g</sup> Proc. Zool. Soc. Lond., 1831, p. 97.

This bird is of very general distribution throughout the Philippine Archipelago, but seems to be practically identical on the several islands, at least on the considerable number from which we have seen specimens. A single example from Formosa, however, is rather lighter, less purplish blue above, though this is possibly individual. The immature male of this species is practically identical in color with the adult female.

*Measurements of specimens of Hypothymis azurea azurea examined.*

Museum and No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Ex-posed cul-men.	Tar-sus.
U.S.N.M. 37790....	Male....	South western Formosa Island.	1861.....	R. Swinhoe...	69.5	70	.....	15.5
U.S.N.M. 161511....	...do....	Palawan Island, Philippine Islands.	Sept. 9, 1887	Dr. F. S. Bourns	66	65.5	11	15
U.S.N.M. 161512....	...do....	.....do.....	Sept. 5, 1887	.....do.....	67	69.5	11	15
U.S.N.M. 161517....	...do....	.....do.....	Aug. 31, 1887	D. C. Worcester.	66	66.5	10.5	15.5
U.S.N.M. 161510....	...do....	.....do.....	.....do.....	Dr. F. S. Bourns	66	65.5	11	15
A.N.S. Phila. 51714	...do....	.....do.....	.....do.....	A. Everett....	72.5	72	11	16
J. H. Fleming 10413	...do....	Puerto Princesa, Palawan Island, Philippine Islands.	Sept. 19, 1887	E. L. Moseley.	71	71	11.5	16
U.S.N.M. 190252....	...do....	Pantar, Mindanao Island, Philippine Islands.	Sept. 9, 1903	Dr. E. A. Mearns.	66.5	65.5	11	15
U.S.N.M. 192046....	...do....	Surigao, Mindanao Island, Philippine Islands.	Apr. 25, 1904	.....do.....	68	64.5	10.5	16.5
U.S.N.M. 192045....	...do....	Tubay River, Mindanao Island, Philippine Islands.	Apr. 24, 1904	.....do.....	69.5	66	10.5	15.5
U.S.N.M. 190624....	...do....	Davao, Mindanao Island, Philippine Islands.	Oct. 24, 1903	.....do.....	69	66	12	17
U.S.N.M. 211516....	...do....	Boganga River, Mindanao Island, Philippine Islands.	May 13, 1908	Paul Bartsch..	66.5	67	11	15
U.S.N.M. 211515....	...do....	Capunuyyugan Point, Mindanao Island, Philippine Islands.	May 10, 1908	.....do.....	65	67	10	15
U.S.N.M. 148508....	...do....	Basilan Island, Philippine Islands.	.....do.....	A. Everett....	65	65	10.5	16.5
U.S.N.M. 161509....	...do....	.....do.....	1887.....	Dr. F. S. Bourns	68	66	11.5	16.5
U.S.N.M. 201265....	...do....	Henry Musser's place, Basilan Island, Philippine Islands.	.....do.....	Dr. E. A. Mearns.	69.5	67.5	10.5	16
U.S.N.M. 202317....	...do....	Calapan, Mindoro Island, Philippine Islands.	Dec. 8, 1906	.....do.....	68.5	68	10.5	.....
U.S.N.M. 202309....	...do....	Nagpartian, Ilocos Norte, Luzon Island, Philippine Islands.	Feb. 17, 1907	.....do.....	72	71	11	17
U.S.N.M. 202310....	...do....	.....do.....	Feb. 21, 1907	.....do.....	67	68.5	11.5	15.5
U.S.N.M. 202315....	...do....	.....do.....	Mar. 2, 1907	.....do.....	65.5	67.5	11.5	16
U.S.N.M. 172446....	...do....	Bayambang, Luzon Island, Philippine Islands.	June 10, 1900	Capt. H. C. Benson.	67	65.5	10	17

Measurements of specimens of *Hypothymis azurea azurea* examined—Continued.

Museum and No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.
A.N.S. Phila. 49787.	Male....	Tayabas, Luzon Island, Philippine Islands.	Mar. 12, 1904	Dr. E. H. Porter.	68.5	68.5	12	15.5
A.N.S. Phila. 49788.	..do....	..do....	..do....	..do....	68	71	11	16
A.N.S. Phila. 49786.	..do....	Province of Sorsogon, Luzon Island, Philippine Islands.	Apr. 7, 1903	..do....	65.5	69	10.5	15
A.N.S. Phila. 51712.	..do....	Philippine Islands.	.....	.....	72.5	73.5	12	14
A.N.S. Phila. 51713.	Female..	Puerto Princesa, Palawan Island, Philippine Islands.	.....	.....	64.5	68.5	11	14.5
J. H. Fleming 10414	..do....	..do....	Sept. 9, 1887	E. L. Moseley.	65.5	67	11	15
A.N.S. Phila. 51711.	..do....	Philippine Islands.	.....	.....	65	67	11	15.5
U.S.N.M. 161516.	..do....	Palawan Island, Philippine Islands.	Aug. 31, 1887	D. C. Worcester.	68	72	11	15.5
U.S.N.M. 161513.	..do....	..do....	..do....	Dr. F. S. Bourns.	64.5	66	10	16
U.S.N.M. 161514.	..do....	..do....	Aug. 30, 1887	..do....	66.5	69.5	10	15
U.S.N.M. 202318.	..do....	Nanjan Lake, Mindoro Island, Philippine Islands.	Mar. 25, 1907	Dr. E. A. Mearns.	66.5	65.5	11	16
U.S.N.M. 190253.	..do....	Pantar, Mindanao Island, Philippine Islands.	Aug. 13, 1903	..do....	64.5	66	11	16
U.S.N.M. 190682.	..do....	Camp Pantar, Mindanao Island, Philippine Islands.	Sept. 26, 1903	..do....	63	64	10	16
U.S.N.M. 202521.	..do....	Catagan, Mindanao Island, Philippine Islands.	May 21, 1906	Robert A. Schroder.	66	64.5	.....	15.5
U.S.N.M. 202522.	..do....	..do....	May 24, 1906	..do....	65	62	10.5	15
U.S.N.M. 161508.	..do....	Guimaras Island, Philippine Islands.	Dec. 28, 1887	D. C. Worcester.	66	67	10.5	17
U.S.N.M. 161507.	..do....	..do....	Jan. 6, 1888	..do....	69.5	69	11	16.5
U.S.N.M. 211514.	..do....	Port Binang, Luzon Island, Philippine Islands.	Jan. 9, 1908	Paul Bartsch..	68.5	68.5	11	16.5
U.S.N.M. 202316.	..do....	Nagpartian, Ilocos Norte, Luzon Island, Philippine Islands.	Mar. 3, 1907	Dr. E. A. Mearns.	66	70	12	16
U.S.N.M. 202312.	..do....	..do....	Feb. 23, 1907	..do....	65	67	11.5	16
U.S.N.M. 202311.	..do....	..do....	..do....	..do....	65	68	11.5	15.5
U.S.N.M. 202313.	..do....	..do....	Mar. 2, 1907	..do....	65	69	11.5	16.5
U.S.N.M. 202314.	..do....	..do....	..do....	..do....	68	72	12	16
U.S.N.M. 172447.	..do....	Bayambang, Luzon Island, Philippine Islands.	June 10, 1900	Capt. H. C. Benson.	67	67	10	16
U.S.N.M. 202319.	..do....	Balabac Island, Philippine Islands.	Oct. 16, 1906	Dr. E. A. Mearns.	68.5	72.5	11.5	15.5
U.S.N.M. 200609.	..do....	Sibutu Island, Philippine Islands.	Jan. 7, 1906	..do....	69.5	72	12	16

## HYPOTHYMIS AZUREA COERULEOCEPHALA (Sykes).

*Muscicapa coeruleocephala* SYKES, Proc. Zool. Soc. Lond., 1832, p. 85 (Deccan, India).

?*Myiagra torquata* SWAINSON, Monogr. Flycatchers, 1838, p. 208 (no locality).

*Siphia styani* HARTLAUB, Abh. Nat. Ver. Bremen, vol. 16, pt. 2, 1898, p. 248 (Hoihow and Nodouha, Hainan Island).

*Chars. subsp.*—Similar to *Hypothymis azurea azurea*, but averaging larger; posterior lower parts of the male rather more extensively white; upper surface lighter, less purplish blue.

*Measurements.*—Two males: Wing, 70–72 (average, 71); tail, 69.5–71 (average, 70.3); exposed culmen, 10–10.5 (average, 10.3); tarsus, 15.5–16 (average, 15.8). Three females: Wing, 68–72 (average, 70); tail, 69.5–74.5 (average, 71.3); exposed culmen, 10.5–12.5 (average, 11.3); tarsus, 14–17 (average, 15.5) mm.

*Type-locality.*—Deccan, India.

*Geographical distribution.*—India north to the Himalayas, including Nepal; east in Burmah to Pegu and Tenasserim; Cochin China; and Hainan.

This form is closely related to *Hypothymis azurea azurea*, and undoubtedly is but subspecifically distinct, since to the southward along the Malay Peninsula it passes into *Hypothymis a. prophata*, which in turn intergrades with *Hypothymis a. azurea*.

Birds from Pegu and Tenasserim are intermediate between *coeruleocephala* and *prophata*, but belong with the former.

Females of *H. a. coeruleocephala* are larger than those of *H. a. azurea*, are paler above, and somewhat more extensively white on the posterior lower parts.

The earliest name for this race is undoubtedly *Muscicapa coeruleocephala* Sykes,<sup>a</sup> for both *Muscicapa azurea* Boddaert<sup>b</sup> and *Muscicapa caerulea* Gmelin<sup>c</sup> refer exclusively to the Philippine bird, as I have above shown.

Not having examined any specimens from Hainan, I follow Doctor Hartert<sup>d</sup> in referring the bird from this island to the present form, although from geographical considerations and from the measurements given by Hartlaub in his description of *Siphia styani*<sup>e</sup> I should be inclined to call it *Hypothymis azurea azurea*.

<sup>a</sup> Proc. Zool. Soc. Lond., 1832, p. 85.

<sup>b</sup> Tabl. Planch. Enlum., 1783, p. 41.

<sup>c</sup> Syst. Nat., vol. 1, pt. 2, 1788, p. 943.

<sup>d</sup> Nov. Zool., vol. 17, 1910, p. 225.

<sup>e</sup> Abh. Nat. Ver. Bremen, vol. 16, pt. 2, 1898, p. 248.

*Measurements of specimens of Hypothymis azurea coeruleocephala examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Wing.	Tail.	Exposed culmen.	Tarsus.
201398	Male....	India.....	.....	.....	70	69.5	10.5	16
148507	do.....	do.....	.....	.....	72	71	10	15.5
95317	Female	Thaungyin River, Tenasserim, Burmah.	Mar. 28, 1880	C. T. Bingham.	68	70	12.5	17
95318	do.....	Meplay, Thaungyin Valley, Tenasserim, Burmah.	Jan. 15, 1882	do.....	72	74.5	10.5	14
95414	do.....	Munluiam, Burmah...	Jan. 26, 1877	do.....	70	69.5	11	15.5

**HYPOTHYMIS AZUREA CEYLONENSIS** Sharpe.

*Hypothymis ceylonensis* SHARPE, Cat. Birds Brit. Mus., vol. 4, 1879, p. 277 (Kandy Hills, Ceylon).

*Chars. subsp.*—Similar to *Hypothymis azurea coeruleocephala*, but black occipital patch of male less evident; and black bar on fore neck absent.

*Measurements.*—Male: Wing, 71; tail, 63; culmen, 14; tarsus, 17 mm.<sup>a</sup> One female: Wing, 70.5; tail, 71.5; exposed culmen, 10; tarsus, 16 mm.

*Type-locality.*—Kandy Hills, Ceylon.

*Geographical distribution.*—Ceylon.

From what Mr. Oates has to say of this bird,<sup>b</sup> the adult male of which we have not seen, it is evidently not a distinct species, though a good race.

**HYPOTHYMIS AZUREA PROPHATA**, new subspecies.

*Hypothymis occipitalis* AUTHORS, not of VIGORS.

*Chars. subsp.*—Similar to *Hypothymis azurea azurea*, but larger; sides, flanks, and upper part of abdomen in the male more tinged with bluish; crissum not pure white, but usually more or less faintly washed with bluish or grayish; black occipital patch averaging larger; axillars less purely white, more grayish, and often more bluish; and black collar on foreneck usually wider.

*Description.*—Type, adult male, No. 180281, U.S.N.M.; Great Karimon Island, May 25, 1903; Dr. W. L. Abbott. Throat, breast, and upper parts hyacinth blue, rather lighter below, much so on pileum; extreme forehead along the culmen, a tiny chin spot, a crescentic occipital patch, and a somewhat crescentic bar on the jugulum velvety black; wings and tail slate black, the wing-quills and rectrices broadly margined with marine blue, the wing-coverts edged with the blue of the back; posterior lower parts white, the fore

<sup>a</sup> Converted into millimeters from Sharpe, Cat. Birds Brit. Mus., vol. 4, 1879, p. 277.

<sup>b</sup> Faun. Brit. India, Birds, vol. 2, 1890, pp. 49–50.

part of abdomen, the sides, and flanks washed with blue, most heavily on the first mentioned, the crissum faintly bluish or grayish, not pure white; under wing-coverts exteriorly hyacinth blue, otherwise slate gray mixed with white; axillars dull white washed with blue; thighs slate gray tinged with blue.

*Measurements*.—Eighteen males: Wing, 66.5–72.5 (average, 70.5); tail, 63.5–72.5 (average, 70); exposed culmen, 9.5–12.5 (average, 11.3); tarsus, 14.5–16.5 (average, 15.6) mm. Nineteen females: Wing, 64–70 (average, 67.1); tail, 62–71.5 (average, 67.2); exposed culmen, 10–11.5 (average, 11); tarsus, 14.5–16.5 (average, 15.6) mm.

*Type-locality*.—Great Karimon Island, eastern coast of Sumatra.

*Geographical distribution*.—Malay Peninsula north to Lower Siam; Sumatra; Great Karimon Island; Lingga Island; Banka Island; Billeton Island; Borneo; Daat Island; Java; Lombok; Sumbawa; Flores; Alor Island.

Authors have heretofore considered the birds of this species inhabiting the Malay Peninsula and various neighboring East Indian islands identical with those from the Philippine Archipelago, which represent true *Hypothymis azurea*,<sup>a</sup> but a careful comparison of series from both regions indicates that the former may well be sub-specifically separated on the strength of characters given above. It differs conspicuously from *Hypothymis azurea opisthocyanea*<sup>b</sup> of the Anamba and Tambelan islands, in its much inferior size, usually more whitish abdomen of the male, and usually less bluish lower tail-coverts and axillars. From the Indian *Hypothymis azurea coeruleocephala*, the range of which it probably meets in Tenasserim or thereabouts, it is distinguishable in the male by the much more bluish abdomen, flanks, and sides; less purely white, that is, more grayish or bluish, crissum and axillars; and darker, more purplish blue upper parts. The birds from the Malay Peninsula are the most whitish of any on the posterior lower parts, showing thus an inclination toward *Hypothymis a. coeruleocephala*; but birds from Trong, Lower Siam, are just like those from farther south; from which fact we may infer that the range of *H. a. prophata* extends still some distance to the northward along the Malay Peninsula. Occasional specimens from Borneo, eastern Sumatra, and neighboring islands have the lower tail-coverts decidedly bluish. Birds from Tapanuli Bay, northwestern Sumatra, are like *Hypothymis a. prophata* in size and in color of the lower parts of both male and female, but the crown averages rather darker, less contrasted with back, and they thus verge somewhat toward the Banjak Islands form.

<sup>a</sup> *Muscicapa azurea* Boddaert, Tabl. Planch. Enlum., 1783, p. 41.

<sup>b</sup> See p. 602.

*Measurements of specimens of Hypothymis azurea prophata examined.*

Museum and No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
U.S.N.M. 181665....	Male....	Batu Jurong, southwest- ern Borneo.	June 20, 1908	Dr. W. L. Abbott.	165	66.5	63.5	11	15.5
U.S.N.M. 178226....	do.....	Borneo.....	Jan. 6, 1894	J. Bütti- kofer.	.....	70.5	70.5	9.5	15
U.S.N.M. 181585....	do.....	Pulo Laut, southeast- ern Borneo.	Dec. 18, 1907	Dr. W. L. Abbott.	160	70	69	12	16
U.S.N.M. 181395....	do.....	Pulo Pane- bangan, western Borneo.	May 16, 1907	do.....	162	71	72.5	11	15.5
J. H. Fleming 6055....	do.....	L a w a s, northern Borneo.	May —, 1896	J. B. Bell....	.....	70	69	10.5	16
U.S.N.M. 180605....	do.....	Pulo Mend- anan, near Bille- ton Is- land.	July 15, 1904	Dr. W. L. Abbott.	162	71.5	71	11	15
U.S.N.M. 180602....	do.....	T a n j o n g T e d o n g, B a n k a Island.	June 5, 1904	do.....	158	69.5	69.5	10.5	15.5
U.S.N.M. 180281 <sup>b</sup> ....	do.....	Great Kari- mon Is- land, east- ern Suma- tra.	May 25, 1903	do.....	158	72.5	72	10	15
U.S.N.M. 181143....	do.....	Pulo Sein- bilan, east- ern Suma- tra.	Nov. 16, 1905	do.....	166	71	71	11	14.5
U.S.N.M. 181324....	do.....	Little Siak River, east- ern Suma- tra.	Nov. 6, 1906	do.....	165	69.5	68	12	16.5
U.S.N.M. 181325....	do.....	do.....	Oct. 27, 1906	do.....	.....	70	69	11	15
U.S.N.M. 179438....	do.....	T a p a n u l i Bay, north- west-ern Sumatra.	Feb. 26, 1902	do.....	162	71	70.5	10	15
U.S.N.M. 179439....	do.....	do.....	Mar. 24, 1902	do.....	162	71.5	71.5	11	16
A.N.S. Phila. 51708	do.....	P a h a n g, Malay Pen- insula.	Dec. 27, 1890	do.....	.....	72	71.5	12	16
U.S.N.M. 175107....	do.....	D u n g a n R i v e r, Tringga- nu, Malay Peninsula.	Sept. 22, 1900	Dr. W. L. Abbott.	155	69	69	11	15
U.S.N.M. 160628....	do.....	T r o n g, L o w e r Siam.	Sept. 17, 1896	do.....	.....	72	70	12.5	16.5
U.S.N.M. 160630....	do.....	do.....	Jan. 29, 1897	do.....	155	69.5	71.5	11	16
U.S.N.M. 160629....	do.....	do.....	Jan. 2, 1897	do.....	155	71.5	71	11.5	16.5
A.N.S. Phila. 51710	Female	T e u t o n, northern Borneo.	July —, 1895	J. B. Bell....	.....	66.5	67	11	16.5
A.N.S. Phila. 51709	do.....	L a w a s, northern Borneo.	May —, 1896	do.....	.....	67.5	67	10	15
J. H. Fleming 6056....	do.....	do.....	do.....	do.....	.....	67.5	67.5	10.5	15.5
U.S.N.M. 95884....	do.....	Northwest- ern Borneo.	do.....	do.....	.....	65.5	67	11	15.5
U.S.N.M. 95885....	do.....	do.....	do.....	do.....	.....	68	65.5	11	14.5
U.S.N.M. 178227....	do.....	L i a n g K o e- b o e n g, western Borneo.	Apr. 13, 1894	J. Bütti- kofer.	.....	65	63.5	10	16
U.S.N.M. 181586....	do.....	Pulo Laut, southeast- ern Borneo.	Dec. 18, 1907	Dr. W. L. Abbott.	161	68	66	11	16
U.S.N.M. 180604....	do.....	Buding Bay, Billeton Island.	Aug. 2, 1904	do.....	148	64	62	10.5	15

<sup>a</sup> Measured in the flesh by the collector.<sup>b</sup> Type.

*Measurements of specimens of Hypothymis azurea prophata examined*—Continued.

Museum and No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
U.S.N.M. 180603....	Female.	Tanjong Bedaan, Banka Island.	June 8, 1904	Dr. W. L. Abbott.	160	68	66	11	16
U.S.N.M. 170813....	do.....	Peak of Lingga Island, Rhio Archipelago.	June 14, 1899	do.....	152	68.5	70	10.5	16
U.S.N.M. 170814....	do.....	do.....	June 16, 1899	do.....	.....	65.5	67	11	15
U.S.N.M. 181323....	do.....	Siak River, eastern Sumatra.	Dec. 23, 1906	do.....	160	65	67	11.5	15.5
U.S.N.M. 154056....	do.....	Trong, Lower Siam.	Feb. 22, 1896	do.....	159	66.5	67.5	11.5	16
U.S.N.M. 154057....	do.....	do.....	Feb. 29, 1896	do.....	152	66.5	67	11.5	16
U.S.N.M. 169976....	do.....	do.....	Jan. 1, 1899	do.....	.....	67.5	67.5	11	16
U.S.N.M. 160627....	do.....	do.....	Sept. 9, 1896	do.....	155	70	70	11.5	16
U.S.N.M. 173301....	do.....	Pulo Lankawi, western Malay Peninsula.	Dec. 8, 1899	do.....	165	70	71.5	11.5	15.5
A.N.S. Phila. 51707.	do.....	Pahang, Malay Peninsula.	Sept. 14, 1889	.....	.....	67.5	69	11.5	15.5
U.S.N.M. 219506....	do.....	Depok, Java.	July 31, 1909	W. Palmer	.....	69	68	11.5	16

<sup>a</sup> Measured in the flesh by the collector.

**HYPOTHYMIS AZUREA GIGANTOPTERA,** <sup>b</sup> new subspecies.

*Chars. subsp.*—Similar to *Hypothymis azurea prophata*, but decidedly larger.

*Description.*—Type, adult male, No. 174828, U.S.N.M., Bunguran Island, Natuna Islands, July 12, 1900; Dr. W. L. Abbott. Throat, breast, and upper parts hyacinth blue, slightly paler below, decidedly so on pileum; forehead at base of culmen, a tiny chin spot, a crescentic occipital patch, and a somewhat crescentic bar on jugulum velvety black; wings and tail slate black, the wing-quills and rectrices broadly edged with marine blue, the wing-coverts with the color of the back; posterior under parts grayish or bluish white, the fore part of abdomen, the sides, and flanks tinged with blue, most so on the first; outer inferior wing-coverts hyacinth blue, the others slate gray mixed with white; axillars grayish white, slightly washed with blue, chiefly exteriorly; thighs slate gray overlaid with blue.

*Measurements.*—Two males: Wing, 73.5–74.5 (average, 74); tail; 73–74 (average, 73.5); exposed culmen, 11.5–12 (average, 11.8), tarsus, 16.5–17 (average, 16.8) mm.

*Type-locality.*—Bunguran Island, Natuna Archipelago.

*Geographical distribution.*—Natuna Islands.

<sup>b</sup> A similar specific name—*Amytornis giganturus* (Milligan)—has been rejected by Dr. R. B. Sharpe (Hand List Gen. and Species Birds, vol. 4, 1903, p. 246), because supposed to be a hybrid; but it may readily be seen that *gigantoptera* is correctly formed from γίγας, γίγαντος, and πτερόν.



To judge from the limited Natuna Island series at hand, this form appears to be identical in color with *Hypothymis azurea prophata*, from Borneo and Sumatra, but in size it is sufficiently greater to warrant subspecific separation.

*Measurements of specimens of Hypothymis azurea gigantoptera examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
174828 <sup>b</sup>	Male....	Bunguran Island, Natuna Islands.	July 12, 1900	Dr. W. L. Abbott.	168	74.5	73	11.5	17
174829	...do....	Sirhassen Island, Natuna Islands.	June 3, 1900	.....do.....	168	73.5	74	12	16.5
174830	Male, immature.	Pulo Lingung, Natuna Islands.	June 17, 1900	.....do.....	165	-----	-----	-----	-----

<sup>a</sup> Measured in the flesh by the collector.

<sup>b</sup> Type.

**HYPOTHYMIS AZUREA FORRESTIA, new subspecies.**

*Chars. subsp.*—Similar to *Hypothymis azurea opisthocyanea*,<sup>c</sup> but posterior lower parts of male much more whitish, the crissum without tinge of blue; upper parts, throat, and breast averaging darker; axillars with little or no blue; size slightly smaller.

*Description.*—Type, adult male, No. 173302, U.S.N.M.; Loughborough Island, Mergui Archipelago, January 23, 1900; Dr. W. L. Abbott. Entire upper surface, sides of head and neck, chin, throat, and breast hyacinth blue, the throat and breast slightly, the top and sides of head much, paler than the back; a narrow line across the base of the forehead, a tiny spot at the apex of the chin, a somewhat crescentic bar across the jugulum, and a large crescentic patch on the occiput velvety black; wings and tail sepia, margined externally with marine blue; abdomen and crissum white, the upper portion of the former washed with the blue of the breast; outer inferior wing-coverts hyacinth blue, the rest gray mixed with white and washed with blue; axillars white, slightly washed with blue exteriorly; thighs grayish, washed with blue; "feet dark blue; eyelids blue; bill blue, black at tip."

*Measurements.*—Two males: Wing, 75–77 (average, 76); tail, 77.5–80 (average, 78.8); exposed culmen, 11–12.5 (average, 11.8); tarsus, 17.5–18 (average, 17.8). Two females: Wing, 72.5–73 (average, 72.8); tail, 73.5–75 (average, 74.3); exposed culmen, 12; tarsus, 17–17.5 (average, 17.3) mm.

*Type-locality.*—Loughborough Island, Mergui Archipelago, Tenasserim.

*Geographical distribution.*—Southern islands of Mergui Archipelago, Tenasserim.

With the single exception of *Hypothymis a. opisthocyanea*, this is the largest form of the group, and by size alone is distinguishable.

<sup>c</sup> See p. 602.

Otherwise it differs from *H. a. coeruleocephala* in darker, more purplish blue upper parts of the male, and greater backward extension of the blue below; from *H. a. azurea* in average darker blue of upper and lower surface; from *H. a. prophata* in the more whitish posterior lower parts (the flanks and crissum being without blue), and in rather more purely white axillars; from *H. a. calocara* and *H. a. idiochroa* in darker, more purplish blue of throat, breast, and upper surface, together with much less bluish posterior lower parts, and additionally from *H. a. calocara* in the greater contrast between pileum and back. Females are darker than those of *H. a. coeruleocephala*, and, except for larger size, are not with certainty distinguishable from females of *H. a. prophata*.

This form doubtless prevails throughout the Mergui Archipelago, though all our specimens come from Sullivan and Loughborough islands in the southern portion. One male from Sullivan Island is lighter, both above and below, than the type.

*Measurements of specimens of Hypothymis azurea forrestia examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
173302 <sup>b</sup>	Male....	Loughborough Island, Mergui Archipelago.	Jan. 23, 1900	Dr. W. L. Abbott.	178	77	80	12.5	18
173303	...do.....	Sullivan's Island, Mergui Archipelago.	Feb. 3, 1900	.....do.....	175	75	77.5	11	17.5
173304	Female..	.....do.....	.....do.....	.....do.....	171	73	75	12	17.5
173305	...do.....	.....do.....	Feb. 4, 1900	.....do.....	171	72.5	73.5	12	17

<sup>a</sup> Measured in the flesh by the collector.

<sup>b</sup> Type.

**HYPOTHYMIS AZUREA OPISTHOCYANEA, new subspecies.**

*Chars. subsp.*—Similar to *Hypothymis azurea azurea* from the Philippine Islands, but very much larger; male somewhat darker; the posterior lower parts usually much more extensively and deeply shaded with the blue of the breast, the under tail-coverts also usually blue; axillars more grayish and more tinged with blue.

*Description.*—Type, adult male, No. 170909, U.S.N.M.; Pulo Piling, Anamba Islands, August 17, 1899; Dr. W. L. Abbott. Upper surface, throat, and breast hyacinth blue, a little lighter below, much paler on pileum; a crescentic occipital patch, the extreme forehead, a somewhat crescentic bar across the jugulum, and a tiny chin spot velvety black; wings and tail blackish slate color, the outer webs of all the wing-quills and tail-feathers broadly margined with marine blue, the wing-coverts with blue like that of the back; abdomen medially on posterior part almost pure white, but elsewhere heavily shaded with the blue of the breast; lower tail-coverts also strongly bluish; under wing-coverts slate gray, the exterior ones hyacinth

blue; axillars grayish white, shaded with blue; thighs slate grayish, washed with blue; "feet blue; bill blue, black at tip."

*Measurements.*—Ten males: Wing, 75.5–80 (average, 77.7); tail, 76–80 (average, 77.3); exposed culmen, 10–12 (average, 11.4); tarsus, 16–18 (average, 17). Six females: Wing, 74.5–78 (average, 76.4); tail, 74–78 (average, 76.1); exposed culmen, 11–12 (average, 11.4); tarsus, 16–17.5 (average, 16.6) mm.

*Type-locality.*—Pulo Piling, Anamba Islands.

*Geographical distribution.*—Anamba and Tambelan islands.

This new form is similar to *Hypothymis azurea prophata*, but much larger, and has the posterior lower parts, with the axillars, usually more extensively shaded with blue. In some respects of color it resembles *Hypothymis azurea tytleri*, from the Andaman Islands, but is easily distinguishable from that race by its larger size, and, in the male, by the greater contrast between pileum and back, and the more whitish median portion of abdomen. It differs from *Hypothymis a. calocara* and *H. a. idiochroa* in larger size, darker, more purplish upper and lower surfaces of the male, and in much more deeply bluish crissum. In addition, it may be distinguished from *H. a. calocara* by its paler pileum, much more contrasted with the back. It seems to be one of the best marked subspecies of *Hypothymis azurea*, and in size is approached by only one other. Birds from the Tambelan Islands seem to be absolutely identical with those from the Anamba Islands.

*Measurements of specimens of Hypothymis azurea opisthocyanea examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
170957	Male....	Pulo Siantan, Anamba Islands.	Aug. 24, 1899	Dr. W. L. Abbott.	159	79	.....	11	17
170958	...do.....	...do.....	...do.....	...do.....	168	76.5	76	10.5	16
170959	...do.....	...do.....	Sept. 11, 1899	...do.....	165	75.5	78.5	12	16.5
171045	...do.....	Pulo Manguan, Anamba Islands.	Sept. 1, 1899	...do.....	.....	77	78	11	17.5
170909 <sup>b</sup>	...do.....	Pulo Piling, Anamba Islands.	Aug. 17, 1899	...do.....	175	80	76	10.5	18
170875	...do.....	Big Tambelan Island, Tambelan Islands.	Aug. 10, 1899	...do.....	175	.....	.....	12	16.5
171132	...do.....	Pulo Selindang, Tambelan Islands.	Aug. 3, 1899	...do.....	191	77.5	76	11	17
170866	...do.....	Pulo Bunoa, Tambelan Islands.	Aug. 6, 1899	...do.....	.....	76	77	12	17
170865	...do.....	...do.....	Aug. 5, 1899	...do.....	184	77.5	77	12	17
170887	...do.....	Pulo Wai, Tambelan Islands.	Aug. 13, 1899	...do.....	184	80	80	12	17.5
171044	[Female]	Pulo Manguan, Anamba Islands.	Aug. 31, 1899	...do.....	.....	74.5	74	11	17.5
170920	Female.	Pulo Riabu, Anamba Islands.	Aug. 18, 1899	...do.....	171	78	75	12	17
170922	...do.....	...do.....	...do.....	...do.....	171	74.5	75	11.5	16
170921	[Female]	...do.....	...do.....	...do.....	.....	77	78	11	16.5
170864	Female.	Pulo Bunoa, Tambelan Islands.	Aug. 5, 1899	...do.....	178	77	76.5	11.5	16.5
170867	...do.....	...do.....	Aug. 7, 1899	...do.....	175	77.5	78	11.5	16

<sup>a</sup> Measured in the flesh by the collector.

<sup>b</sup> Type.

## HYPOTHYMIS AZUREA IDIOCHROA, new subspecies.

*Chars. subsp.*.—Similar to *Hypothymis azurea calocara*,<sup>a</sup> but much larger; blue of upper and lower parts paler and appreciably less purplish; pileum strikingly paler, and much more contrasted with back.

*Description.*.—Type, adult male, No. 178873, U.S.N.M.; Car Nicobar Island, Nicobar Islands, January 25, 1901; Dr. W. L. Abbott. Upper surface, chin, throat, upper breast, with sides of head and neck cyanine blue, much lighter on pileum; a somewhat crescentic bar across jugulum, a narrow frontal line around the base of the culmen, and a crescentic occipital patch black; wings and tail sepia, more or less tinged or margined externally with marine blue, the entire exposed surface of wing-coverts cyanine blue; posterior lower parts white, anteriorly and laterally much tinged with blue, the crissum somewhat so; under wing-coverts exteriorly blue, interiorly white mixed with grayish; axillars grayish white, slightly tinged with bluish; "iris blackish brown; bill blue, the tip blackish; feet dull blue."

*Measurements.*.—Two males: Wing, 73–73.5 (average, 73.3); tail, 71–74.5 (average, 72.8); exposed culmen, 12–13 (average, 12.5); tarsus, 17–17.5 (average, 17.3). One female: Wing, 71; tail, 71; exposed culmen, 12.5.; tarsus, 17 mm.

*Type-locality.*.—Car Nicobar Island, Nicobar Islands.

*Geographical distribution.*.—Car Nicobar Island, Nicobar Islands.

This form is geographically very near *H. a. calocara*, but it is so much larger and so different in color that I can not consistently consider it identical; it is larger than either *azurea* or *prophata*. So far as known it is confined to the island of Car Nicobar.

*Measurements of specimens of Hypothymis azurea idiochroa examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>b</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
178873 <sup>c</sup>	Male....	Car Nicobar Island, Nicobar Islands.	Jan. 25, 1901	Dr. W. L. Abbott.	165	73	71	12	17.5
178872	...do....	.....do.....	.....do.....	.....do.....	168	73.5	74.5	13	17
178701	Female	.....do.....	.....do.....	.....do.....	165	71	71	12.5	17

<sup>b</sup> Measured in the flesh by the collector.

<sup>c</sup> Type.

## HYPOTHYMIS AZUREA PONERA, new subspecies.

*Chars. subsp.*.—Similar to *Hypothymis azurea prophata*, but wing averaging slightly, the tail considerably, longer; blue of upper and lower parts in the male less purplish, and paler, except on pileum, the upper surface thus noticeably more nearly uniform.

<sup>a</sup> See p. 610.

*Description.*—Type, adult male, No. 179916, U.S.N.M.; Tana Masa Island, Batu Islands, western Sumatra, February 17, 1903; Dr. W. L. Abbott. Pileum intermediate in color between cobalt blue and campanula blue; remainder of upper parts intermediate between French blue and hyacinth blue; throat and breast between smalt blue and ultramarine; a bar across the forehead at the base of the bill, a very small chin spot, a crescentic occipital patch, and a somewhat crescentic bar on jugulum velvet black; wings and tail slate black, the wing-quills and rectrices broadly margined externally with marine blue, the wing-coverts with the color of the back; posterior lower parts white, the fore part of abdomen, the sides, flanks, and crissum washed with blue, most heavily on abdomen, but slightly on crissum; exterior under wing-coverts blue like the throat, the rest of wing lining slate gray mixed with white; axillars grayish white, somewhat washed with blue; thighs slate gray, heavily overlaid with blue.

*Measurements.*—Three males: Wing, 71–72 (average, 71.5); tail, 70–74 (average, 72.7); exposed culmen, 10.5–11 (average, 10.8); tarsus, 15–16 (average, 15.5) mm.

*Type-locality.*—Tana Masa Island, Batu Islands.

*Geographical distribution.*—Batu Islands, western Sumatra.

This new form is somewhat intermediate between *Hypothymis azurea prophata*, from Sumatra, and *H. a. leucophila*<sup>a</sup> from the Pagi Islands, but since it is easily recognizable and seems to be confined to the Batu Islands, it is best separated subspecifically. The birds from Tana Bala and Tana Masa islands are typical, but the single adult male from Pulo Pinie is intermediate between this race and *H. a. prophata*; but whether or not other specimens from the same island would be identical remains to be seen. No females have been examined.

*Measurements of specimens of Hypothymis azurea ponera examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>b</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
179915	Male . . . .	Tana Bala Island, Batu Islands.	Feb. 9, 1903	Dr. W. L. Abbott.	169	71	74	11	16
179916 <sup>c</sup>	...do . . . .	Tana Masa Island, Batu Islands.	Feb. 17, 1903	.....do.....	164	71.5	70	11	15.5
179914	...do . . . .	Pulo Pinie, Batu Islands.	Mar. 5, 1903	.....do.....	165	72	74	10.5	15

<sup>a</sup> See page 607.

<sup>b</sup> Measured in the flesh by the collector.

<sup>c</sup> Type.

## HYPOTHYMIS AZUREA ISOCARA, new subspecies.

*Chars. subsp.*.—Similar to *Hypothymis azurea amelis*,<sup>a</sup> but decidedly larger; male with abdomen less extensively bluish; upper parts somewhat paler, less purplish blue, the pileum slightly more contrasted with back; female resembling that of *Hypothymis azurea amelis*, but paler below, the abdomen conspicuously more whitish.

*Description.*.—Type, adult male, No. 179437, U.S.N.M.; Pulo Bangkaru, Banjak Islands, western Sumatra, January, 1902; Dr. W. L. Abbott. Upper surface, throat, and breast rather light cyanine blue, the pileum perceptibly paler, the throat and breast barely so; a narrow frontal line at the base of the bill, a very small chin spot, a crescentic occipital patch, and a slightly crescentic bar on jugulum velvety black; wings and tail slate black, the wing-quills and rectrices broadly margined externally with marine blue, the wing-coverts with cyanine blue; middle of lower abdomen white, almost pure; rest of abdomen, sides, flanks, and crissum grayish or grayish white, heavily washed with deep campanula blue; under wing-coverts exteriorly cyanine blue, otherwise slate gray, mixed a little with whitish; axillars pale grayish, the outer ones edged with deep campanula blue; thighs slate gray, overlaid with blue.

*Measurements.*.—Two males: Wing, 71.5–72 (average, 71.8); tail, 70–72 (average, 71); exposed culmen, 10.5–11 (average, 10.8); tarsus, 15.5–17 (average, 16.3) mm. One female: Wing, 69; tail, 68; exposed culmen, 9.5; tarsus, 16 mm.

*Type-locality.*.—Pulo Bangkaru, Banjak Islands, western Sumatra.

*Geographical distribution.*.—Banjak Islands, western Sumatra.

The present form is larger than *Hypothymis azurea prophata*, and in the male has the posterior lower parts, especially the crissum, more bluish, the latter being seldom strongly bluish in *H. a. prophata*, always (?) so in *H. a. isocara*; axillars somewhat more grayish and more extensively blue; pileum darker, less contrasted with back; blue of remaining upper parts and of under surface paler and less purplish. The female does not differ appreciably in color from the same sex of *H. a. prophata*. From *Hypothymis a. gigantoptera* of the Natuna Islands, *H. a. isocara* differs as from *H. a. prophata*, except that it is not larger. It may be distinguished from *Hypothymis a. ponera*, male, by its rather less purplish blue upper parts; the darker pileum less contrasted with back; the more extensively bluish abdomen; the more grayish and more heavily blue-washed crissum; and somewhat more grayish and somewhat more extensively blue axillars. Compared with *Hypothymis azurea leucophila*,<sup>b</sup> it is slightly larger; in the male the posterior lower parts, especially the crissum, are more grayish and more washed with blue; the

<sup>a</sup> See p. 608.

<sup>b</sup> See p. 607.

axillars more grayish and more extensively blue; and the upper parts, particularly the pileum, are rather less purplish. The colors of the female are the same as in *H. a. leucophila*.

This new form is apparently confined to the Banjak Islands. Birds from Pulo Tuanku and Pulo Bangkaru are identical in size and coloration.

*Measurements of specimens of Hypothymis azurea isocara examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
179435	Male....	Pulo Tuanku, Banjak Islands.	Jan. 23, 1902	Dr. W. L. Abbott.	165	71.5	70	11	17
179437 <sup>b</sup>	...do....	Pulo Bangkaru, Banjak Islands.	Jan. —, 1902	.....do.....	165	72	72	10.5	15.5
179436	Female.	.....do.....	Jan. 19, 1902	.....do.....	162	69	68	9.5	16

<sup>a</sup> Measured in the flesh by the collector.

<sup>b</sup> Type.

**HYPOTHYMIS AZUREA LEUCOPHILA, new subspecies.**

*Chars. subsp.*—Similar to *Hypothymis azurea ponera*, but tail decidedly shorter; pileum of male darker, more purplish blue; back averaging slightly more purplish; the pileum thus less contrasted with back; axillars and middle of abdomen more purely white—less grayish—and with less wash of blue; crissum usually pure white.

*Description.*—Type, adult male, No. 179913, U.S.N.M.; North Pagi Island, western Sumatra, January 8, 1903; Dr. W. L. Abbott. Upper surface, throat, and breast rather light cyanine blue, the pileum somewhat lighter; a narrow frontal band at the base of the bill, a tiny chin spot, a crescentic occipital patch, and a slightly crescentic bar on jugulum velvet black; wings and tail slate black, the wing-quills and rectrices broadly edged with marine blue, the wing-coverts with the color of the back; posterior under surface white, purely so on the crissum and middle of abdomen, washed with blue on sides, flanks, and upper abdomen; exterior under wing-coverts cyanine blue, the rest slate gray, mixed with white; axillars white, very slightly washed with blue exteriorly; thighs slate gray, much mixed with blue, bill and eyelids cobalt blue in life; feet plumbeous blue.

*Measurements.*—Four males: Wing, 69–73 (average, 71); tail, 67–69 (average, 68.1); exposed culmen, 10–11.5 (average, 10.8); tarsus, 15.5–17 (average, 16) mm. One female: Wing, 67.5; tail, 68; exposed culmen, 11.5; tarsus, 15 mm.

*Type-locality.*—North Pagi Island, western Sumatra.

*Geographical distribution.*—Pagi Islands, western Sumatra.

The male of the present race differs from *Hypothymis azurea prophata* in having the upper surface more nearly uniform—the back

paler, less purplish blue, the head darker, slightly less purplish blue, and not so much in contrast to the remaining upper surface; the crissum pure white; and the axillars pure white, but slightly, if at all, washed with blue exteriorly. The female is apparently indistinguishable from that of *Hypothymis azurea prophata*. In the whiteness of its posterior ventral surface *Hypothymis a. leucophila* is like *Hypothymis azurea azurea*, but is easily distinguishable by its usually longer wing, less purplish blue color, lighter back, rather darker pileum, with consequently less contrast between head and back.

Birds from South Pagi Island are identical with those from North Pagi; and *Hypothymis a. leucophila* apparently does not range beyond this group of islands.

*Measurements of specimens of Hypothymis azurea leucophila examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
179913 <sup>b</sup>	Male....	North Pagi Island, western Sumatra.	Jan. 8, 1903	Dr. W. L. Abbott.	160	70.5	67	10	15.5
179911	...do....	...do....	Nov. 23, 1902	...do....	158	71.5	68.5	11.5	16
179910	...do....	South Pagi Island, western Sumatra.	Dec. 13, 1902	...do....	166	69	68	10.5	17
179909	...do....	...do....	Dec. 2, 1902	...do....	164	73	69	11	15.5
179912	Female.	North Pagi Island, western Sumatra.	Nov. 23, 1902	...do....	148	67.5	68	11.5	15

<sup>a</sup> Measured in the flesh by the collector.

<sup>b</sup> Type.

**HYPOTHYMIS AZUREA AMELIS, new subspecies.**

*Chars. subsp.*—Similar to *Hypothymis azurea leucophila*, but wing shorter; male with blue color everywhere darker, more purplish; pileum less contrasted with back; abdomen more grayish and more extensively washed with blue; axillars and crissum grayish, much washed with blue.

*Description.*—Type, adult male, No. 179920, U.S.N.M.; Lafau, Nias Island, western Sumatra, March 21, 1903; Dr. W. L. Abbott. Upper surface, throat, and breast cyanine blue, slightly paler below, more so on pileum; feathers across the forehead at the base of the culmen, a very small chin spot, a crescentic occipital patch, and a somewhat crescentic bar on the jugulum velvety black; wings and tail slate black, the wing-quills and rectrices edged externally with marine blue, the wing-coverts with the color of the back; sides, flanks, and abdomen pale gray overlaid with deep campanula blue, but middle of abdomen almost pure white; crissum grayish white, heavily washed with blue; inferior wing-coverts outwardly cyanine blue, otherwise slate gray mixed with whitish; axillars pale gray, margined



with pale cyanine blue, especially on the outer ones; thighs slate gray almost hidden by blue.

*Measurements*.—Six males: Wing, 66–70 (average, 68.2); tail, 65–71.5 (average, 67.9); exposed culmen, 10–11 (average, 10.4); tarsus, 14.5–17 (average, 16) mm. Two females: Wing, 63; tail, 63–64 (average, 63.5); exposed culmen, 11; tarsus, 15.5 mm.

*Type-locality*.—Nias Island.

*Geographical distribution*.—Nias Island, western Sumatra.

The female of this form differs from that of *Hypothymis azurea leucophila* in having the abdomen duller, more grayish, and less extensively white. Compared with *Hypothymis azurea prophata*, the present race is smaller; in the male the posterior lower parts are more extensively blue, the crissum pale grayish, with usually a heavy wash of blue; axillars more grayish and more washed with blue; pileum darker, not decidedly paler than the back; and the blue of back slightly less purplish; in the female the white area on the abdomen is less extensive, and duller, more grayish. From *Hypothymis a. ponera*, the Batu Islands bird, the male of *H. a. amelis* may be distinguished by its smaller size; usually darker, more purplish blue of upper and lower parts, particularly the head, which is less contrasted with the back; less whitish (more grayish) abdomen, which is more heavily and more extensively overlaid with blue; much more grayish and blue-washed crissum; and axillars more grayish and more extensively overlaid with blue. The adult male of the present race somewhat resembles the same sex of *Hypothymis azurea consobrina*, but is slightly smaller; has the pileum appreciably lighter than the back, instead of practically concolor; axillars and posterior under parts, including the crissum, paler, more whitish, and with less wash of blue. The immature male has the abdomen decidedly paler than in the same sex and age of *H. a. consobrina*. The adult male is like that of *Hypothymis azurea tytleri* on the upper surface, but is paler, more whitish, and much less washed with blue on the abdomen and crissum, and is also very much smaller.

The Nias form is to some extent intermediate between *Hypothymis azurea prophata* and *H. a. consobrina*, but is sufficiently distinct from either. As in most of the races of *Hypothymis azurea*, there is noticeable individual variation in the whiteness of the middle abdomen, the extent of blue on the lower parts behind, and in the shade of the upper surface. The immature male is very similar to the female, but is usually, if not always, more bluish both above and below.

*Measurements of specimens of Hypothymis azurea amelis examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
179918	Male....	Siaba Bay, Nias Island.	Mar. 19, 1903	Dr. W. L. Abbott.	156	67	66	10	14.5
179920 <sup>b</sup>	...do....	Lafau Bay, Nias Island.	Mar. 21, 1903	.....do.....	160	70	71.5	10.5	16
180905	...do....	Samasama, Nias Island.	Feb. 20, 1905	.....do.....	161	68	68	10.5	17
180906	...do....	.....do.....	Feb. 21, 1905	.....do.....	161	69	69	10.5	16.5
180904	...do....	Teilwaa, Nias Island.	Mar. 19, 1905	.....do.....	163	69	68	10	16
180903	...do....	Mojeia River, Nias Island.	Mar. 14, 1905	.....do.....	160	66	65	11	16
179917	Female.	Siaba Bay, Nias Island.	Mar. 18, 1903	.....do.....	153	63	63	11	15.5
179919	...do....	Lafau, Nias Island.	Mar. 24, 1903	.....do.....	157	63	64	11	15.5

<sup>a</sup> Measured in the flesh by the collector.<sup>b</sup> Type.**HYPOTHYMIS AZUREA CALOCARA, new subspecies.**

*Chars. subsp.*—Similar to *Hypothymis azurea prophata*, but averaging smaller; blue of upper parts in the male paler, less purplish; that of ventral surface slightly so; crown less contrasted with back; posterior under parts rather more washed with blue, the lower tail-coverts almost always more or less bluish.

*Description.*—Type, adult male, No. 178705, U.S.N.M.; Nankauri Island, Nicobar Islands, February 8, 1901; Dr. W. L. Abbott. Pileum, sides of head and neck cyanine blue, rather lighter than the back; a narrow line across the base of the bill at the extreme forehead, and a large crescentic patch on the occiput velvety black; rest of upper surface cyanine blue, rather duller on upper tail-coverts; tail sepia, shaded and margined on outer webs with marine blue; wings sepia, the quills edged externally with marine blue, the coverts margined on outer webs with the blue of the back; chin, throat, and breast cyanine blue, the mental apex with a tiny spot of black, the jugulum with a narrow crescentic bar of velvety black; remainder of ventral surface dull white, washed with cyanine blue, least so on middle of abdomen and on lower tail-coverts; thighs pale grayish, washed with blue; under wing-coverts exteriorly cyanine blue, interiorly white mixed with grayish and washed with blue; axillars grayish white, somewhat washed with blue; "feet dark blue."

*Measurements.*—Eight males: Wing, 65–69 (average, 67.6); tail, 63.5–70.5 (average, 67.4); exposed culmen, 9.5–11 (average, 10.3); tarsus, 16.5–17.5 (average, 17) mm. Four females: Wing, 64–67 (average, 66.3); tail, 62–67.5 (average, 65.5); exposed culmen, 9.5–11 (average, 10.5); tarsus, 16.5–17 (average, 16.6) mm.

*Type-locality.*—Nankauri Island, Nicobar Islands.

*Geographical distribution.*—Nicobar Islands, excepting Car Nicobar Island.

The small size, much more bluish posterior lower parts, and darker, more uniform upper surface of this form distinguish it from *Hypothymis a. coeruleocephala*, as do its much more bluish sides, flanks, abdomen, and crissum, less contrasted pileum, and usually less purplish upper parts from *H. a. azurea*. It is very similar to *Hypothymis a. amelis*, from Nias Island, but the male is lighter, somewhat less purplish blue both above and below; the abdomen is more whitish and less extensively washed with blue; the crissum less heavily bluish; the axillars more whitish and less tinged with blue.

Females are less whitish on the abdomen than those of *H. a. azurea*, but are not otherwise different. Specimens from the following islands have been examined: Nankauri, Great Nicobar, Kamorta, Trinkut, and Tilanchong.

*Measurements of specimens of Hypothymis azurea calocara examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
178697	Male....	Great Nicobar Island, Nicobar Islands.	Mar. 15, 1901	Dr. W. L. Abbott.	146	.....	.....	10.5	17
178696	...do.....	...do.....	Mar. 10, 1901	...do.....	159	68	67.5	10.5	17
178698	...do.....	...do.....	Mar. 18, 1901	...do.....	155	65	63.5	10.5	17
178695	...do.....	...do.....	Mar. 7, 1901	...do.....	155	67	65	9.5	17
178706	...do.....	Tilanchong Island, Nicobar Islands.	Jan. 29, 1901	...do.....	155	69	70.5	10	17
178705 <sup>b</sup>	...do.....	Nankauri Island, Nicobar Islands.	Feb. 8, 1901	...do.....	155	68.5	66.5	10.5	16.5
178704	...do.....	...do.....	Feb. 6, 1901	...do.....	159	67.5	69.5	10	17
178702	...do.....	Kamorta Island, Nicobar Islands.	Feb. 10, 1901	...do.....	152	68.5	69	11	17.5
178707	Female .	Tilanchong Island, Nicobar Islands.	Jan. 28, 1901	...do.....	149	64	62	11	16.5
178699	...do.....	Trinkut Island, Nicobar Islands.	Feb. 2, 1901	...do.....	152	67	66	9.5	17
178700	...do.....	...do.....	...do.....	...do.....	152	67	66.5	11	16.5
178703	...do.....	Kamorta Island, Nicobar Islands.	Feb. 12, 1901	...do.....	152	67	67.5	10.5	16.5

<sup>a</sup> Measured in the flesh by the collector.

<sup>b</sup> Type.

HYPOTHYMIS AZUREA TYTLERI (Beavan).

*Myiagra tytlcri* BEAVAN, Ibis, 1867, p. 324 (Port Blair, South Andaman Island).

*Chars. subsp.*—Similar to *Hypothymis azurea prophata*, but larger; posterior lower parts in the male all more grayish and much more shaded with blue, leaving only the center of lower abdomen sometimes whitish; axillars more grayish and bluish; back rather lighter, the crown darker and thus less contrasted with the back.

*Measurements.*—Two males: Wing, 71–75 (average, 73); tail, 70–73.5 (average, 71.8); exposed culmen, 11.5; tarsus, 17.5–18 (average, 17.8). One female: Wing, 71; tail, 70.5; exposed culmen, 12.5; tarsus, 17 mm.

*Type-locality.*—Port Blair, South Andaman Island, Andaman Islands.

*Geographical distribution.*—Andaman Islands and the Great and Little Cocos Islands.

The male of this well-marked form may be distinguished from *H. a. coeruleocephala* by its darker, more purplish blue upper surface and anterior lower parts, wholly blue posterior lower parts; more grayish and bluish axillars, and more nearly uniform upper surface; from *H. a. azurea* by larger size, blue abdomen, flanks, and crissum, rather paler upper surface, darker pileum less contrasted with the back, and more grayish, bluish axillars; from *H. a. calocara* and *H. a. idiochroa* by its darker, more purplish blue above and below, more extensively and deeply bluish abdomen and crissum, more grayish and bluish axillars, as well as additionally from the latter by darker, less contrasted pileum, and from the former by larger size; from *H. a. opisthocyanea* by smaller size, more uniformly blue abdomen, less contrasted pileum, and more bluish and grayish axillars; and from *H. a. forrestia* by smaller size, blue posterior lower parts, lighter upper surface, except pileum, which is less contrasted with the back, and by more grayish and bluish axillars. The female of *H. a. tytleri* is darker on both back and breast and less whitish on abdomen than the same sex of *H. a. prophata*. An adult male from Little Andaman Island seems to incline not at all toward *Hypothymis a. idiochroa* from the island of Car Nicobar. Count Salvadori has recorded *H. a. tytleri* from Engano Island,<sup>a</sup> but the bird occurring there is, of course, *Hypothymis azurea richmondi*.<sup>b</sup>

*Measurements of specimens of Hypothymis azurea tytleri examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>c</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
178870	Male....	Little Andaman Island, Andaman Islands.	Jan. 20, 1901	Dr. W. L. Abbott.	168	75	73.5	11.5	18
178708	...do....	Henry Lawrence Island, Andaman Islands.	Jan. 8, 1901	.....do.....	152	71	70	11.5	17.5
178871	Female.	South Andaman Island, Andaman Islands.	Jan. 15, 1901	.....do.....	155	71	70.5	12.5	17

<sup>c</sup> Measured in the flesh by the collector.

**HYPOTHYMIS AZUREA CONSOBRINA** Richmond.

*Hypothymis consobrina* RICHMOND, Proc. Biol. Soc. Wash., vol. 15, 1902, p. 189.

*Chars. subsp.*—Similar to *Hypothymis azurea tytleri*, but averaging decidedly smaller; and pileum darker, less contrasted with the back.

*Measurements.*—Six males: Wing, 68–71.5 (average, 69.4); tail, 66–70.5 (average, 68.3); exposed culmen, 10–12 (average, 11); tarsus, 16–17.5 (average, 16.8) mm.

*Type-locality.*—Simalur Island, western coast of Sumatra.

<sup>a</sup> Ann. Mus. Civ. Genova, vol. 32, 1892, p. 129.

<sup>b</sup> See p. 613.

*Geographical distribution.*—Simalur Island, western coast of Sumatra.

Notwithstanding its geographical isolation, this form resembles *H. a. tytleri* more closely than any other, but it averages much smaller, and has a slightly darker back and a decidedly darker pileum, which is scarcely different in color from the back.

*Measurements of specimens of Hypothymis azurea consobrina examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
179433 <sup>b</sup>	Male....	Simalur Island, western Sumatra.	Dec. 24, 1901	Dr. W. L. Abbott.	165	69	69	11.5	16
179905	....do....	.....do.....	Oct. 21, 1902	.....do.....	165	71.5	70.5	12	17.5
179906	....do....	.....do.....	.....do.....	.....do.....	161	69	66	11	17
179434	....do....	.....do.....	Nov. 19, 1901	.....do.....	155	68.5	68	10	16
179908	....do....	Sibobo Bay, Simalur Island, western Sumatra.	Oct. 24, 1902	.....do.....	160	70.5	69.5	10.5	17
179907	....do....	Simalur Island, western Sumatra.	Oct. 23, 1902	.....do.....	159	68	66.5	11	17

<sup>a</sup> Measured in the flesh by the collector.

<sup>b</sup> Type.

**HYPOTHYMIS AZUREA RICHMONDI,**<sup>c</sup> new subspecies.

*Chars. subsp.*—Similar to *Hypothymis azurea consobrina*, but much larger; male with black occipital patch larger; blue areas darker, particularly on upper surface; lower parts still more uniform blue, the abdomen barely whitish or grayish medially.

*Description.*—Type, adult male, No. 180757, U.S.N.M.; Engano Island, western Sumatra, November 24, 1904; Dr. W. L. Abbott. Upper and lower parts deep cyanine blue, the pileum, throat, and breast rather lighter, the abdomen and crissum still more so (from the showing through of the slate gray portions of the feathers beneath), the middle of lower abdomen slightly whitish; a line across the forehead next the base of the culmen, a tiny chin spot, a crescentic occipital patch, and a somewhat crescentic jugular bar velvety black; wings and tail slate black, the wing-quills and rectrices margined externally with marine blue, most broadly on the latter, the wing-coverts widely edged with the blue of the back; lower wing-coverts exteriorly cyanine blue, interiorly slate gray washed slightly with blue; axillars slate gray, margined with cyanine blue; thighs deep slate gray, heavily overlaid with cyanine blue.

Adult female, No. 180765, U.S.N.M.; Engano Island, November 22, 1904; Dr. W. L. Abbott. Head and throat intermediate between

<sup>c</sup> Dedicated to Dr. Charles W. Richmond, as a slight token of appreciation for courtesies too numerous to mention.

cyanine blue and Paris blue; rest of upper surface grayish seal brown; wings and tail fuscous, the latter with a slight bluish sheen exteriorly, the former edged with grayish seal brown, the bend of the wing and primary coverts more or less bluish; breast and remainder of lower parts slate gray, the middle of lower abdomen paler, the breast and upper abdomen washed with blue, heavily on the former, the sides, flanks, and crissum tinged with brown, most so on flanks; external lower wing-coverts blue like head, the others, together with axillars, slate gray washed with blue; thighs slate gray, washed with blue.

*Measurements*.—Eleven males: Wing, 69.5–74.5 (average, 72.9); tail, 66–74 (average, 70.2); exposed culmen, 11–12.5 (average, 11.7); tarsus, 16.5–18 (average, 17.1) mm. Five females: Wing, 69–72.5 (average, 70.1); tail, 63–69 (average, 66.4); exposed culmen, 11.5; tarsus, 17–18 (average, 17.3) mm.

*Type-locality*.—Engano Island, western Sumatra.

*Geographical distribution*.—Engano Island.

The immature male of this race is practically identical with the adult female, and differs from the immature male of *Hypothymis a. consobrina* in its darker, duller, more grayish (less whitish) posterior lower parts, especially the middle of abdomen. From *Hypothymis azurea tytleri*, of the Andaman Islands, with which it has been considered identical,<sup>a</sup> *Hypothymis a. richmondi* may be readily distinguished in the adult male by its decidedly darker upper and lower parts, particularly the abdomen, and by the almost entire lack of contrast between the color of pileum and of back; in the female by darker coloration, especially of the blue areas above, and the grayish of the posterior lower parts, the middle of abdomen not at all, or but very slightly, whitish.

This new form is most nearly allied to *Hypothymis azurea consobrina* and *H. a. tytleri*, and is very distinct from the geographically intervening races. It is apparently confined to the island of Engano. Individual variation is most noticeable in the color of the pileum, which is occasionally lighter in contrast with the back, and on the lower abdomen, which is sometimes appreciably whitish medially. These differences, however, do not interfere with the characters of the subspecies as above given.

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<sup>a</sup>Salvadori, Ann. Mus. Civ. Genova, vol. 32, 1892, p. 129.

Following are detailed measurements of all the specimens examined:

*Measurements of specimens of Hypothymis azurea richmondi examined.*

U.S.N.M. No.	Sex.	Locality.	Date.	Collector.	Total length. <sup>a</sup>	Wing.	Tail.	Exposed culmen.	Tarsus.
180752	Male....	Engano Island, western Sumatra.	Nov. 9, 1904	Dr. W. L. Abbott..	170	74	71.5	11	17
180753	..do.....	..do.....	Nov. 11, 1904	..do.....	168	74.5	70	12	16.5
180755	..do.....	..do.....	Nov. 17, 1904	..do.....	165	72.5	69.5	11.5	17
180754	..do.....	..do.....	..do.....	..do.....	165	74	71	11.5	17
180756	..do.....	..do.....	Nov. 21, 1904	..do.....	167	71.5	70	12.5	17.5
180757 <sup>b</sup>	..do.....	..do.....	Nov. 22, 1904	..do.....	168	74.5	71.5	12	16.5
180758	..do.....	..do.....	Nov. 23, 1904	..do.....	165	69.5	66	11	17
180760	..do.....	..do.....	Nov. 29, 1964	..do.....	167	72	67	12	17
180759	..do.....	..do.....	..do.....	..do.....	173	72.5	71	12.5	18
180761	..do.....	..do.....	Dec. 5, 1904	..do.....	175	74.5	74	11	18
180766	..do.....	..do.....	Nov. 27, 1904	..do.....	165	72	70.5	12	16.5
180762	Female..	..do.....	Nov. 6, 1904	..do.....	..	69.5	63	11.5	17.5
180763	..do.....	..do.....	Nov. 7, 1904	..do.....	163	69	68	11.5	17
180764	..do.....	..do.....	Nov. 9, 1904	..do.....	162	69.5	66	11.5	17
180765	..do.....	..do.....	Nov. 22, 1904	..do.....	158	70	66	11.5	17
180767	..do.....	..do.....	Dec. 4, 1904	..do.....	165	72.5	69	11.5	18

<sup>a</sup> Measured in the flesh by the collector.

<sup>b</sup> Type.