



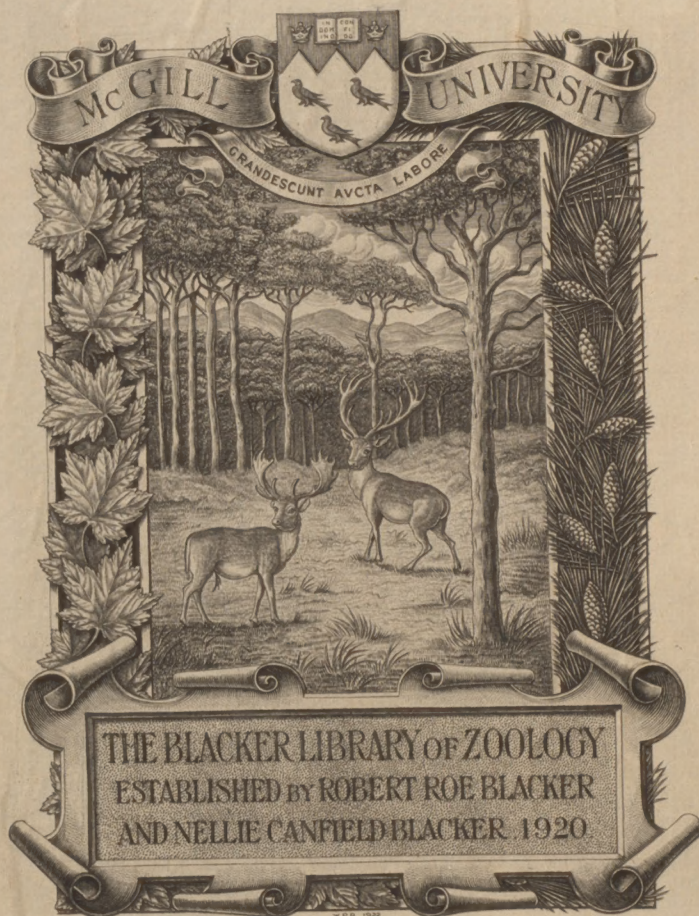
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Original Paintings

by

F. J. SHORE

1799-1837

Unpublished ms. appendix to Latham's birds (3 vols.
in 2, 1827-29), containing 284 original water-
colour figures of birds on 192 sheets.

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F
J. Moore.
[Commenced May 10. 1827.]

Blanch

APPENDIX

to

Latham's Birds

Vol. 1

[In this index the Orders are set in Latham's. The different Genera, divided into families are put down alphabetically for convenience of reference. The English names are used, as there seemed to be no certainty in the Classical names adopted. To some there are none.

(A great desideratum to have the birds classically arranged, with significant names, and the descriptions in Latin, as one nation would then understand another's work.)

The Numbers on the left hand refer to the genera in Latham's.

The numbers of the plates refer also to Latham's. [F. J. Shore]

Order 1. Rapacious. Accipiter

Bill incurvated, the upper mandible hooked, with an indentation near the tip. Nostrils for the most part open. Feet made for perching, short, strong. Body, Head & Neck muscular. Skin thick. Flesh impure. Food obtained by rapine, or preying on carrion. Nest built on trees, or elevated places. Eggs generally four. Female larger. Monogamous.

3. Genus Falcon *Falco* Vol. Page 247 Knids.
41

In this the Bill is hooked, and furnished with a waxy skin at the base, called the Cere, in which the nostrils are placed. Tongue bifid at the end. Head and neck furnished with feathers. Legs and feet scaly for the most part, middle toe connected to the outermost, as far as the first joint, by a strong membrane. Claws large, much hooked, and very sharp, that of the outer toe at least. The female larger and stronger than the male.

Pls 8, 9, 10, 11, 12

4 Owl *Stryx* 1" 297 28 Knids.

The bill is crooked, but rarely furnished with a cere. Nostrils oblong; covered with bristly feathers. Head large, the usual opening of the ears very spacious. Eyes large. Tongue bifid. Toes placed three before and one behind; the outer one capable of being occasionally turned backwards. The external edge of one or more, of the greater quills serrated in most of the species.

Pls 13, 14, 15, 16, 17

2 Secretary. *Secretarius* 1" 38 1 Knid.
Gypogeranus.

Bill shorter than the head, hooked, base covered with a cere. Nostrils in the cere, near the base, open. Round the eyes, base of feathers. At the bend of the wing two or more horny knobs, or blunt spurs. Legs very long, toes moderate, united at the base, and very rough beneath.

Pl. 7.

1 Vulture *Vultur* 1" 1 32 Knids.

Bill straight, hooked chiefly at the end. Base covered with a naked skin. Head Cheeks, and often the neck, either naked, or ill clothed with down, or short hairs. Neck retractile, crown often hanging over the breast. Legs and feet covered with great scales. The outer toe joined to the middle one by a strong membrane. Claws large, not much hooked, and blunt.

Pl. 1, 2, 3, 4, 5, 6.

Order II

Pics.

				Vol	Page
	* With legs made for walking.				
11	Beef-eater -	Buphaga.	2 kinds.	2	33
	Bill strong, thick, straight, nearly square. upper mandible a little protruberant; on the lower a large angle. Toes three before, one behind. middle connected to the outer one as far as the first joint.			plate	35
35	✓ Creeper.	Certhia	102 kinds.	4	20
	Bill slender, incurvated, and sharp-pointed. Nostrils small. Tongue pointed at the end, for the most part: in some divided into two filaments. Legs moderately stout; toes placed three before, one behind; the back toe large claws hooked and long. Tail of twelve feathers.			pl.	74
15	✓ Crow.	Corvus.	71 kinds.	3	
	Bill strong, upper mandible a little convex; the edges cultrated. in most a small notch near the tip. Nostrils covered with bristles reflected over them. Tongue divided at the end (except in the black faced & perhaps others) Toes three before, one behind. The middle one attached to the outer as far as the first joint. Lay about six eggs.			pl.	39 40
18	✓ Grackle.	Gracula.	39 kinds.	3	14
	Bill convex, a little compressed on the sides, and cultrated. Nostrils small, often near the edge. Tongue various. Toes three before one behind, the middle one connected at the base with the outer. Claws hooked & sharp.			pl	44
34	✓ Honey-eater.	Merops.	70 kinds.	4	15
	Bill somewhat triangular near the base, & more or less bent at the tip. Nostrils roundish, partly covered by a membrane. Tongue more or less, extensible, bristly, fringed, or divided at the end into thready portions.			pl	71 72 73
32	✓ Hoopoe.	Upupa. Promerops.	15 kinds.	4	9
	Bill long, slender, and bending. Nostrils near the base. Tongue various. Toes three before, and one behind; middle one connected at the base with the outer most.			pl	66 67 67*

Order II. Pies.

36. ✓	Humming Bird.	Trochylus.	95 kinds.	Vol	Page
	Bill slender, weak, in some incurvated, in others straight. Nostrils minute. Tongue very long, formed of two conjoined cylindrical tubes, misshapen. Feet 3 before, 1 behind. Tail of ten feathers. Legs weak.			4	288
				pl	
				75	
				76	
				77	
				78	
30. ✓	Nuthatch.	Sitta.	22 kinds.	4	62
	Bill generally straight, or very little bending. on the lower mandible a small angle. Nostrils small more or less covered with reflected bristles. Tongue short, horny at the end, and jagged. Feet three before, one behind. the middle one joined to the outer at the base. Back toe & claw as large as the middle one.			pl	
				62	
				63	
17. ✓	Oriole.	Oriolus.	61 kinds.	3	90
	Bill straight, conic, & sharp-pointed. edges cultrated, inclining inwards; both Mandibles equal. Nostrils small, at the base of the bill, partly covered. Tongue divided at the end. Feet 3 before, one behind, middle one joined to the outer at the base.			pl	
				42	
				43	
19. ✓	Paradise Bird.	Paradisea.	20 kinds.	3	180
	Bill slightly bent. base covered with velvet like feathers. Nostrils small concealed in the feathers. Tail of ten or more feathers. in some the two middle, in others more, very long, and webbed only at the base and tips. Legs & feet large & strong. Feet three before one beh ^d .			pl.	
				45	
				46	
				47	
				48	
13. ✓	Plantain Eater.	Musophaga.	2 kinds.	2	341
	Bill stout, triangular, upper mandible elevated at the base, & bending near the tip. both mandibles dentated at the edges. Nostrils rounded on the edges, oval, placed in the middle of the bill. Tongue thick, short & stout. Feet 3 bef. 1 beh ^d .			pl	
				37	
16. ✓	Roller.	Coracias.	26 kinds.	3	70
	Bill straight, bending towards the tip, edge cultrated. Nostrils narrow & naked. Legs mostly short. Feet 3 bef. 1 beh ^d . divided to their origin.			pl	
				41	
5. ✓	Shrike.	Lanius.	122 kinds.	2	1
	Bill straight at the base, end more or less bent. generally a notch near the tip of the upper mandible. Base not furnished with a cere. Tongue jagged at the end. Tail composed of 12 feathers. Outer toe connected with the middle one as far as the first joint.			pl.	
				18	
				19	
				20	

- | | | | | | |
|--|---------------|-------------------------|-----------|--------|---------|
| 14. | Wattle Bird. | Callaeas. | 1 kind | Vol. 3 | Page 38 |
| Bill incurvated. upper mandible exceeding the lower in length. At the gape on each side, a carunculated wattle, arising from the under mandible. Nostrils depressed, half covered by a membrane, of a texture somewhat cartilaginous & tufted at the end. Tongue subcartilaginous, divided at the end, or rather deeply serrated, and ciliated. Legs made for walking. Toes 3 bef. 1 beh ^d . The skin carinated at the back part. | | | | | |
| * * With Climbing feet. | | | | | |
| 12. | Ani. | Crotophaga | 4 kinds. | 2 | 330 |
| Bill greatly compressed, and arched on the top, in shape half oval. Tip cultrated. Nostrils round. Tongue flat, pointed at the end. Tail 10 feathers. Toes 2 bef. 2 beh ^d . | | | | | |
| 21. | Barbet. | Bucco | 29 kinds. | 3 | 215 |
| Bill strong, straight, bending a little towards the point: base covered with strong bristles, which in some species, exceed the length of the bill. Nostrils hid. Toes two bef. 2 beh ^d . Tail of 10 or 12 weak feathers. Southern parts of America. Asia & Spain. | | | | | |
| 22. | Barbican. | Bucco Barbicanus. | 5 kinds. | 3 | 230 |
| Bill very stout and bent. At y ^e edges of the upper mandible, a double conspicuous notch, more or less channelled on the sides. under mandible less deep. Nostrils at the base covered with hairs. Shins equal in length to the outer toe. Toes two bef. 2 beh ^d . united as far as the second joint. | | | | | |
| 9. | Channel Bill. | Scythrops. | 1 kind. | 2 | 300 |
| Bill large, convex, cultrated, furrowed, or channelled on the sides; bent at the tip. Nostrils round, naked, placed at the base. Tongue cartilaginous. Tail of 10 feathers. Toes 2 bef. 2 beh ^d . | | | | | |
| 23. | Coucal. | Polophtilus. Centropus. | 17 kinds. | 3 | 239 |
| Bill strong, slightly curved. Nostrils straight, elongated. Toes 2 bef ^s : the outer longest. 2 beh ^d . interior with a long claw. Generally feathers of the head & neck are narrow & very stiff. something like the cuckoo. | | | | | |
| 25. | Cuckoo. | Cuculus | 88 kinds | 3 | 250 |
| Bill weak, more or less bending. Nostrils, with a few exceptions, bounded by a ^{small} large rim. Tongue short pointed. Tail generally cuneiform. 10 feathers. Toes 2 bef. 2 beh ^d . | | | | | |

plate
38pl
36pl
51
52pl
53pl
32pl
54pl
56

57

Index. Order II. Pies.

5.
Vol page
3 203

20. ✓ *Curucui* - *Trogon*. 10 kinds. 3 203
Bill short, thick, & convex, generally denticrated on the edges. Nostrils covered with stiff bristles. Legs short, weak, & covered with feathers or down. Toes 4
Tail of 12 feathers. plate 49 50

28. ✓ *Tacamar* - *Gallula*. 5 kinds. 4 1
Bill long, straight, sharp pointed, mostly quadrangular. Nostrils oval near the base. Tongue short, pointed. Legs feathered before to the toes which are 4. i.e. 2 before & 2 behind. plate 50

24. ✓ *Malkoha* - *Phenicophant*. 5 kinds. 3 252
Bill stout, longer than the head, curved from the base, smooth edged. Nostrils linear near the margin. Side of the head round the eye bare & granulated. Wings short. Toes 4 claws short and bent. plate 55

6. ✓ *Parrot* - *Pittacus*. 239 kinds. 2 98
Bill hooked from the base, the upper mandible moveable. Nostrils round, at the base of the bill, which in some is furnished with a cere. Tongue broad, blunt at the end, in some the tip is bristly. Head large, crown flat. Legs short. Toes 4. plate 22 23 24 25 26 27 28

7. ✓ *Toucan* - *Rhamphastos*. 18 kinds. 2 280
Bill very large, convex, carinated at the top, and bending at the end, hollow very light, & serrated at the edges. Nostrils small & round, placed close to the head, and in many species quite hid in the feathers. Tongue long, narrow, feathered at the edges. Tail consisting of 10 feathers. plate 29 30

27. ✓ *Wood-pecker* - *Picus*. 91 kinds. 3 336
Bill generally straight, strong, angular, (in some bent, & angular only outtop) and cuneated at the end. Nostrils covered with reflected bristles. Tongue very long slender, cylindrical, long, hard, jagged at the end, misshapen. Toes 4 2 or 3 species excepted. Tail of ten stiff, sharp-pointed feathers. plate 59

26. ✓ *Wryneck* - *Yunca*. 1 kind. 3 332
Bill roundish, slightly incurvated, & weak. Nostrils bare of feathers, and somewhat concave. Tongue long slender and armed at the point. Ten flexible feathers in the tail. Toes 4. Between the Cuckoo & the wood pecker. plate 58

Index *** Feet made for leaping. Order II. Pies. III

33. Bee-eater. *Meropt.* 40 kinds 4 117
 Bill quadrangular, a little sharp-pointed. Nostrils small, near the base. Tongue
 various, generally slender. Toes 4 i.e. three forwards & the backwards. outer con-
 nected more or less with the middle one. pl 88 69 70

40. Horn-bill. *Buceros.* 27 kinds 2 303
 This genus has a great, bending bill, in many a large protuberance on the upper man-
 dible, like another bill. Nostrils small round, placed near the base. Tongue
 small short. Legs scaly. toes 4. middle one connected with the outer as far
 as the third joint, with the inner as far as the first. pl 33 34

29. Kingfisher. *Alcedo.* 60 kinds 4 8
 Bill long, strong, straight, and generally sharp pointed. Nostrils small, and in
 many hid in the feathers. Tongue short, broad, sharp pointed. Legs short. toes 4
 some few have only 3 toes. Three lower joints of the middle one united closely to
 those of the outer. Wings short. Flight rapid & strong. pl 61

8. Motmot. *Momotus.* 2 kinds 2 290
 Bill pretty strong, slightly incurvated, & indented on the edges. Nostrils covered
 with feathers. Tongue long, narrow, feathered on the sides. Tail cuneiform.
 Toes 4. the forward ones greatly united. pl 31

31. Tody. *Todus.* 29 kinds 4 80
 Bill thin, depressed, broad, base beset with bristles. Toes 4. the middle one greatly
 connected with the outer. pl 64 65

Order III. Passerine.

* With thick Bills.

44. Finch. *Fringilla.* 150 kinds 6 45
 Bill conic, slender towards the end, slender towards the end & sharp pointed. differ
 from grassbeaks whose bills slightly curve. pl 95 96 97

42. Bunting. *Emberiza.* 82 kinds 5 290
 Strong, conic bill. sides of each mandible bending inwards. in the roof of the upper
 a hard knob, to break seeds. pl 91 92

Index. Order III Passerine.

			Vol	Page
41	Groß-beak. <i>Loxia</i>	121 kinds	5	204
Bill strong, convex above and below, and thick at the base. Nostrils small and round. Tongue as if cut off at the end. toes δ			87	87*
			88	89
			90	
45	Plant-cutter. <i>Phytotoma</i>	2 kinds	6	152
Bill concave, straight, serrated at the edges. Nostrils oval. tongue short obtuse.			98	
* * With curved bills; the upper mandible bent at the tip.				
40	Coly. <i>Colius</i>	11 kinds	5	195
Bill convex above, straight beneath, short & thick, upper mandible curved down. Nostrils at the base, more or less hid by feathers. Tongue cartilaginous, shorter than the bill & lacinated at the end. Toes divided to their origin. δ but capable of occasionally having all four in front. Wings short.			86	
53	Goat-sucker. <i>Caprimulgus</i>	40 kinds	7	331
Bill short, hooked at the end, the gape very wide, in most several stiff bristles on the edges of the base of the upper mandible. Tongue small entire at the end. Tail 107.			114	
Legs short, toes united by a membrane to the first joint. claw of the middle one broad edged, in many jagged or serrated.			115	
			116	
50	Manakin. <i>Pipra</i>	43 kinds	7	219
Bill short, slightly incurvated. nostrils naked. Tail short. Middle toe joined with the outer as far as the second, & in some as far as the third joint.			108	
			109	
52	Swallow. <i>Hirundo</i>	66 kinds	7	276
Bill short, small at the point, a little bending. Nostrils open. Tongue short, broad, & in most cloven. Tail generally more or less forked. Wings long. Legs short, toes δ in some δ and in one δ .			111	
			112	
			112*	
			113	
* * * With bills having the upper mandibles emarginated near the top.				
39	Chatterer. <i>Ampelis. Cotinga</i>	23 kinds	5	172
Bill straight, convex, broad at the base, bending towards the point, near the end of the upper mandible, having a small notch. Nostrils usually hid in the bristles. Middle toe connected with the outer at the base. Usually in America.			84	
			85	
			85*	

46.	Flycatcher.	Muscicapa	177 kinds	6	15
Bill more or less flattened at the base; and at that part furnished with a few bristles. At the tip of the upper mandible a slight notch. Toes mostly divided to their origin.				pl	98*
				99	
				100	
				101	
43.	Tanager	Tanagra	61 kinds	6	1
Bill conoid, a little inclining towards the point. The upper mandible more or less ridged; & often notched near the end.				pl	93
				94	
38.	Thrush.	Turdus	234 kinds	5	15
Bill generally straight, bending towards the point, & generally with a notch near the end of the upper mandible. Nostrils oval. Tongue slightly jagged at the end. at the corner of the mouth a few hairs. Middle toe connected to the outer, to the first joint.				pl	80
				81	
				82	
				83	
**** Simple billed. Bill straight, integral, attenuated.					
47.	Lark.	Alauda	55 kinds.	6	26
Bill straight, slender, a little bending towards the end, sharp-pointed. nostrils covered with feathers and bristles. Tongue cloven at the end. Tongue cloven at the end. Toes divided to their origin. back-toe-claw very long, straight or nearly so.				pl	103
37.	Starling.	Sturnus.	13 kinds	5	1
Bill straight or very little bending depressed. Nostrils guarded above by a prominent rim. Tongue hard & cloven, or jagged at the tip. Middle toe joined to the outer as far as the first joint.				pl	79
48.	Wagtail	Motacilla	25 kinds	6	315
Bill weak slender, slightly notched at the tip. Tongue lacerated at the end. Tail elongated. Legs slender. run. rarely perch.				pl	104
				105*	
				106	
				107	
49.	Warbler.	Sylvia. Saxicola	298 kinds	7	1
Bill slender & weak. Nostrils small a little depressed. Tongue in general cloven. outer toe joined at the under part to base of middle one. differ from wagtail.				pl	104**/105
				106	107
				107*	
51.	Titmouse.	Parus.	38 kinds	7	244.
Bill straight, a little compressed. strong, hard, & sharp pointed. nostrils round, usually covered with reflected bristles. Tongue cut off at the end, and terminated with bristles. Toes divide to the origin. back toe very large & strong.				pl	110

Index. Order. IV. Columbine. V.

			Vol	Page
54. Pigeon.	Columba.	136 kinds.	8	9
Bill straight at the base with a soft protuberance or swelling in which the nostrils are placed. Tongue entire. Legs short, the toes rarely united by a membrane. Tail of 12 feathers at least.			pl	117
				118
Order. V. Gallinaceous.				
59. Curassow.	Crax.	8 kinds	8	151
Bill convex strong, & thick. base covered with a cere, often with a large knob. Nostrils small, lodged in the cere. Head sometimes with a crest of feathers curling at the ends. Tail large. Straight.			pl	123
63. Grouse.	Tetrao	27 kinds	8	223
Bill convex, strong, short. Above each eye a naked skin. Nostrils small, hid in the feathers. Tongue pointed at the end. Legs strong - feathered to the toes, and sometimes down the claws. The toes of several pectinated on the sides.			pl	128
57. Guan.	Penelope.	11 kinds	8	131
Bill naked at the base. Head covered with feathers. Throat naked. Tail of 12 feathers. Legs without spurs.			pl	121
60. Menura.	Menura	1 kind	8	159
Bill stout, convex, a trifle naked at the base. Nostrils oval placed about the middle of the bill. Tail long 16 loose webbed feathers, two middle ones narrow, exceeding the others in length. Outer one on each side growing much broader & curved at the end. Legs stout, made for walking.			pl	124
64. Partridge.	Perdix.	91 kinds	8	263
Bill convex, strong, nearly straight, or bending a little towards the end. Nostrils covered above with a callous prominent rim. Eyes often surrounded with warty excrescences. Tail short. Legs naked. Toes various.			pl	129
				130
				131
				132
55. Peacock.	Pavo.	7 kinds.	8	109
Bill convex strong. Nostrils large. Head small crested. Spurs on legs. Feathers above the tail, long, broad, expansible.			pl	119
				120

61. Pheasant.

Phasianus.

24 kinds

8 163

Bill convex short strong. Head more or less covered with a carunculated base, fleshy membrane on the sides, which in some is continued upwards to the crown, & beneath, so as to hang pendent under each jaw. Generally have spurs.

pl
124*
125
126

58. Pintado.

Numida.

4 kinds.

8 144

Bill convex, short, strong, at the base a carunculated cere, in wh^{ch} the nostrils are placed. Head & neck naked, slightly beset with bristles. A conical protuberance reflected & large on the head. (In one a crest of feathers) wattles hanging from the cheeks. Tail short pointing downwards.

pl
122

62. Tinamou.

Tinamus.

15 kinds.

8 213

Bill long blunt at the end. Nostrils in the middle; gape wide. Sides of head and throat not well furnished with feathers. Tail very short, often hid in the feathers of the coverts which are unusually long. Hind toe short, chiefly useless in walking, the claws hollowed beneath.

pl
127

65. Trumpeter.

Psophia. Grouse.

3 kinds

8 347

Bill moderate the upper mandible a little convex. Nostrils oblong, sunk, and previous. Tongue cartilaginous, flat, fringed at the end. Legs naked a little above the knees. Toes ~~4~~ the last small, with a round protuberance beneath it, wh^{ch} is at a little distance from the ground.

pl
133

56. Turkey.

Gallinavo.

2 kinds

8 125

Bill convex short & strong. Nostrils open, pointed at the end, lodged in a membrane. Head, neck, & throat covered with naked carunculated flesh. Skin of last placcid and membranous. Tail broad extensile. Spur blunt.

** With three toes.

66. Bustard.

Otis.

17 kinds.

8 351

Bill a little convex, nostrils open, oblong. Tongue sloping on each side near the end and pointed. Legs long, naked more or less above the knee. Toes 3, all forwards.

pl
134

* With four toes.

Vol Page

67. Dodo. *Didus.* 3 kinds 8
 Bill large, bending inwards from the middle of the upper mandible, marked with two oblique ribs, and much hooked at the end. Nostrils placed obliquely near the edge in the middle of the bill. Legs short, thick, feathered to a little below the knees. Toes three forward, one backward. pl 135

* * With three toes, placed forwards.

69. Cassowary. *Casuarus.* 3 kinds. 8 381
 Straight depressed bill pointed at the end. Neck more or less bare of feathers. Wings very small & useless for flight. Thighs bare of feathers above the knee. Toes three and all placed forwards. pl 137 138

68. Emu. *Rhea* 1 kind 8 377
 Bill straight, depressed, somewhat rounded at the tip. Wings useless for flight. Lower part of thighs bare of feathers. Three toes forwards, & a knob behind instead of a toe. pl 136

* * * With two toes placed forwards.

70. Ostrich. *Struthio Camelus.* 1 kind. 8 387
 Bill straight, depressed like that of a duck, & rounded at the end. Wings small & useless for flight. Legs naked above the knees. Toes two, placed forwards. pl 139

* With four toes.

- | | | | | | |
|-----|--|--------------|------------|----|-------------------|
| 74 | Boat-Bill. | Canceroma. | 1 kind. | 9 | 20 |
| | Bill broad, with a keel on the middle of the upper part, like a boat reversed. Nostrils small lodged in a furrow. Tongue small. Toes divided. | | | pl | 144 |
| 90. | Cereopsis. | ib. | 1 kind. | 9 | 432 |
| | Bill short, convex, bent at the tip. Nostrils at the base, under the cere. Tongue obtuse, whole. Head covered as far as the eyes, with a rough skin or cere. at the bend of the wing a blunt knob. Tail short of 16 feathers. Legs stout, bare above the knee. toes united by a membrane half way from the base. back toe small. | | | pl | 162 |
| 79. | Curlew. | Numenius. | 15 kinds. | 9 | 170 |
| | Bill long, incurvated. Nostrils linear, longitudinal, near the base. Tongue short, sharp-pointed. Face covered with feathers. Toes connected as far as the first joint in the greater part of the species. | | | pl | 151 |
| 77. | Erody. | Ardea. | 3 kinds. | 9 | 137 |
| | Bill nearly straight, sharp at the end. the two mandibles not closing the whole of their length. Face covered with feathers. Legs long. Middle toe connected to the inner by a membrane as far as the first, to the outer as far as the second joint. Hind toe long, claws moderate. | | | pl | 149 |
| 88 | Gallinule. | Gallinula. | 41 kinds. | 9 | 396 |
| | Bill thick at the base, & sloping towards the point. the base of yr upper mandible reaching far upon the fore-head, where it becomes membranaceous. Body compressed. Wings short and concave. Tail short. Toes divided to their origin. | | | pl | 160 |
| 76. | Heron. | Ardea. Grou. | 117 kinds. | 9 | 25 |
| | Bill long, strong, sharp-pointed. Nostrils linear. Tongue pointed. Toes connected by a membrane at least as far as the first joint. The middle claw of true Herons pectinated. | | | pl | 146
147
148 |
| 78. | Ibis. | | 32 kinds | 9 | 141 |
| | Bill long, thick at the base, incurvated, nostrils linear. Faces & sometimes the whole head naked. Tongue short. Toes connected at the base by a membrane. | | | | |

Index. Div. II. Order VII.

				13
				Vol page
73	Tavira. Mycteria.	6 kinds.	9	14
Bill long & large, both mandibles bending upwards. The upper somewhat triangular. Nostrils small. Tongue minute (some say none) toes divided.				pl 143
87	Tacana. Parra.	11 kinds	9	384
Bill slender, sharp-pointed, thickest towards the end. The base in many species, carunculated. Nostrils subovated, in the middle of the bill. Wings armed on the front with one or more sharp spurs. Toes long. claws long, & straight, pointed.				pl 159
85	Pratincole. Glareola.	7 kinds.	9	360
Bill short, strong, straight, a little compressed on the sides. Upper mandible hooked at the end; gape wide. Nostrils near the base, linear, oblique. Thighs naked for half the length. Wings long. Tail of 12 feathers forked for the most part. Toes long slender & those placed forwards connected by a membrane. Back toe half as long as the fore one.				pl 157
86	Rail. Rallus.	27 kinds.	9	367
Bill slender a little compressed & slightly bent. Nostrils small, often placed in a furrow. Tongue rough at the end. Body compressed on the sides. In several one or more short spurs at the edge of the wing. Tail generally short.				pl 158
81	Sandpiper. Tringa.	76 kinds.	9	245
Bill straight, slender. 1/2 inch long & less. Nostrils small. Toes divided or very slightly connected by a membrane at the base. hind toe weak.				pl 153
72	Screamer.	2 kinds.	9	8
Bill bending down at the point. Nostrils oval. spurs at the bend of the wing. Toes divided to the origin, except a small membrane between each, at the bottom.				pl 148
72*	Canama.	1 kind.	9	12
Bill as long as the head, bending towards the point. Nostrils near the base, surrounded by short feathers. A double tuft of feathers on the head. Legs long have considerably above the knee. Toes the latter short, & too high to be of use in walking.				pl 142
89	Sheath. bill. Vaginalis.	1 kind	9	430
Bill short, thick, a little convex. Top of the upper mandible covered with a horny sheath. Nostrils small, just appearing above the sheath. Tongue round above, flat beneath, & pointed at the end. A blunt knob at the bend of the wing. Legs stout, gallinaceous & are a little above the knee. Toes edged with a thick membrane. Middle connected to the outer as far as the first joint. claws channeled beneath.				pl 161

14. Index. Div II. Order VII

80. Snipe. *Scelopax*. 56 kinds. 9 185
 Bill long. slender, for the most part straight, in some turning upwards. Nostrils linear, lodged in a furrow. Tongue pointed slender. Toes divided, or slightly connected, back toe small.

71. Spoon Bill. *Platalea*. 5 kinds. 9 1
 Bill long, broad, flat, & thin, end widening into a roundish form, not unlike a spoon. Nostrils small, placed near the base. Tongue sharp-pointed. Face naked. Feet semipalmated.

75. Umbre. 1 kind. 9 23
 Bill strong, thick, compressed, upper mandible appears to be composed of several pieces. Nostrils linear, and placed obliquely. Toes divided, with a slight membrane at the base.

* * With three toes placed forwards.

83. Courser. *Cursorius*. 4 kinds. 9 351
 Bill roundish, bent downwards at the end & sharp-gape wide. Nostrils oval. Tongue sharp. Legs made for running with three toes placed forwards.

84. Oyster catcher. *Haematopus*. 4 kinds. 9 358
 Bill long, compressed, cuneated at the end. Nostrils linear. Tongue scarcely one third the length of the bill. Outer toe joined to the middle by a strong membrane.

82. Plover. *Charadrius. Pluvialis*. 24 kinds. 9 311
 Bill straight, for the most part not longer than the head. Nostrils linear. a few have a spur in the place of a back toe.

Index. Divⁿ. II. Order VIII. Pinnated Feet.

15

Vol. Page

93.	Coot.	Fulica.	5 kinds	10	13
<p>Bill strong, thick, sloping to the point; the base of the upper mandible rising far up into the forehead; both mandibles of equal length. Nostrils inclining to oval narrow short. Toes long, furnished with broad, scolloped membranes. Body compressed, wings short. Tail short.</p>				pl	165
92.	Finfoot.		2 kinds.	10	10
<p>Bill moderately curved, pointed, and elongated. Nostrils linear. Body depressed. Tail somewhat cuneiform. Legs short. Toes furnished with an indented or scolloped membrane. claws sharp & bent.</p>				pl	164
94.	Grebe.	Podiceps.	15 kinds.	10	19
<p>Bill in this is strong & sharp-pointed. Nostrils linear. Tongue slightly cloven at the end. Space between the bill and eyes, or lore, bare of feathers. Body depressed. feathers thick set, compact, very smooth, and glossy. Wings short. No tail. Legs placed far behind almost at the vent; much compressed, and doubly serrated at the back part. Toes furnished on each side with a broad, plain, membrane, and the toes with nail not unlike those of the human species.</p>				pl	166
91.	Phalarope	Phalaropus.	7 kinds	10	1
<p>Bill straight. Nostrils minuted. Body & legs as in the Sandpiper, but rather compressed on the sides. Toes furnished with a broad & generally scolloped membrane.</p>				pl	163

* With long legs.

95. *Avosets*. *Recurvirostra*. 4 kinds. 10 37
 Bill long, slender, very thin, bending considerably upwards. Nostrils narrow and
 pinnous. Tongue short. Feet palmated. The webs deeply semilunated between
 each toe. Back toe very small, at a distance from the ground. pl
 167
96. *Courier*. *Corrixa*. 1 kind. 10 42
 Bill short, straight, the gape very wide. Legs long, thighs short. Feet palmated
 three toes before, one behind; the last short.
97. *Flamingo* *Phaenicopterus*. 2 kinds. 10 43
 Bill thick, large, bending in the middle (downwards) forming a sharp angle:
 the higher part of the upper mandible carinated; the lower compressed. The edges
 of the upper sharply denticulated; of the lower transversely sulcated.
 Nostrils covered above with a thin plate, pinnous, linearly longitudinal.
 Tongue cartilaginous, & pointed at the end; in the middle muscular, base
 glandular, on the upper part aculeated. Neck very long. Legs and thighs do.
 Feet webbed; the webs extending to the claws, but deeply semilunated.
 Back toe very small. pl
 168

* * With short legs.

98. *Albatross*. *Diomedea*. 4 kinds. 10 48
 Bill strong, bending in the middle, and hooked at the end of the upper mandible,
 that of the lower abrupt; the lower part inclining downwards. Nostrils opening
 forwards, and covered with a large convex guard. Tongue scarcely perceptible
 only the rudiment of one. Toes three, all placed forwards. pl
 169
99. *Auk*. *Alca*. 13 kinds. 10 55
 Bill smooth edged, short, compressed, (except one kind, which is depressed) convex
 frequently transversely furrowed. Nostrils linear, parallel to the edge.
 Tongue almost as long as the bill. Toes three placed forwards. pl
 170

Index. Div.ⁿ II. Order IX.

111.	Darter.	Plotus.	5 kinds	10	469.
<p>Bill long, straight, and sharp-pointed. Nostrils a long slit near the base. Face and chin bare of feathers. Neck of a very great length. Legs short. Toes four, all webbed together.</p>					
				pl	184
101.	Diver.	Colymbus.	9 kinds.	10	84
<p>Bill strong, straight, pointed; upper mandible the longest, bending edges of each bending inwards. Nostrils linear. Tongue long and pointed, serrated on each side near the base. Legs compressed. Toes four. The exterior the longest. The back one joined to the interior by a small membrane. Tail short twenty feathers.</p>					
				pl	172
107.	Duck.	Anas.	145 kinds	10	214
<p>Bill strong, broad, depressed, and commonly furnished at the end with an additional piece called a nail. The edges of the mandibles, marked with sharp Lamellae imitating teeth. Nostrils small and oval. Tongue broad, sometimes irregular in shape and fringed near the base. Toes three before, one behind, the middle toe longest.</p>					
				pl	179
					178
106.	Goosander, or Merganser.	Mergus.	8 kinds.	10	199
<p>Bill slender, cylindrical, somewhat depressed at the base. Serrated, and sawed at the sides: at the end a crooked nail. Nostrils small, oval, at the middle of the bill. Feet with four toes & palmated. The outer one before longer than that of the middle.</p>					
				pl	177
100.	Guillemot.	Uria.	6 kinds	10	74
<p>Bill straight, slender, pointed; the upper mandible slightly bending at the end. base covered with short feathers. Nostrils linear, at the base of the bill. Toes three, all placed forwards.</p>					
				pl	171
104.	Gull.	Larus.	27 kinds.	10	131
<p>Bill strong, straight, bending at the point. On the under part of the lower mandible, an angular prominence. Nostrils oblong, fenious, in the middle of the bill; in some covered with a cere. Tongue a little cloven. Legs small, naked above the knees. back toe small.</p>					
				pl	175

18. Index. Divⁿ II. Order IX.

No.	Genus	Kinds	Vol Page
109. Pelican.	<i>Pelicanus.</i> Bill long, straight, the end either hooked, or sloping. Nostrils in a furrow running along the sides of the bill, and in most of the species, scarcely distinguishable. Face chiefly destitute of feathers; being covered only with a bare skin. Gullet naked, in some capable of great distension. Toes four, all webbed together. The species differ very much.	39 kinds	10 390 pl 182
108. Penguin.	<i>Aptenodytes.</i> Bill strong, straight, more or less bending at the point, & furrowed at the sides. Nostrils placed in the furrows, situation undetermined. Tongue covered with strong spines pointing backwards. Wings small, useless for flight, for the most part imitating fins; covered with scaly feathers; in a few only a bare stump. Tail various; in some scarcely appearing beyond the rump. Legs short and thick, placed near the vent. Toes four; united by webs as in the Duck genus. In several the back toe wanting. Seen only in the temperate and frigid zones.	15 kinds	10 380 pl 180 181
105. Petrel.	<i>Procellaria.</i> Bill straight, but bent at the end. Nostrils for the most part contained in one tube, but in a few they are distinct and separate. Legs naked above the knees. Toes palmated. Three forwards with a spur behind, instead of a toe. One species has not the spur.	30 kinds	10 170 pl 176
102. Skimmer.	<i>Rhynchops.</i> Bill greatly compressed, lower mandible much longer than the other, & truncated at the end. Nostrils linear, near the edge, pervious. Four toes, palmated, slender, hind toe very small. Tail forked.	1 kind.	10 96 pl 173
103. Tern.	<i>Sterna.</i> Bill straight, slender, pointed. Wings long. Tail forked. Feet webbed weak, back toe very small. Much affinity between these and the gulls.	46 kinds.	10 99 pl 174

Index. Div. II. Order IX

19.

110. Tropic Bird. Phaeton.

4 kinds.

Vol Page
10 443

Bill compressed, slightly sloping down. Point sharp; under mandible angular. Nostrils perianth. Tail cuneiform; the two middle feathers extending much beyond the others. Toes four all webbed together.

Pl
183

End of Index.

2 Divisions. 9 Orders. 111 Genera. 4324 Species besides
some variations of particular Species.

Plates 184 duplicate numbers 7. Triplicate 1. total. 192.

In the descriptions of the following pictures. Of the ~~first~~ ^{two} figures of length. the first means from the point of the beak to the setting on the tail: the second, from the last joint to the end of the longest feather. unless other measurements are expressly specified.

The breadth means from wing to wing, from the longest feather to do. whether the outer one or not; unless expressly specified to the contrary.

The native names given, allude to the place where the bird was killed, ^{unless otherwise specified} for the names for the same bird, differ very much in different parts of India. In the hills (of the Himalah) in particular ^{the inhab. of} villages five miles apart ^{often} have different names, for the same bird, as indeed is the case with plants, insects, and even animals.

The information about their nests, eggs, time of breeding, migration, & other local points, is chiefly collected from the village boys; who (in the hills particularly) from being continually bird-nesting, & playing about the jungles, are well acquainted with these matters. While the men on the contrary comparatively know nothing and when questioned usually say "when I was a boy I could have told you all about it but have forgotten now!" For brevity's sake, when the toes are directly joined to each other, they will be said to be "joined": if joined by a membrane, to be "membraned".

The native names are given with great exactness; spelling according to Sitchest's plan.

This generally is not sufficiently attended to; which creates confusion. Most native names of birds have some meaning characteristic of their color, shape, song, manners &c.

The under parts, and those which cannot appear in the drawing are minutely described.

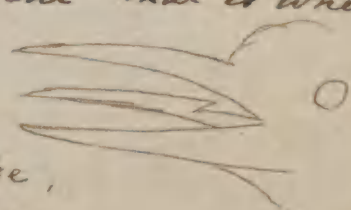
Where I have not exactly hit the color, it is mentioned. From want of this having been done in the drawings from which Latham's descriptions are taken, he has described the color of some incorrectly.

The "Length of Bill", or so short "Bill" signifies from the point to the corner of the mouth when open.

Almost every picture is taken from a real specimen, immediately after it has been shot: chiefly shot by myself, which gives me an opportunity of observing their natural position and motions. Some few are taken from live birds in cages, but where this is the case it is mentioned: also if it be taken from another picture or a stuffed specimen.

In some the tongue is mentioned to have the "hooked joint" that is when the tongue has a joint near the root with a sort of barb pointing backwards like this.

When a bird is stated to be drawn $\frac{1}{2}$ - $\frac{3}{4}$ &c the natural size, it is by scale, with proportional compasses.



* placing the bird in its natural sitting position, and measuring by the curvature of the head, neck, back &c.

Fig. 1.

Goatsucker
May 11. 1827.



This is very like the Bombay Goat-sucker. (Vol 7. P. 337). differs in the colour of the quills of wing, and in the white on them, and on the four outer feathers of the tail. Of the quills of this, the outermost is white on the inner web; the next on both webs, but not on the quill; the two next on both webs & quills. Length of this one $5\frac{1}{4}$ inch. $4\frac{3}{4}$ inch. breadth of the mouth at the root $1\frac{1}{8}$ inch. Nostrils very prominent and inclining forwards. Middle toe membraned to both the others to the first joint, and twice as long as either of them. Back toe very small. Lays two eggs on the ground, white with black spots. killed at Thangur Kutti oodipoor Green^r. Tehsul^{ee}. May 10th. 1827. called Gud khānā. Seen all the year. NB. the pale ash colour was in such minute spots I could not imitate it. There sh^d be here & there a spot of ferruginous brown, in other respects color correct. 10 Feathers in the tail. Tongue small, sharp and red.

Fig. 2.

Black and Scarlet Thrush
Vol. 5. P. 96.
May 13th. 1827.



Short-billed Minivet (*Picrorostus bharinostis*).

Length $5\frac{1}{2}$ inch. 4 inch.
Breadth $8\frac{3}{4}$ inches.

drawn over again. Sec U. 3 P. 14)

The variations mentioned seem to be of the same bird immature. I have shot them so, when four of the middle feathers and more of the wing were black, and the 2 or 3 outer tail feathers of the tail not half their proper length. The female described in Var A. is the correct one.

Nest of feathers & grass small; lays three eggs, darkish with red spots. Found in the Ghene doon and warmer parts of the hills. called Dhunchuree, chifchuree, or Bun pinchooā. The black on the upper parts has a bluish gloss. Middle & outer toes joined, to the first joint. Back toe as large as the middle. claws sharp & bent. The scarlet has in nature a beautiful silky gloss, which I could not imitate.

Fig 2. The female if any thing a
little larger than the male, which I
have seen without the white spot over
the eye. Where the male is bluish
black, the female is mouse-colour, and
on the rump approaches to ash colour
of the tail. The two outer feathers are
quite white. The two ~~feathers~~^{feathers} are white
on the shaft, black on almost all the
inner web, and a narrow strip on the
outer web, and the two thirds have
little black on the inner web.

Does ~~it~~

Fig. 1.

Bunting.
May 10. 1827.



Lays four eggs. Whitish with black & red spots on them. make nests in doonas, i.e. in holes under rocks, or the walls of fields. called Chospul (i.e. topknot)

killed at Thangur. in Putli Odipoor Soenagar Fakhairdara May 10th. 1827. Not in Latham. Female bluish black, & yellowish red. no topknot. - Tongue sharp-pointed, bayonet shaped at the root. flat side upper most. This only tolerably done.

Drawn over again. See Vol 3. Pl. 35.

Length 4 in - 3 3/4 inches.
Breadth 9 3/4 inches.
Colors correct. nostrils large near the base of the bill. a few small bristles near them. Middle toe connected to the 1st Joint, with the outer. Back toe-claw longer & stronger than any other. Tail feathers near the vent a few rufous tinges mixed with the bluish black. 3/8 of an inch of end of tail blackish. Wing when expanded nearly even four outer feathers a little longer than y^l rest.

It has the characteristic of the Bunting; & may be called Crested Bunting. *Emberiza cristata.*

Female much the same without the crest. Lives on seeds of the Fooler fruit, & others. Found in the warmer parts of the Hills.

+ i.e. in the shape of the bill, & the Horny knob in the upper.

Fig. 2.

Mandanao Thrush. male.
Vol 5. P. 77.
May 12. 1827.



Length 5 inch
width 3 3/8 inch.
width of bill 1 inch. from tip to gape
breadth 1 1/2 inch

Two outer tail feathers 3/4 inch shorter than middle one. Two next 1/4 in shorter. rest of tail even

Drawn over again.
Vol. 2. Pl. 11.

MS. The lead color on the eyelids is lighter than in nature to show the eye.

+ inner webs. broad at the roots, & gradually growing narrower toward the points. an inch of which are entirely white. killed in Putli Odipoor called Only seen the six summer months. called Daker. builds in hollow trees. lays four eggs white with black spots. sings very well. nest of grass. known in Hindostan, and when tamed called

Both Mandibles hollow inside. Outer toe joined to the middle to the first joint. The under part of the wing quills and the roots of the belly feathers, slate color. Nostrils pervious. Color correct. shape exact, but the bluish black has in nature a gloss which I could not imitate. In its natural position no more white is seen on the tail which has 12 feathers. but the three outer on each side are entirely white. The two fourths all but a little black on their +

...
...
...
...
...
...

Fig 1. A species of
~~Coccothraupis~~
~~Coccothraupis~~

May 12. 1827.



MS. The red spot on the side is rather too high up. This being bad by some, see D. 3. P. 53.

Length $7\frac{1}{2}$ inch. $2\frac{1}{2}$ inch. from point of bill to gape $1\frac{3}{8}$ inch. Breadth $12\frac{5}{8}$ inch. Found in Putili Oodeepoor, called Kaitkhorai. Both mandibles hollow inside. The nostrils linear, in a dent in the bill. Under mandible slightly longer the other. Tongue 3 parts as long as the bill, flat & horny. Feet two before two behind. The outer fore & hind respectively twice as long as the inner. Two fore toes rather longer than the two hind, and joined to the first joint. Flesh bare round the eye. The tail feathers ten. ends ribbed, apparently by clinching trees. under parts of wing whitish. ends of quills slate color. Nostrils of all the feathers do, except of red when ~~seen~~. + i.e woodpecker. a name very indiscriminately given, to any long, or strong billed bird.

Fig 2.
Gold Vented Thrush.
Seen in the Hills. Vol 5. P. 82.
and all over
Hindustan
May 13th 1827.

Drawn over again in Vol 2. Pl. 13.

Length $5\frac{1}{4}$ inch. $\frac{1}{2}$ in
Breadth. $1\frac{1}{2}$.
Claws sharp and hooked.
The description is correct
as far as it goes. except
something mentioning
the tips of the tail feathers
being white for $\frac{1}{2}$ an inch.
The eye is lead color. darker
than I have made it.
6 feathers in the tail. even.
The head feathers do form
a small crest when the bird is on
the alert. Called Boobool. & in
the Hills Shur Pinchoo. The nest is
very deep. lays 2 to 6 eggs grey with red
and white spots. Can be tamed and
sing very well. Nostrils almost horse shoe
shaped in a dent.



Another sort similar, except the vent being yellow, will not sing when tamed.

Fig 1. Some of the people say this is the female; that the male has a small top-knot
in other respects the same. June 6.

June 6. 1828. This is not the real kapuljukku. See Vol 3. Pl. 8.



Fig 1.

A species of Cuckoo. not
in Latham's.

May 13. 1827

See Vol 3. Pl. 6.


Found in the Dene Dorn & warmer parts of the Hills. During spring its cries are heard at all times during the day & night. like . The natives fancy it pronounces 'kaful pukhu' (i.e.) the kaful fruit is ripe) called 'Lepphoo'. Length $5\frac{3}{8}$ inch $5\frac{3}{4}$ in Breadth $1\frac{1}{2}$ inch. Its feathers are all large, particularly the tail coverts, in proportion to its size. The outer wing quill has a patch of white about the middle, in the inner web, and the rest of the ^{quills} feathers have a small spot of white on their inner webs, making a bar of white: but only visible by looking under the wing. The under tail coverts beautifully barred with ash-color. Tail 10 feathers, two outer two-thirds the length of the other eight, wh. are even, four turned one way, four the other, thus forking the tail. Belly & throat & vent black. Upper parts, wings & tail (except the two outer feathers which are barred like the under tail coverts.) black with a greenish, bluish, purple gloss. It is an elegant bird and flies very quick like a small hawk. It builds nest of grass and feathers, in branches of trees. Lays 2 eggs. breeds in end of May or June, ~~after the first part of the season~~. Sometimes it puts its eggs in other birds' nests. Goes two before & 2 behind. claws horn-color. sharp & hooked.



Fig 2. May 14. 1827.

Drawn over again
See Vol 2. Pl. 57.

Length $5\frac{1}{4}$ in. $3\frac{1}{4}$ inch. Breadth 10 in. Killed in Petti Bodi-poor. Called 'Bun Gendurii'. Builds a large globular nest of grass a big as a man's head, with a hole in one side for ingress. Lays the boy has seen from 6 to 12 heard as many as 20 eggs. white.

The claws & bill would pronounce it to be of the lark genus, but habit and 12 feathers on tail & which the two middle have a narrow ragged web. The brown of the tail feathers lighter to outwards.

Fig 1. Called Dhenchos by the Putans.

Fig 1.

Drawn over again
See Vol 3. Pl. 23.

May 14th 1827.



Length $5\frac{1}{4}$ inch. $6\frac{1}{4}$ inch. Breadth $15\frac{1}{4}$ inch.
Colours correct, and shape. This or a bird like it
is found all over Hindostan. Called in Puttis
oddipoor, Koneerä.

~~See page 23 of the book for a description of the bird's appearance and habits.~~

In the hills it is only seen the 6 first months
of the year. Nest of grass & grass lays two
eggs. usually seen in pairs; in the egg some-
times in many. very rarely in the day. It sits on
a branch, or pole in a dumpy posture, making
sudden darts into the air (probably at insects)

and returning to its old spot. It is said to kill young birds some
times; and to attack crows. Its tongue was horny broad, and jagged at

the end. Outer wing quills $3\frac{1}{4}$ inch shorter than the next four which are
even. Tail 10 feathers of which the two middle are half the length of the two outer, and
are straight. next two a little longer inclining outwards, next two the same & so on.

Claws are straight.

Fig 2.

May 14th 1827.

Length $4\frac{1}{2}$ in. $1\frac{1}{4}$ inch. Breadth $9\frac{1}{2}$ inch.

A species of finch or sparrow. Killed at Silson
near Deopray. Has a cheerful chirp. Colours correct,
shape it is a little thinner than dragon.

Tail divided to their origin. Tail 12 feathers of
this shape

Chiefly found near villages, does much harm
to the new sown fields.

Called Soorra. Nest of grass and feathers
large. lays 4 to 6 eggs. brownish with red spots.



See Vol 3. Pl. 28.

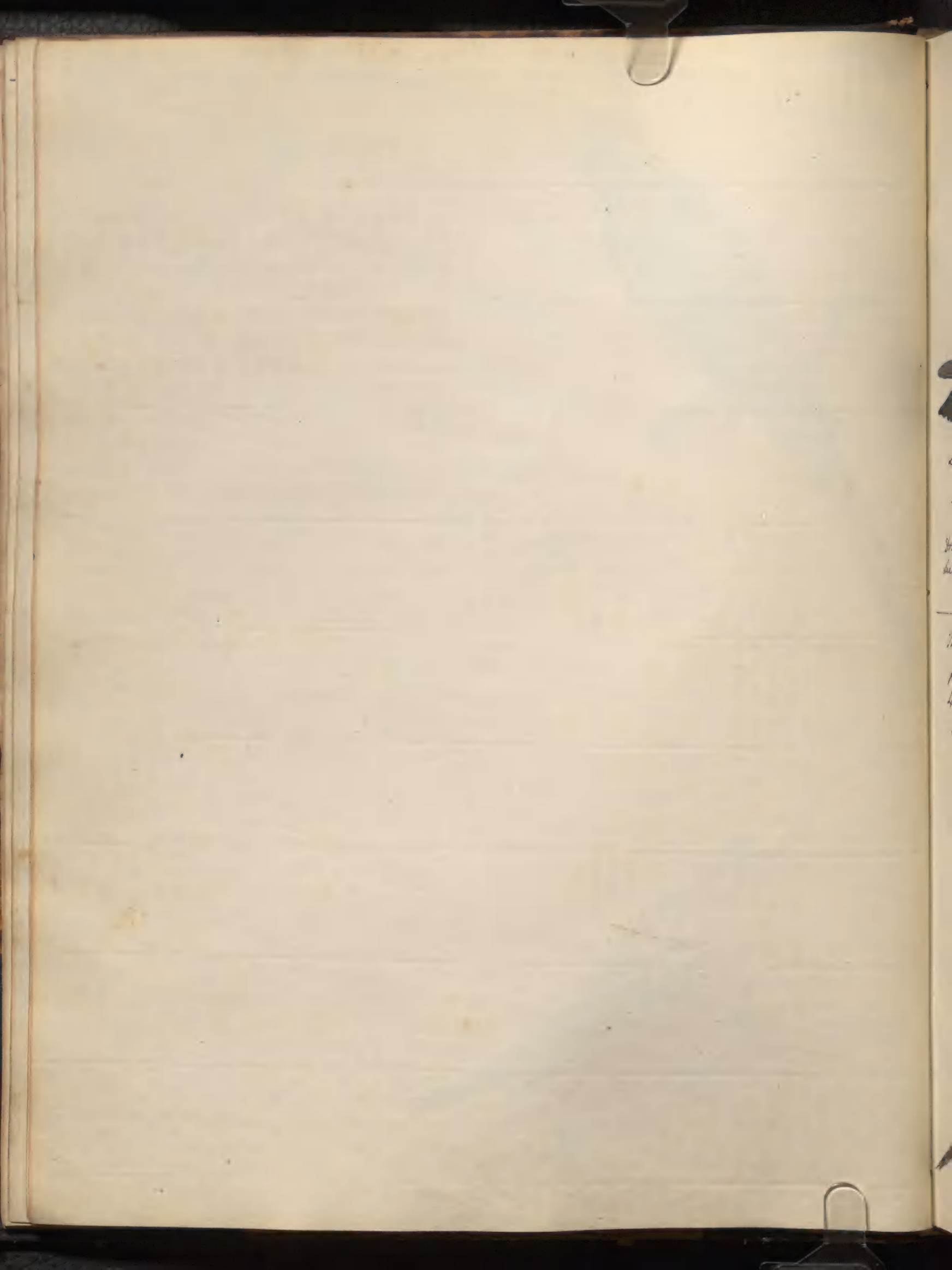


Fig 1. Common blue pigeon of India (wild).

May 16th



Length

9 1/2 in. 4 1/2 in. 22 3/4 in. broad.

The Jungle Pigeon, of Latham, V. 8. P.

called in some parts of Guzerat Mullerwa

Drawn over again

see Vol 2. Pl. 24.

The feathers of the back of the head, are 1/2 inch long. they & those on the neck, & upper part of the breast are like Cocks hackles. called Powee. eats fruits. builds in hollow trees. lays from 4 to 6 eggs. dirty white with black & red spots. sings very well. ~~Builds its nest in hollow trees.~~

Drawn over again see Vol 3. Pl. 28.

Fig 2. The Pagoda Grackle of Latham
Vol 3. P. 150.

May 21st

Length. 6 in. 2 1/2 in. breadth. 12 3/4 inch

hatched near Freenugur.

Length of Bill to the gape 1 1/2 inch.

The white of the eye ball, is a glassy yellowish whiteness, which I could not imitate. Nostril surrounded by a projecting rim. Wing quills black under

neath, but lighter approaching to brown as they near the body. Above outer 9 quills black, next 4 blackish with a stripe of the outer web light slate color.

The rest slate colour. inner wing coverts pure white.

Tail 12 feathers. & has a slight greenish tinge in its black, 1 inch of the tips of the 2 outer white, the rest do. but left & left tail only 1/2 of an inch of the 2 middle are white. Outer toe joint to middle to first joint. legs strong. feet & toes large & scaly. Tongue horny neither very sharp or very rounded.



Fig 2. Add^l. notice. Rump pale dirty whiteish orange. In some the vent has a slight tinge of the same. Inner wing-coverts the same. inside of the wings light slate color. Of the tail, the six middle feathers are nearly equal length. The two thirds rather longer; the two seconds still longer, & the two outer, double the length of the middle feathers. Called Bamence or But Bamence (a common name in the hills for several swallows.) Shot one at Pao Oct 4th. Tongue short, flat, horny, & pointed, & divided at the end.



Fig 1.

Apparently answers exactly to the description of the English Chimney Swallow. V. Vol. 7. P. 277.

Length, $4\frac{1}{10}$ inch - $2\frac{3}{10}$. Breadth $1\frac{1}{4}$. Killed at Breenugur May 22nd - 1827. MS. The eye is much lighter than in nature. Called kutar.



Fig 2.

May 22nd

Length $3\frac{1}{2}$ in. $1\frac{1}{2}$ in. Breadth $9\frac{3}{4}$ in. a delicate little bird. Killed at Breenugur tail 12 feathers slightly forked. The wings when closed reach a very little beyond the tail. There appears no difference between male and female; at least I fired into a large flock collected round a puddle, and killed 37.

Some of which must have been male and female; and they were all alike.

See Vol 4. Pl. 27. only another fig.

Fig 3. May 25 Drawn over again
Vol. 2. Pl. 29.

Makaratta Woodpecker
Vol 3. P. 356.

Killed in Purguna Nagpore. Breenugur.
called Khatkhoru (i.e. woodcater. per?)

Length $5\frac{1}{3}$ - $3\frac{1}{2}$. Bill $1\frac{1}{3}$ inches.

Breadth $1\frac{3}{4}$ inches.

Tail 10 feathers - four middle black, and extended beyond the others as drawn - When the wings are closed the quills appear irregularly marked with white; but on spreading them out, four regular rows of white dots appear.

Claws & the inner hind claw very small.



Fig 1. I shot one apparently the same species, in which the irregular bars of black on the breast, were broader than in this; and its tail was barred with white. ^{A mistake, this was} a different species.

See additional notes
lower end of page



Fig 1. May 25th

Common Cuckoo.

Vol 3. P. 257. at
least it answers ^{nearly} exactly
to the description there given
or is only a variation.

Length $7\frac{3}{4}$ in. $6\frac{3}{4}$ in
breadth $23\frac{2}{3}$ in. Length
of Bill from point to gape $1\frac{1}{10}$ in.

It is found in the Dhene Dorn,
Kumran, Gushwall. has the
note of our English cuckoo; from
which its native name Kueppoo. Lays
its eggs in other birds nest, chiefly the
boys tell me in crows nests. Flies quick, like a
small hawk. Killed in Petti Nagpoor.

Broad 26 inch. Tail 10. rounded.

Fig 2. May 27th

probably a species of titmouse.



^{3/4}
Length $3\frac{3}{4}$ - $1\frac{3}{4}$ inches. Breadth. $8\frac{1}{4}$ inches.

Found in the Hills. Its motions those of the
titmouse. usually several together. Has
a cheerful chirp, and a shrill whistle.
(of the Treonagur division) and in West
Gushwall found also. called there Chutte-
rallee. Builds nest of small bits of grass
in holes in the ground, or under rocks and
large stones. Lays three eggs. white or
whitish, with black spots at the ends.
tail 12 feathers. Not birds previous.

Fig 1. Its Hill name Bun Bakur, or Bun Bakrä, means forest goat. from a
fancied resemblance in its voice to a goat's bleat.

Fig 1.

May 27. 7

Probably a species of
Grackle.See Vol 3.
Pl. 4. $6\frac{3}{4}$

Length $7\frac{1}{2}$ - $4\frac{1}{8}$ inch. Bill $1\frac{1}{4}$ inch. Breadth $1\frac{3}{4}$ inch. Killed near Okeemut, Purg^a Nagpoor
Srenugur. Called Bun Bakur. Tongue near the end is hollow like the under mandible: it is
much fringed. Legs short thick and scaly, toes do. Claws much hooked and sharp. Middle and
outer toes joined half way up the first joint. Inside of mouth red.

Fig 2. May 27.

Probably a species of
Nuthatch.

Length 5 inch - $2\frac{3}{4}$ inch, breadth $1\frac{1}{8}$ inch
bill $1\frac{1}{8}$ inch. Killed near Okeemut.
Middle & outer toes joined to the
first joint. inside the mouth yellow.

Tail 12 feathers. of which the two
middle have narrow ragged webs.

Drawn over again. see V. 3. Pl. 29.



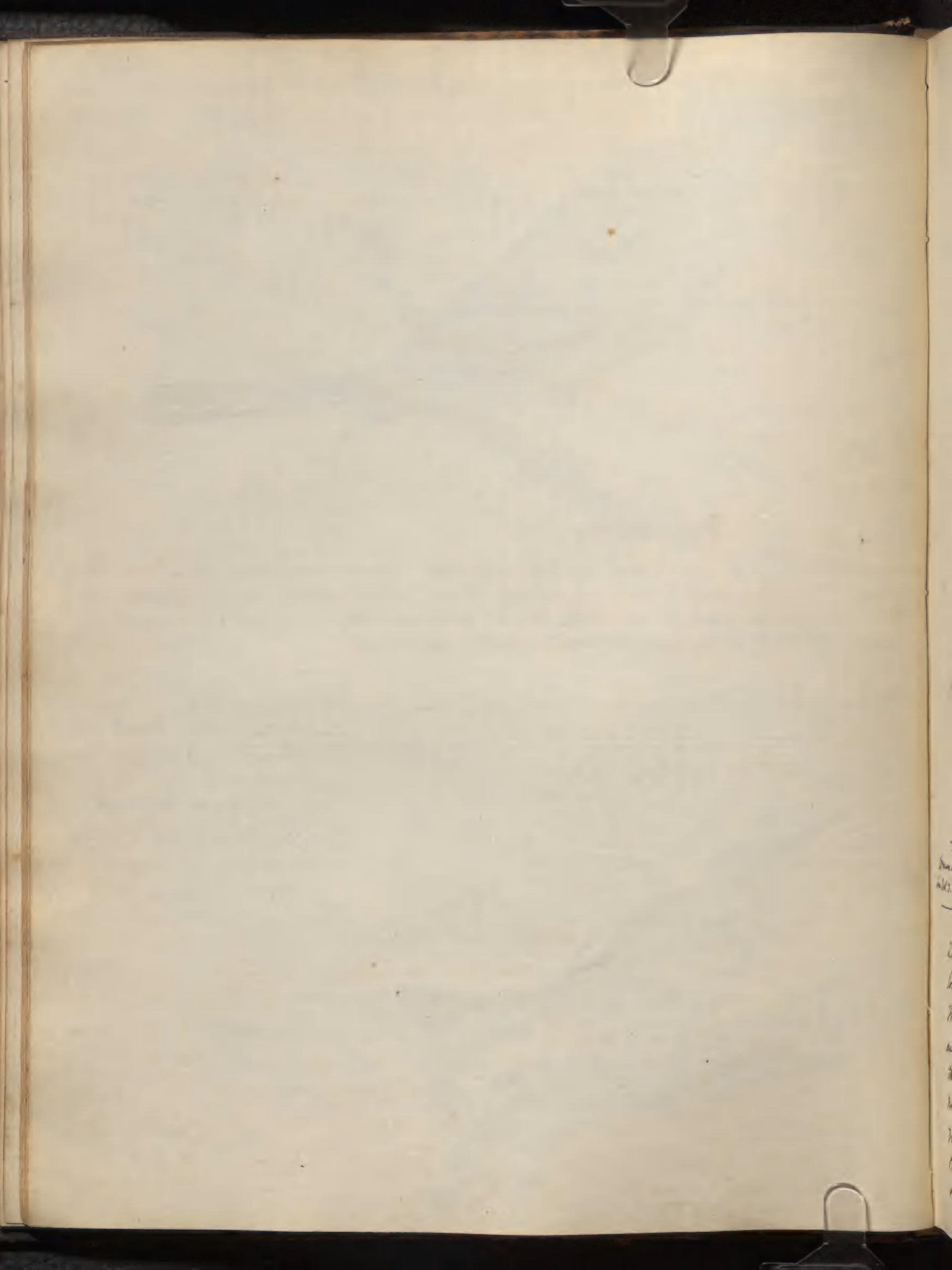


Fig 1. May 27th

Drawn again
See Vol 3. Pl. 36

Red-wattled Lapwing (*Sarcogrammus indicus*).

Length. $9\frac{1}{4}$ - $4\frac{1}{4}$ inches. Breadth $29\frac{3}{4}$ inches. Length of leg, upper joint $3\frac{2}{3}$ inch. lower joint (excluding toes) $3\frac{1}{4}$ inch. Back claw too small & high up, to be of any use. The whole of the white parts are delicate pure white. Roots of all the wing quills white, and the tips of all but the δ outer ^{longest} wing coverts white, which when closed gives the wing that white stripe between the brown and the black of the quills. Point of tongue rounded, not very stiff. Mouth red. Tail 12 feathers. The ends broken like a wood-pecker's, (not very apparent why.) Found in Bengal, and over Hindostan. This killed near Okeemut. Called tuteree, from a resemblance to its cry. it also makes a noise like "Pity to do it", sometimes merely screeches, often in the night. The nostrils can be seen through.



See also [unclear] [unclear]
[unclear] [unclear]
[unclear] [unclear]



Yellow-billed Blue-winged (Morissa flavirostris)

Length $9\frac{3}{4}$ - $11\frac{3}{4}$ inches. Breadth $2\frac{1}{4}$ inch. Bill $1\frac{5}{8}$ inch. Girth $8\frac{5}{8}$ inch. Found in Gerakwall.
NB. The tail is drawn in that position to show it, but in perching it hangs down, and the bird flies in a clumsy, waddling way, as if incumbered by its length. Called *Taurāpā*. Builds its tall fir mother trees. Has two to four young. Female much the same color, but a short tail. Claws hooked, strong, sharp, and half as long as the toes. Back toe, stronger than any. Not birds large & round hind in bird feet. A few short hairs at the corner of mouth. Chief food grass-hoppers. Nest of thin sticks. Tongue short, horny at end, & split for $\frac{1}{4}$ inch. A notch in the upper beak. Both mandibles, the under one particular only, hollow inside. The tips of all the wing quills white, but when closed no more appears than in *Trava*. Tail has 12 feathers, the two outer, are like, but shorter than, and are hid by, the two seconds. * this was told me, but must be a mistake. See also obs. at end of book.

Answered nearly to the Red-billed Jay.
Vol 3. P. 27. or it but a trifling variation of it.

Drawn again
see Vol 4, p. 106
another fig. only

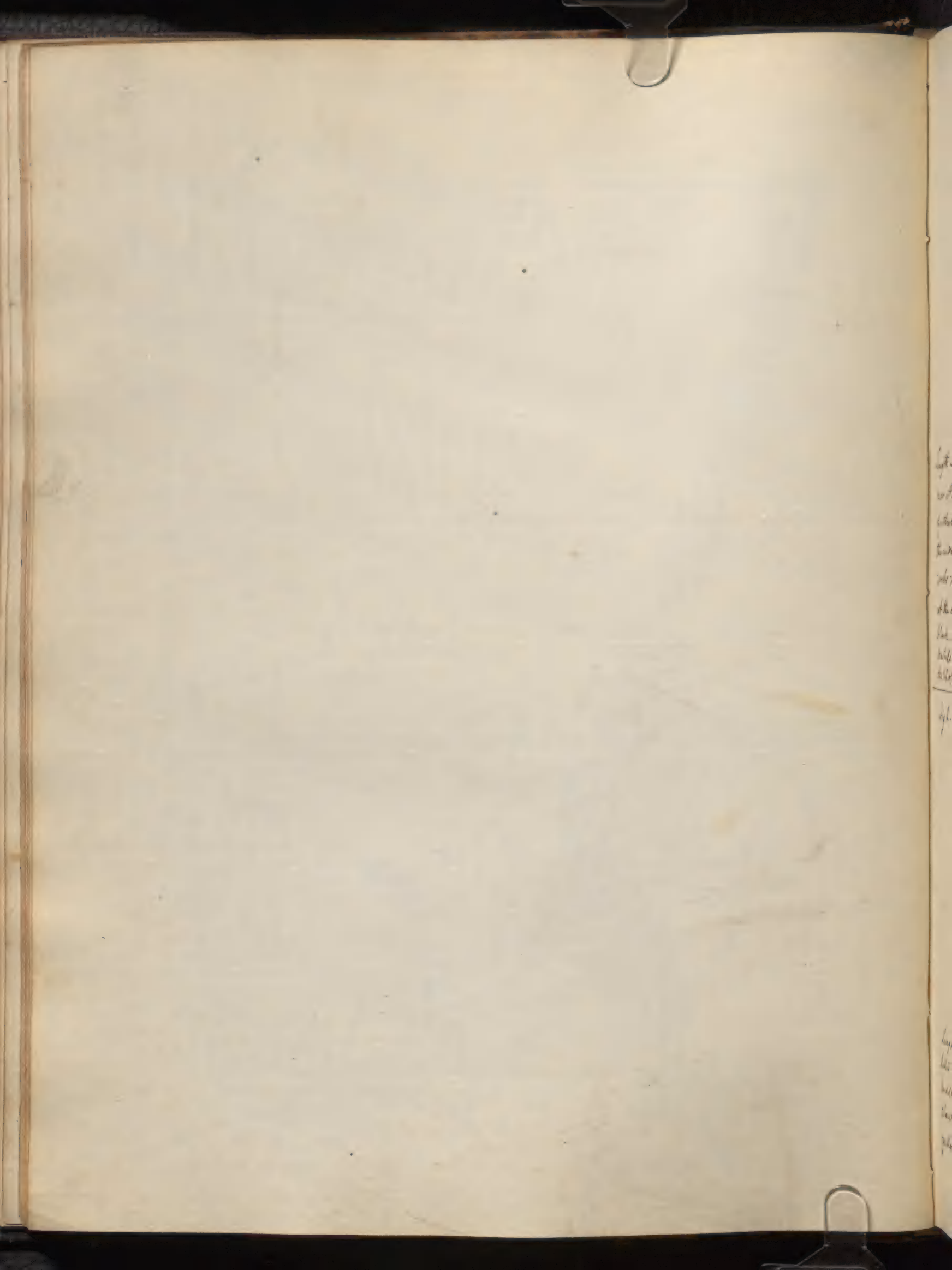




Fig 1. May 29th

Length $5\frac{5}{8}$ - $3\frac{5}{8}$ - Bill $\frac{3}{4}$ - Breadth $9\frac{1}{2}$ inches. Found in the plains & Hills. This killed near Akrot Kotee. not far from Kidar Nat. Called in the plains Gougäce. generally seen many together. in low bushes, hopping quickly from one to the other. Tail 12 feathers, 1st on each at the ends of each being white. The feathers all over, except the tail, are pointed, by having the webs narrower towards the end. Called in the Hills Mosthekura or Dhekuree. Tongue bristled at the end. Builds ^{or holes under stones} in low bushes. nest of fine thin grass, cut small. Lays three or four eggs, brown black, red, & white mixed. Middle & outer toes joined to 1st joint. It carries the tail usually cocked. Nostrils large with a few small bristles over them. A few hairs at the corner of mouth, a small notch at the tip of the upper mandible. Drawn over again. See Pl. 13. Vol 3.

Fig 2. June 1st



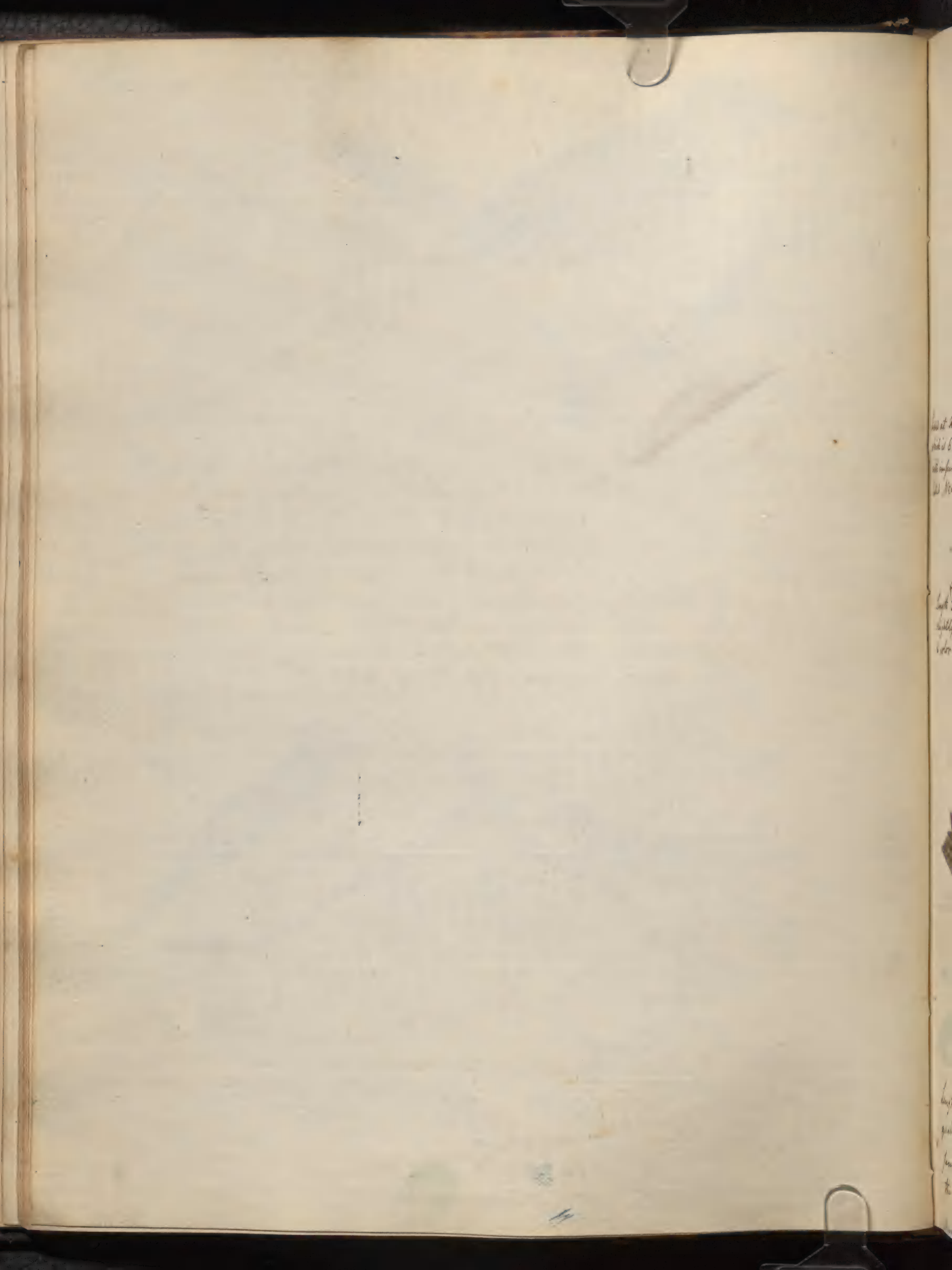
Length $2\frac{1}{4}$ - $1\frac{1}{4}$ inches. Breadth $6\frac{1}{8}$ inch. killed not far from Kidarnat. called Kurkothee. Middle and outer toe jointed to 1st joint. Claws sharp & hooked. inner wing coverts yellow. Tail 12 feathers.

Fig 3. June 1st



Length $2\frac{1}{2}$ - $1\frac{3}{4}$ inches. Breadth $8\frac{1}{4}$. killed same place called Kurree Kourcein. Outer & middle toes joined to 1st joint. Tail 12 feathers. 2 middle black. 2 5th white a fourth way from their roots. the other eight white at root half.

See Vol 3. Pl. 59



... at ...
... 6 ...
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Fig 1. June 1st



killed at Kidarnat
which is 6 months covered
with impenetrable snow.
Called Neel Burree

See Vol 4 Pl. 23.
another fig only

Length $5\frac{3}{4}$ - $3\frac{1}{4}$ inches. Breadth $1\frac{5}{8}$ - Bill $\frac{9}{10}$ inch. Tars divi^d to origin. Tail 12 feathers very
slightly forked. Tail & wings black, all the rest a glossy purplish blue. The above is exact in shape
& color, except the silky gloss, wh I do not imitate. Female.

Male.

Fig 2. June 1st



See Vol 4 Pl. 23.

Section of the head
showing the tongue which
appears to have been cut off (slightly)

Length $5\frac{1}{4}$ - $3\frac{1}{4}$ inch. Breadth $1\frac{1}{2}$. killed at Kidarnat. called Saguree Buteer (i.e snow
quail). Tail 12 feathers slightly forked. Iris & outer be membraned to the 1st joint. The
female a little smaller, and where the male is red, is light brown, with a dark streak in
the middle of each feather.

All three killed at Kidarnat, on the borders of the perpetual snow of the
Himalayas in June 1827 when the snow was still on the ground.

Explanation to Pl. 14.

Fig 1 - Length $\frac{3\frac{3}{4}}{4\frac{1}{8}}$ - $2\frac{1}{3}$ inch. Broad $1\frac{1}{4}$ inch. Tail 12 feathers: the two outer white on most of the outer web & part of the inner. The two next white at the tip. Inner wing coverts yellowish green. Nostrils pervious. A little yellowish green on the shoulders, which is hid by the over-lapping of the breast feathers. Killed at Kidarnat, close under the perpetual snow. Snow lies there so deep as to be impracticable for people to visit it, for six months in the year. Called Soorinee. It is a species of lark.

See Vol 2
Pl. 18.

Fig. 2. This has the motions, and appearance of the English Blackbird; but when close, the blue tinge is perceived. The feathers of the head, throat, neck, and upper breast are pointed; and at the ends have a gloss, which in some lights gives it the appearance of being a lighter color. This I could not imitate. Middle & outer toes membraned together. Belly & vent black. Under mandible square at its root, and hollow in the centre of the under part. The brownish green of the eye-ball is lighter than in nature. Length 9 - $5\frac{1}{2}$ - inches. Bill $1\frac{1}{2}$. Broad $2\frac{3}{4}$ inch. Found in the Doon, and in Surhwall both the warmer & colder parts. Called Kuljet. Tongue small, horny, & jagged.

Drawn over
again.
See Vol 3
Pl. 30.

July 26 Shot one of last year, all brown with a greenish tinge. Beak the same color, as this, but not so much hooked. Legs dirty greenish yellow. I suspect this was a different bird. Sept 16

Fig. 3. Length $\frac{3\frac{3}{4}}{4\frac{1}{8}}$ - $2\frac{1}{8}$ - Bill $\frac{1}{8}$ - Broad $8\frac{1}{2}$ inches. Middle and outer toe joined to the first joint. Belly dirty white. Vent white. Inside of the wing quills, dirty white on the inner web, slate color on outer web. Inner wing coverts white. Legs brownish slate color. Tail twelve feathers. Blue on outer webs, black on inner. Killed near Kidarnat. Called Fitzoonie. Has much the motions of a Robin. Erects the head feathers slightly, now and then. Claws slightly hooked and not very sharp. Builds in the roots of tufts of grass. Lays three eggs, colour dirty white with a reddish tinge. Male & female alike. Under wing coverts very short, and white. Tongue horny and sharp pointed.

See Vol 3
Pl. 46.

Fig. 1. June 1st.



Fig. 3. June 4th.



Fig 2. June 2nd.

Fig 1. Length $9\frac{1}{4}$ - $5\frac{5}{8}$ - Broad 27 - inches. Belly, breast, inner wing-coverts pure white. Tail 12 feathers, slightly rounded; so that the black is left towards the outer feathers. The two outer feathers have scarcely any white on them. Killed at Kidarnat. Called Sankulu. Tongue soft, bayonet shaped, the flat side uppermost.

See Vol 2
Pl. 4.

Fig 2 - Length 12 ~~X~~ - $6\frac{1}{2}$ - Bill $2\frac{1}{4}$ - Broad 33 - inches. An elegant bird. The whole of the feathers pure black. Those of the head, neck, throat, and upper part of the breast have a velvet glossiness, which I could not imitate. When walking about its motions are more like those of a pidgeon than a crow; of which genus it apparently is. It makes a screeching noise. Shot at Kidarnat. Male and female alike; at least a pair were together, most likely male & female, apparently alike, but I only succeeded in shooting one. The toes scaled like a lobster's tail. Tail 10 feathers. Called Sagoree Koua (or kak) i.e. Snowy crow. The nostrils completely hid in the small feathers at the root of the bill. They are large & round.

See Vol 3. Pl. 70.

Fig 1. June 2nd



Fig 2. June 2nd

Drawn over
again.
See Vol 3.
Pl. 55.

Fig 1. Length $5\frac{1}{4}$ - $3\frac{1}{8}$ inch. Broad $1\frac{1}{4}$ inch. Tongue rounded and jagged. Outer and middle toe joined to 1st joint. Found in the Dora and Hills, both in warm and cold places; by the side of streams, hopping about among the large stones, with much the motions of a Robin. This one killed near Kidarnat. Called there Chandeeu Churra; in other parts Dabee Churra. The eye is so much the color of the surrounding feathers, that its glistening alone distinguished it in nature. I have made it lighter color.

Fig. 2. Length $9\frac{1}{4}$ - 3 inches. Toes membrane together ~~half way up~~ ^{to} the first joint. Outer toe four joints. Middle toe $1\frac{1}{2}$ inch long. Bill $9\frac{1}{10}$ inch. See Vol 2. Tongue soft, short, and rounded. Caught near Kidarnat, in a roose, in a bit cold places. Called Pivora. Lays two eggs, in nest of grass very large.

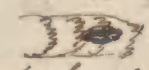
eggs white. ~~The ends of wings and tail have the appearance of having~~
~~remained the bird had been long in a cage. But the fellow told me it was just caught~~
~~been shortened by rubbing, but it is natural.~~ Broad $18\frac{1}{2}$ inches. Tail 14 rounded hidden by coverts. sides like breast, with white & rufous dashes. back shd be more greenish brown with regular semicircular bars. rump do with a patch of black . smaller wing coverts like back, rest irregularly marked. smaller inner wing coverts like back, rest light brown, white ends. Quills chocolate brown with light edges. Round eye, bare carunculated dark pink. sides of mouth do. on shoulder a few white stripes down the shafts. Rufous on the head should have a few black dashes. Black of the throat shd be more dashed with white.

Fig 3. Length. $6\frac{3}{4}$ - $3\frac{1}{4}$ - Bill $1\frac{1}{8}$. Broad $1\frac{3}{4}$ - inches. Throat dirty white with a greenish yellowish tinge. Breast & belly light greenish yellow, with a very slight mixture of grey. Vent and under tail covers (which are very short) light orange. ~~Claws~~ ^{Toes} do. the outer back the largest, outer front not much less. Inner front half as big, inner back a quarter as large. Claws much hooked and very sharp. Tail ten feathers. killed near Kidarnat. Tongue not very long, projecting an inch beyond the point of bill; and armed at the end with several small barbs on each side. Toes & legs light lead colour. Called Huldia Dan. (from its being red on head & vent the man tells me, but the derivation I cannot make out.) Inner wing coverts white. Inside of the wing quills slate color. The wing quills have each spots of white on both webs. the longest have five rows, the shortest three. Found in Querhaval.

See Vol 4. Pl. 26

Fig 1. June 2nd



Fig. 3. June 4th



Fig 2. June 2nd
a little more than half size.

Fig. 1. Length $7\frac{1}{2}$ - $5\frac{1}{2}$ - Bill $1\frac{1}{8}$ - Broad $15\frac{1}{2}$ ^{inches} - Tail 12 feathers rounded. One inch of the ends of the four outer on each side, white. Found in the Doon, and hills, both cold & warm places. Killed near Okeemutt. Called Duröee. Builds in branches of trees. Lays three or four eggs, pure white, with black spots. Prefers fruits; but will eat insects. Length of shin $1\frac{3}{4}$ inch. Toes membraned together at under part; the middle and outer to half way up the first joint. Tongue horny, flat, very thin, slightly bristled at the end.

See Vol 3.
Pl. 39.

Fig 2. Length 6 - $2\frac{7}{8}$ - Bill 1 - Broad $12\frac{7}{8}$ - inches. Breast, and sides of belly brownish orange. Vent do but lighter. Belly white. Tail 12 feathers even. Tongue horny, narrow, hollowed, and bristled at the end. Killed near Okeemutt. Called Koolä. Builds in branches of trees, of leaves and small twigs. Lays from two to six eggs. Black, not very dark, with white spots. Eats fruits. Has no song. Female brown with white breast and belly. (This is like but not neatly done, it was a difficult bird to draw.) The white of the eye should be a glassy whiteness. Middle and outer toes joined to 1st joint. Claws hooked, and tolerably sharp.

This is
badly done
See Vol 3.
Pl. 51.



+ blue.
o white.

Fig. 3. Length $11\frac{1}{10}$ - $1\frac{1}{2}$ - Bill $\frac{7}{8}$ - breadth $10\frac{1}{4}$ inches. Inner wing coverts nearest the body fawn color, then black, ends white. Vent ~~white~~ white with edges of feathers fawn color. Inside of wing quills light lead color. Tail 12 feathers. Two middle ones blue. others black with a white spot on inner web near the centre. Ends blue. Tongue bristled. Toes mid & outer joined to first joint. Middle and inner half way up. Back toe and claw largest. Inner front very small. Claws hooked & very sharp.

See Vol 2.
Pl. 52.

altogether not so dark. vent feathers blue at the root, which shows a little.

June 6th 1828. Shot one at Pokree. much the same but the colors lighter all over, particularly the under parts. no white on side of head. Legs brown. Vent same as belly. Tail had the two middle feathers, white at the root half, except the edge of outer web. other feathers as above mentioned, but the white increases, outwards, the two outer being white at the end half, except the tips.



Fig. 1. - June 5th



Fig. 2. June 5th



Fig. 3.

Fig. 1. Length $8\frac{1}{2}$ - $7\frac{3}{4}$. Broad 30 - inches. Middle toe exclusive of claw $1\frac{1}{8}$ inch. Toes membraned together, the middle and outer, more than to the inner. Tail twelve feathers, rounded. Rump brownish slate color, the black bars not so dark, as, and smaller than, on the back. Inside of wing, grey barred with black. The inner wing coverts the same with a very slight tinge of violet, and spotted with black. Shot in Purgum Nagpoor near the ~~Pohree~~ ~~colpennia~~. ~~Macmut~~.

Fig. 2. Length $5\frac{1}{2}$ - $4\frac{3}{8}$. Bill 1 - Broad $12\frac{5}{8}$ - inches. Inner wing coverts grey, with slight whiteish speckles. A white patch on the inner web, near the roots, of the middle wing quills. Vent white. Tail ten feathers lanceiform. The two outer on each side barred with white. The two next slightly so. The rest a little white at the tips. Tongue flat very thin, and slightly divided at the end. at its root, it has fleshy particles like bristles pointing backwards. Front toes joined to first joint. Two front toes outer and inner, respectively a little larger than the back toes. Builds in bushes, chiefly
See Vol 3. ~~Washberry~~ & raspberry, of fine grass. Lays four eggs. Dusk grey with white and
Pl. 5. black spots. Nostrils in a projecting rim. Inside of mouth red.

Fig. 3 Length $4\frac{1}{4}$ - $2\frac{3}{4}$. Bill $5\frac{1}{2}$ - Broad $10\frac{1}{4}$ - mouth broad at base $4\frac{1}{8}$ - inches. Middle and outer toes joined to 1st joint. Tail 12 feathers. The wing quills are blue on the outer web; blackish slate color on the inner. Under side of Tail feathers blackish slate color. So of wings greyish slate color. On the belly and vent the blue a little lighter, with a slight mixture of grey. Bill very much depressed or flattened, & very broad at base. Tongue broad, flat excessively thin, jointed, and divided. Builds nest in bushes of grass. small. Lays two eggs light blue. Lives on grasshoppers and other insects. Called ~~Kurraji~~ ~~Chunnee~~ (i.e. light blue birds).
Drawn again
See Vol 3.
Pl. 16.



Fig 1. June 6th.



Fig 2 - June 6th.

Fig 3. June 8.

The Mango
bird. a Varj.
of the Golden
Oriole. Vol 3.
p. 137.

See Vol 2.
Pl. 21.

Fig. 1. Length $7\frac{1}{4}$ - $3\frac{1}{2}$. Bill $1\frac{1}{4}$ - Broad $15\frac{3}{4}$. Killed near Barub, between
Okeemut, and the Copper-mine ~~Pakage~~. Called Huldoo (from Huldoo, turmeric,
from its color). Throat, breast, belly, vent, and undertail coverts, light yellow.
Tail 12 feathers: in the under part it is light black, where it is dark above. The
two middle feathers yellow at roots, gradually darkening towards the ends which
are black, the others as drawn. Middle and outer toes joined to the first joint: Claws
hooked and sharp. Inside of wing quills light slate color. Inner wing coverts
bright yellow. The feathers of the breast have a light grey stroke on the shaft. The
yellow patch on the wing is caused by the ends of 5 or 6 of the wing coverts there being
of that color. The outer edge of the three or four longest quills is white. Tongue flat
horny, and bristled at the end. Builds of thin sticks, in trees lays 2 to 3 six eggs according
to its age. Pure white. lives on fruits. Can be tamed so as to be loosed in the day, &
will return at night. has a pleasant note. Male and female alike in color. latter
rather smaller.

Fig. 2. Length 9 - $5\frac{7}{8}$ - Bill $\frac{7}{8}$ - Broad 21 - inches. Inside of the whole wing, lead color.
Tongue rather pointed, thin at the end, and curving upwards at the sides. Toes divided
to their origin. Claws short, hooked (not very much) and tolerably sharp. Edges
of the outer wing coverts, middle quills, and two or three of the outer quills, yellow.
Inside of the thighs whitish grey. Tail 12 feathers. The two outer on each side have
a blueish tinge in the green, which is the same as the wing green. The under part
of the tail feathers light blueish slate color. The black of the wing appears on a
close examination, to have a slight tinge of dirty blue in it. Side of the body,
under the wing, green. Killed near Barub, called Elänsä. Builds of grass,
in trees. lays two eggs pure white. The under tail coverts large; the two middle
as long as the tail, and hid it almost, when sitting as drawn.

Drawn over again. See Vol 2. Pl. 41.

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Fig. 3. Length $4\frac{1}{2}$ - $1\frac{1}{8}$ - Bill $\frac{1}{2}$ - Broad $9\frac{5}{8}$ - inches. Tail 12. Slightly forked. The two outer on
each side yellow on both webs (but not on shaft to within $\frac{1}{2}$ an inch. Mid & outer toe & lightly
joined. inner wing-coverts yellow with dashes of grey. inner webs of the base-half of the
quills light yellow; rest of quills inside slate color. Tip of every quill white. The inner
most, outer least. Outer wing coverts, smallest yellow, except those nearest the body. Larger
one black, yellow at the tips. Quills have each an in the middle, the outer web yellow. When
closed the wing looks as drawn. Killed near Donguone Putti Dewulquok. Called Tootee, lives
on grain, all the year seen. Builds of fine grass, in small bushes. lays four eggs, greyish white.
only 3 inner quills white tipped. Rump yellow, only the 3 outer tail feathers as above.

See Vol 2.
Pl. 34.

Not one.



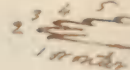
Fig 1 - June 6th



Fig 2. June 7th



Fig 3. June 10th

Fig 1. Length $5\frac{1}{2}$ - $3\frac{1}{4}$. Bill 1 - Broad $1\frac{1}{2}$ inches. Legs feathered to the toes. Claws hooked and very sharp.  claws & toes open like this. Killed near Doongpou, flying about a peak which has snow on it in winter. ^{Found in Quibral from} ~~Seen only from~~ March to Oct. Called Joorulee (from Joorä white, i.e. white throat) Head, back, in short all the upper parts brown. There were some marked the same but the brown a little lighter. Probably females. The mouth is like a goat suckers. Nostrils  of this shape. It is only the five outer quills that are so long which are proportionally  like this. They did not appear to fly so strongly and swiftly as our English swift. Tail 10 feathers.

See Vol 4. Pl. 16

Fig 2. Length $4\frac{1}{4}$ - 2 - Bill $\frac{3}{8}$ - Breadth 9. Rump white. Inner wing coverts black, with some of the feathers tipped with white. Quills brown inside and out. Middle and outer toe joined to first joint. Tail 12 feathers. Slightly rounded. ears very large. Bill compressed.

Drawn over again. Vol 3. Pl. 43.

Fig 3. Sept 12. Length $5\frac{9}{10}$ - $4\frac{1}{10}$ - Broad $1\frac{6}{10}$ - Bill $\frac{19}{20}$ - inches. Tongue small flat, horny, white, and bristled at the end. Inner wing coverts light cream color, mouth very broad at the base. Undermandible very hollow. Sides of body under the wing, reddish brown like the rump. Mid, & outer toe joined halfway up first joint. Claws hooked & very sharp. Outer toe mid 3 - inner 2 joints. Hoarder part of wing quills, light slate color on outer web, dirty white on inner. The white wing spot is made by a little white on inner web of 3rd quill, both webs of 4th & 5th, & outer web of 5th quill. Has a shrill whistle. Found in the Hills all the year. Killed at Paoee near Fremuor. called Kurtooloo. builds in trees of small sticks & very fine grass. lays from four to six eggs, dirty white mottled with red. Nostrils perisoidal. Apparently the Grey-backed Shrike of Latham. Vol 2. p 9. Wild it eats insects. Called Lutoora in the plains.

when pushable to fly. The whole upper parts are beautifully mottled dark & light brown. rufous towards the rump. The chin white, all below so, with very light ~~dark~~ colored base. The upper mandible slightly hooked.

Drawn over again See V. 3 Pl. 21.



*See also the notes
to the bird of the*

Fig. 1. June 15th.



Fig 2. June 15.



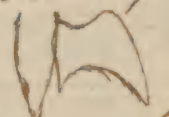
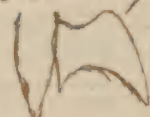
Fig 3. Sept 12.

Drawn
over again
Vol 2.
Pl. 60.

Fig 1. Length $7\frac{1}{2}$ - 6 - Bill $1\frac{1}{10}$ - Broad $1\frac{1}{4}$ - Killed at Palma Juree, a high place probably
7000 ft. snow for a month or two. Builds in trees, nest of small sticks, eggs two
or three, greenish. Middle and outer toe joined half way up the first joint.
Inside of the wing grey slate colour, with a whitish patch in the centre of
the inner web, making when the wing is open a bar of white in the inside.
Nostrils large hid in the bristles. Under mandible angled at the edges, and very
hollow inside. Belly breast, vent, light pinkish fawn color. Tail 12 feathers.
~~Feathers~~. The bird is drawn in an unnatural position to show its colors.
* of the 9 or 10 outer quills. Tongue broad thick & fleshy at root; rounded, thin, & horny at the end.

I saw one a little different. the white at the tips of the tail feathers was less than
in this. That on the wing coverts was dashed with l^o brown, & on the 11th to 14th quill
was a small patch of white on the outer webs, just where the blue & black stripe ends,
and it had no white at the ends of the quills. Whether from age or immaturity
I cannot say.

NB. In this the 5th tail feather of the right, & the 1st feather of the left, is not drawn.
The outer web of the 1st feather, should have been more of a light brown, than blackish
blue. The blue of the tail & quills is rather too dark, & the stripes on the two
middle feathers are too close & numerous. About the middle of the inner webs of
the two 4th & 5th the black bars are slightly perceptible.

N^o. 2. Length 10 ~~inches~~ inches - 3 inches - Bill $2\frac{3}{10}$ inch - Breadth 2 feet - $4\frac{1}{10}$ inches. Leg (exclusive
of toe) of leg & thigh 5 inches. Middle toe without claw $1\frac{4}{10}$ inches. Tongue half as long
as bill, slender, sharp and forked (slightly). Under mandible hollow, falling in
at the sides. Lower part of back, rump, and tail white, except ends of latter which
are speckled. Breast, belly, vent, and ^{under} tail coverts white, except the very tips of the
latter, which are slightly speckled. Middle and outer toes webbed together to the
first joints. Outer toes five, middle four, inner three joints. Inner scapulars
white. Inside of wing white speckled with ^{light} grey. Inside of long quills light
slate colour. The shaft of the outer most wing quill white, those of the others
black. Outer scapulars (or innermost wing feathers, I do not know exactly which)
are long making the wing appear when half opened, forked in this  way.
Nostrils previous. Found in marshy places, all over Hindostan. This  killed
near Paoree.


See Vol 2. Pl. 51.

Fig. 1. June 18th



No. 2. Sept.

N^o. 1. Length $7\frac{3}{10}$ inch - $5\frac{3}{10}$ inch. Bill $\frac{3}{10}$ inch. Broad. $20\frac{7}{10}$ inch. Inside of the wing very slight color. under part of quills a little darker. Tail 12 feathers. Slightly curveiform. The under part is black on lower half of the quills and white on the end half, quite plain in the four outer feathers on each side; in the middle feathers, the white is dirty. On the upper side, the tail is slate color at the roots, but not very dark; growing lighter towards the ends. Those of the three outer on each side are a dirty white. (NB. The breast is rather too pink, & should have had a shade more blue in it. Legs the same) Called Turnen Goojee. Found all over Hindostan. In the Hills they are only seen during the six summer months. Builds of small sticks and grass. lays two white eggs. rarely three.

N^o. 2. Length $6\frac{8}{10}$ - $5\frac{8}{10}$ - Bill $\frac{3}{10}$ - Broad $16\frac{7}{10}$ - inches. Inner toe 3. Middle 4. Outer 5. Back 2. joints. Tail 12 - 3 outer on each side, black $\frac{2}{3}$ from root, rest white. next two lighter black & light lead color. This underneath. On upper side the black appears only in middle of the feathers. the 2 mid feathers slate colour. Under tail cover and vent white. sides of body fawn color. Under part of wings lead color; but ends of middle under wing covert black - Throat & breast pinkish fawn colour. In flying it makes a sort of pause or hover occasionally spreading its tail out like  this. It is rather a smaller bird than the other, but of a more dumpy shape; and when sitting on a branch usually does so very dumptily, sinking its head so as to appear as if it had no neck. Called Poorlee Goojee. nest & eggs same as N^o. 1. This sort abounds in the Hills, (NB. Goojee or Soogootee is the common name in the Hills for these and one or two other sorts.) In the Plains Panduk or Pundook is used. during the six summer months, a few are seen in the winter.


These being not very neatly done, I draw them over again. See V. 2. Pl. 39. 40.

The Impuyan Pheasant.

Length 1 ft. $5\frac{1}{2}$ - inch - 13 inch. - $1\frac{9}{10}$ inch - Bread 2 ft. $11\frac{1}{4}$ in. Hind toe $2\frac{1}{2}$ in. claw of do. $1\frac{1}{10}$ in. - Spur $\frac{6}{10}$ - Girth round the breast when wings expanded 1 ft. $2\frac{1}{10}$ in. - The description in Latham is tolerably correct, but the plate neither resembles his description or the bird. The sides of the body under the wings are black, brownish black & brown mixed. The top knot has from 12 to 18 feathers, longest about 3 inch. and lies even as drawn here only when the bird is in motion; otherwise it falls so close to the neck, as to be little perceived. It never sticks up as in Latham's plate. They all have the white patch in the middle of the back, speckled with blackish grey; but it is not perceptible till the wings are expanded. Below this patch it is blackish brown to the tail coverts. The throat & breast has more of a bluish than a greenish gloss on the black. The wing quills are black with a blue & green tinge, very slight in the greater, stronger in the smaller. They are not perceptible when the wing is closed. Tongue $\frac{1}{3}$ length of the beak, broad at root, pointed, flat & soft. The roof of mouth has a double line of white fleshy substance; from which hang little fleshy spikes pointing backwards. This is a middle sized one I have seen them a little larger. I have had 8 or 10 alive at different times, & seen them wild. V. S.

over

N^o. 1. Length $7\frac{3}{10}$ inch - $5\frac{3}{10}$ inch. Bill $\frac{3}{10}$ inch. Broad. $20\frac{7}{10}$ inch. Inside of the wing very slight color. under part of quills a little darker. Tail 12 feathers, slightly curveiform. The under part is black on lower half of the quills and white on the end half, quite plain in the four outer feathers on each side; in the middle feathers, the white is dirty. On the upper side, the tail is slate color at the roots, but not very dark; growing lighter towards the ends. Those of the three outer on each side are a dirty white. (NB. The breast is rather too pink, & should have had a shade more blue in it. Legs the same.) Called Tumen Goojee. Found all over Hindostan. In the Hills they are only seen during the six summer months. Builds of small sticks and grass. lays two white eggs. rarely three.

N^o. 2. Length $6\frac{8}{10}$ - $5\frac{8}{10}$ - Bill $\frac{3}{10}$ - Broad $16\frac{7}{10}$ - inches. Inner toe 3. Middle 4. Outer 5. Back 2. Joints. Tail 12 - 3 outer on each side, black $\frac{2}{3}$ from root, rest white. breast two lighter black & light lead color. This underneath. On upper side the black appears only in middle of the feathers. The 2 mid feathers slate colour. Under tail cover and vent white. Sides of body fawn color. Under part of wings lead color; but ends of middle under wing covert black - Throat & breast pinkish fawn colour. In flying it makes a sort of pause or hover occasionally spreading its tail out like  this. It is rather a smaller bird than the other, but of a more dumpy shape; and when sitting on a branch usually does so very dumptily, sinking its head so as to appear as if it had no neck. Called Poorlee Goojee. nest & eggs same as N^o. 1. This sort abounds in the Hills, (NB. Goojee or Soogootee is the common name in the Hills for these and one or two other sorts.) one, I have seen skin a ~~bird~~ ^{Partridge} ~~used~~; name has signs or an arrow at different times; and seen them wild.

It is found on the borders of the perpetual snow of the Himalah; chiefly on the rocky parts. Comes down to where there is vegetation in the mornings and evenings, and retreats to the peaks and ridges in the day. Its food is perhaps grass & insects; for when kept it should be loose in an enclosed yard; for want of which it scage should be barred at the bottom, and every day put out on the turf, changing its place several times; when it will immediately begin eating grass, and pecking at the ground. (probably picking up insects or bits of gravel.) Unless this is done it never thrives or lives long; but it eats wheat and many other grains. The tints of its feathers vary so much in different lights, that it is difficult to describe its color. The shape of this is much more correct than that in Latham's; it being rather a dumpy bird; and usually carries its head low, with its neck half sunk in to its breast (turkey fashion). The male is called Keesace, the female is called Moonal. The female is smaller. sandy white on chin & throat. Feathers of neck & wings, have 8 colored shaft. a little of the web on each side light brown. rest blackish brown with a slight fringe of light brown. Those of breast & belly, much the same, with ~~more~~ ^{almost white} of the light brown, & spotted with the dark brown. Head beautifully marked with alternate dots of dark & light brown. Back & rump the same with narrow irregular bars. The light blue round the eye is smaller than in the male.

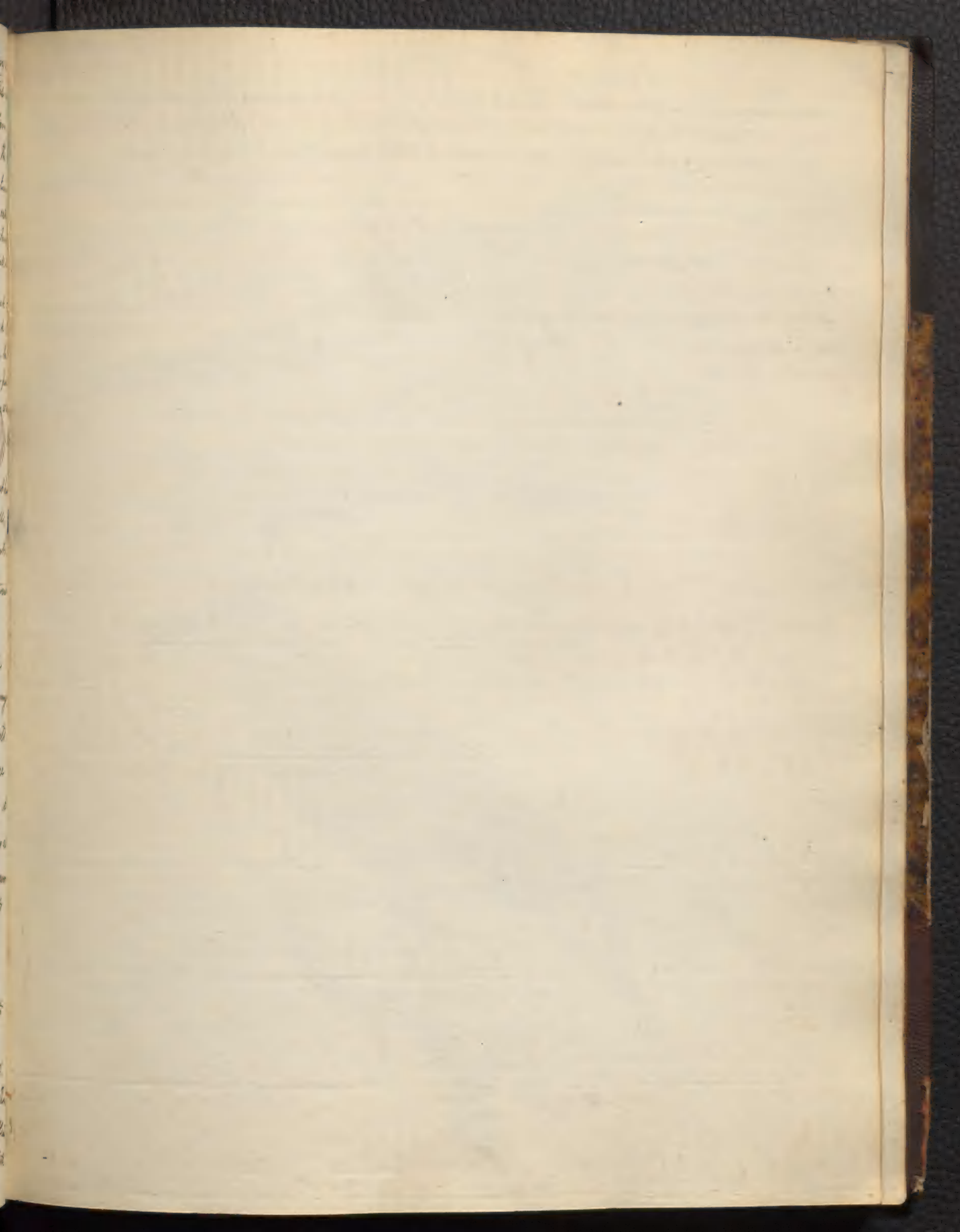


Fig 1. Length $4\frac{3}{10}$ - $3\frac{2}{10}$ - Broad $11\frac{1}{10}$ - Bill $7\frac{1}{10}$ - inches. Tail 12 feathers. The two outer on each side, base white except a edge of black to the inner web $\frac{3}{4}$ of its length. Broad at the root & grows narrower towards the point, and close to the root a little black on the shaft and outer webs. The other feathers are black, with a slight whitish streak on the outer webs. Tongue small, narrow and excessively thin. Nostrils situated close to the feathers, in a small hollow, and pervious. Inner wing coverts whiteish & light slate color. Inside of quills do. Belly, vent, and under tail coverts white. Upper tail coverts blueish black at the roots black towards ends. Outer wing coverts white with greyish brown down the middle. Towards outer part the brown is darker, and covers more of the feather leaving only an edge of white.

Called Chamchuree by the Punjabees.

Drawn over again. *or a slight variation* Vol 5. Pl. 31b.
See Vol 2. Pl. 66



Fig. 2. Length $1\frac{1}{10}$ inch. $3\frac{1}{2}$ inch. Bill $2\frac{1}{4}$ inch. Broad $3\frac{1}{10}$ inch. Tail 12 feathers. Tongue flat, broad, horny, black, lanceol shaped  and split at the end. Inner toe 5. Middle 4. outer 3 joints. Probably the Carrion Crow.



Fig 1. Sept 17.



Fig 2. Sept 22.

Length. From tip of beak to setting on of tail, pressing down the top knot $8\frac{3}{4}$ - Tail 4 - Length of top-knot feathers $2\frac{1}{2}$ - Bill $2\frac{3}{8}$ - Broad $18\frac{3}{4}$ - inches. Killed at Sreenagar. Found all over Hindostan. Called Hood-ood by the Mohillas. Shok-buryä, or Khatkor (names of the wood-pecker) by Doon & Hill-people. Belly ^{with} white, dashed with grey. Vent & under tail coverts white. ~~Outer tail~~ ^{Toes 1. 2. 3. 4. 5th middle & outer to 1st joint} ~~middle 4. Inner 3 joints~~. Inner wing coverts very light whitish fawn color. On the ^{greater} ~~outer~~ quills a patch of white on both shafts webs, & shaft, on middle quills only on inner web. On the ^{smaller} ~~inner~~ 6 or 7 quills have four rows of ^{white} patches. The outer wing coverts are barred with white. Inner wing quills are brownish black. Rump white. upper tail coverts black. Tail 10 feathers with a bar of white across  like this: cuneiform. Tongue a little flat triangular shaped bit of flesh barely $\frac{1}{4}$ inch long. When wings are spread the rows of white patches appear regular. when closed, as drawn, or even more irregular. Nostrils large & deep close to the feathers.

Apparently the "Common Hoopoo" of Latham. Vol 4 - P. 98.

Called Turkam by the Punjabees.

Sept 3. 2 shot one length $8\frac{3}{4}$ - $4\frac{1}{2}$ - $2\frac{1}{2}$ - $18\frac{3}{4}$ - inches. The head & neck more red than this is.

In this position $10\frac{1}{2}$ inches long. A man once saw a nest, of moss, on ground under a stone, two white eggs.

Drawn over again. Vol 3. Pl. 37.

Fig 2. Length 4 - $3\frac{3}{4}$ inches - Bill $\frac{3}{4}$ - Broad $9\frac{9}{10}$ - inches. Vent & under tail coverts very bright yellow. Sides of the body light dirty yellow. Tail 12. The two outer all white except just the root of the shaft. The two next the same, with part of the outer web blackish brown, beyond web a tinge of yellow. The two next the same with more of the outer web, & a little stripe of the outer edge of the inner, blackish brown. The six middle ones, blackish greenish brown. Their outer webs tipped with ^{greenish} yellow. Nostrils previous. Tongue horny flat, & divided at the end. Middle and outer toes joined to the first joint. Killed at Sukolee. In the middle of the wing quills both webs are white, except the three outer: of which the third has its inner web white. The two outer are without the white. Sides greenish-brown. Toes 1. 2. 3. 4. Sept 10. 1828. Shot one whose quills & tail were more black. edges of former yellow. back more green & darker. legs a little darker.


Drawn over again.
See Vol 2. P. 84.



Hoopoe (Upupa Epops).



Fig 2.
October 4th

Fig 1. Length 8 - 10 - Bill $1\frac{3}{8}$ - Broad $1\frac{1}{2}$ - inches. Breast light pinkish slate color. Belly do but very light. Vent & under tail coverts light dirty orange. Tail 12 feathers as drawn. The white wing spot is made by the inner web of the 2^d, both webs of the 3^d to 9th, & outer web of the 10th quill. It appears also in the inside. Rest of the inside of the wing ^{light} blackish slate color. inner wing coverts a little darker. Middle and outer toes joined to the first joint. Outer 5. hind 4. inner 3 joints. Killed at Sukolee. called Kuroyji. Nostrils large, round, hid in the bristles. Tongue short  this shape, thick soft, with a little horn at the end. Said to be particularly fond of rice. I certainly saw many in the rice fields. In the plains called Mueher, said to eat insects and even small birds, as well as fruits and grain. - I have seen others in which the brownish green on the back, comes much lower down, leaving only half as much of the rump. All the tail feathers are the blueish slate color at the roots, more on the inner than the outer web, pointing the black slantingly. The two outer feathers have very little of it; the next a little more & c till the two middle feathers as drawn.

Drawn over again
See Vol. 3. Pl. 61.

Fig 2. Length $4\frac{2}{3}$ - 2 - Bill $\frac{5}{8}$ - Broad 9 - inches. Tail 12. a little cuneiform. Vent whitish yellow with a reddish brown tinge. The tail ordinary dull, but appears fiery when flying in the sun. Under part of quills a little lighter than the upper. Tongue horny, broad at base, sharp, very flat. Middle and outer toe joined to the 1st joint. Found hopping about the stones in the bed of the rivers at the entrance to the Hills, making occasional darts at the surface of the water, apparently catching insects. It has the motions of the robin. Called by the Hill people Ghuo Chemdia. Said by some to be the female of Fig 1. Pl. 16 - builds a small round nest of fine roots of grass, in bushes near streams. gives 3 eggs light green. Found all the year. The tips of the larger outer wing coverts whiteish.

See Vol 3. Pl. 55.

Pl. 27.

Fig 1. Octo 4th



Fig 2. Octo 11th

Fig 1. Length $4 - 1\frac{5}{8}$ - Bill $\frac{3}{4}$ - Broad. $12\frac{5}{8}$ inches. The larger wing coverts are fringed with light brown, all down both edges. The feathers on the back have a ^{light} blueish, greenish gloss. The belly breast and vent, same as back; but the lower part of the belly, & vent feathers fringed at the tips with light brown. Under tail coverts large like the upper; color that of the quills. Gape very large for its size. Tongue broad at root, flat, pointed, divided at the end. Nostrils have a projecting rim all round. Throat white like that of Fig 1 Pl. 20. claws & toes the same as that also; except that in this the fourth toe can be turned backwards or forwards. Legs feathered to the toes. (NB. The ^{pupil} eye is too black, it should have a dash of ^{blue} blue. Inner wing coverts light brown, slightly fringed at the tips with whitey-brown. This is the male. The female is a little smaller, not quite so dark colored on the back. All the under parts light blackish brown; which is also the color of the rump. Build under the eaves of houses, numbers were flying about Tukolee and Pao (between Treenagur and them.) called Bamenee (a common name for swallows)

Drawn over again
see Vol 2. Pl. 33.

Fig 2. A species of Boobool. Killed at the foot of Loorkundu Tobe Hill.
Length $4\frac{3}{4}$ (pressing down the topknot) $3\frac{5}{8}$ - Bill $\frac{3}{4}$ - Broad $9\frac{3}{4}$ inches. Belly & sides greenish, greyish white. Vent & under tail coverts bright light yellow. Under side of tail feathers blackish slate color, tips white as above. Inside of wings dirty, greyish white, with a slight tinge of pink. Tongue sharp, thin, and divided at end. Middle and outer toes joined half way up the 1st joint. Outer 5. Middle 4. inner 3 joints.
I observe these come down into the Doon in the cold weather.

Drawn over again
see Vol 2. Pl. 12.

Fig. 1. Oct 5th



Indian Swift (*Microptes affinis*).



Fig 2. Oct 9th

Fig 1. A sort of Jay. Killed upon Soorkundee Debee.

Length $8\frac{5}{10}$ - 6 - Bill $1\frac{1}{8}$ - Broad $19\frac{1}{8}$ - inches. Rump white: Tail 12 feathers, slightly unisiform. The color of the under side a little lighter than on the upper. The blue & black stripes of the wing are only on the outer ^{webs} edges of the quills, except the two or three highest small feathers. The wings close so as to hide the lower part of the back and rump. The black of the inner quills, & of the patch under the eye, has a velvet glossiness which I could not imitate. The lower half of the outer web of the 5 or 6 outer quills light brown. The two innermost quills are reddish brown on the inner web. Tongue broad at root, pointed, very flat, & divided at the end. Nostrils large, round, and only half-hidden by bristles. Called Kuryin. Builds in small or large trees, nest of grass, sticks &c. eggs color of its breast, with a yellowish tinge. The white of the vent, rump, upper & under tail coverts is peculiarly delicate.

See Vol 3. Pl. 62.

Fig 1. Length $4\frac{3}{8}$ - $2\frac{7}{8}$. Bill $\frac{3}{4}$ - Broad $10\frac{1}{4}$ - inches. Inner wing-coverts color of the breast, but much lighter. rest of the inside of the wing light blueish slate color. sides of the body, rump, vent like the breast. Tail 12. the two middle feathers black on their inner webs nearly to the roots. on their outer $\frac{2}{3}$ of the length from the ends. edge of the 2 outer quills fringed with black as drawn. Gape goes deep into the head. Tongue thin, horny & divided at the end, & has the jointed hook. Ears large. Under side of tail like upper but colors not so bright. called (in Buttol Nipal) Dhootia. builds of grass on the ground at root of bushes. Lays four eggs white spotted with blackish & reddish. This is male. Female all blueish except on breast which yellowish red. cocks its tail when moving like a robin. Middle and outer toe membraned to the first joint. Toes 1. 2. 3. 4 joints. Found in Subarnapoor district. Called Kal chutree. builds in branches of trees. nest of grass. Lays 2 eggs light green. For the female see Vol 3. Pl 1. Fig 2.

July 22^d. shot a bird just like in shape & motions, evidently a young bird of last season, from the softness of its beak & claws. Upper parts all blueish slate color. with the edges of quills like this. tips of wing coverts white. under parts mixed light ash, & blueish slate color. tail white where this is reddish brown. light blackish where this is black. probably a fresh year bird of this kind.

See Vol 3. Pl. 24

Fig 1. Oct 9th




Fig 2. Nov 24.

Fig 1. A species of dove. Killed on Soorkundia Debee.

Length $9\frac{1}{2}$ - $5\frac{1}{2}$ - Bill 1. Broad 22 - inches. Called Bun Soogee. i.e wood dove. in opposition to the Soogees in Pl 22. which are always found near villages and cultivation. This sort is found in woods on high cold ridges on which snow falls in winter. The back & rump are light lead color, with the feathers slightly fringed with light brown. As it usually sits the wings meet and hide the back. Sides of the body light blueish lead color. Vent white with a slight dash of blueish gray. Under tail coverts pure white & long like the upper. Tail 12. all but the two middle tipped with white. Color of the under side of tail blackish brown. Under side of the quills dull brownish slate color not very dark. inner wing coverts like the back, but with a gloss & without the fringe. Tail very cuneiform. The light color on the back part of the legs, appears to be from using that part in sitting.

Drawn over again
see Vol. 2. Pl. 42.

Fig 2. Killed near Lhem.


Length $3\frac{3}{4}$ - $4\frac{1}{8}$ - Bill $\frac{7}{8}$ - Broad 8 - inches. Middle toe joined to the outer to the 1st joint. Under side of wings light greyish slate color. Sides of body light fawn color. Tongue hollow, horny, divided at end. a joint near the root  like this from about among low bushes, or tufts of long grass. The throat is a pure delicate white, with a tinge of fawn color towards belly & sides of breast, gradually darkening towards the ~~vent~~^{under} tail coverts a little darker, inclining to dusky red.

See Vol 4. Pl 51. not 8. but a fig

Fig 1. Octo 9*



No 2. Nov 16

Fig 1. Length $11\frac{3}{4}$ - $4\frac{1}{2}$ - Bill $3\frac{3}{8}$ - Broad $23\frac{3}{4}$ - inches. Apparently a species of King-fisher. Killed in Sukneana just out of the Doon. Tail 12. cuneiform. The feathers of the back and outer scapulars are barred almost equally with ^{greyish} black & white, but the former prevails. In the quills and tail, the ground is black, barred & spotted. The ground of the ^{sides of body} belly is white, barred & spotted with light greyish black. The belly & vent are pure white, but are so flat, that in this view of the bird, only a little of the vent is perceived. Under sides of tail & quills, marked like the upper, ~~except~~ being light blackish grey, where the upper is black. Nostrils a small thin slit, curved. The middle toe is joined as far as its 1st joint to the inner; as far as its 2^d to the outer, making a flat foot underneath. Inner wing coverts white slightly speckled with grey, near the shoulder a little more so, & with black. NB The white of this bird is ~~rather~~ pure & delicate. Tongue broad thick at root, fleshy $\frac{1}{2}$ or $\frac{3}{4}$ inch long.  This shape called by the Hill people Muchsee-bag (fish tyger) builds under stones. Lays four eggs colored like itself. Nest of earth underneath, fine grass above, generally against the side of stone like a swallow. Male & female said to be alike. I saw several all appeared alike, but only shot this one.

+ like this  back inner front toe outer.

Drawn again
See Vol. 2. Pl. 16.

Fig 2. Length $5\frac{3}{4}$ - $1\frac{1}{2}$ - Bill $1\frac{7}{8}$ - Broad $9\frac{5}{8}$ - inches. Tongue a little flat three cornered bit of flesh. Sides of the body, & under wing coverts, like the belly. Inside of wing quills light slate color. pinkish on the inner webs near the root. Toes joined as in Fig 1. above. Tail 12. when spread a little cuneiform; but closed, it appears pointed, and the wing coverts above and below nearly covering it. The light blue on the rump and back is of a silky glossiness which makes it glance brilliantly in the sun.

Drawn again
See Vol. 2. Pl. 61.

Fig 1. Octo 11th




Common Kingfisher
(Alcedo atthis)

Fig 2. Octo 27th

Cherya Bay 10. 1828.

Fig 1. The Jungul Moorga. Jungle fowl. in the Hill dialect Bun Lookura. i.e Forest cock.

Length 14 - $9\frac{1}{2}$ - Bill $1\frac{1}{4}$ - Broad 28 - inches. Found all over Serowall, Sumorn, the Rajmuhul Hills, and every part of India where there are woody Hills, ^{being never seen in plain ground} The feathers have a ragged appearance. Belly vent & under tail coverts black. Under side of the tail much more black than the upper. The hackles over the rump have a little black green down the middle of the feathers near the root, while the webs there are long ragged, whitely grey. The yellow-brown wing patch is made by half of the outer webs of the inner half of the quills being that color. the outer half quills are black, but shut under the others. Tail 12 feathers slightly uniform. while the tail coverts are 10 ^{lying over the tail in this way.} The two long feathers properly belong to the tail coverts - sharp. Middle toe membraned to both the others as  - Spur $\frac{7}{8}$ inch black, tolerably far as the first joint. Tongue flat & thick at the root, coming to a horny point nearly as long as the bill. Sides of the body black. Of course birds differ in slight points. I have seen some without that row of short hairy feathers or hackles over the eye, ^{the space being bare like the comb,} perhaps from age. I shot one that was only 13 inches from tip of beak to setting on of tail, while the tail was $13\frac{1}{2}$ inches, and the spur (he had only one, perhaps from some accident fighting &c -) a little more than an inch. Some have not the colors so bright. NB. The eye is more orange than yellow.

NB. The reddish brown of the back, should have been continued a little higher up. ^{yellow} Tongue flat ^{thick, and fleshy at the root ending in a horny point.} Drawn again see Vol 4. Pl 2. Those in the Rajmuhul hills have the neck and throat-hackles much longer giving the bird a feller appearance and have part of the wattle of a light cream colour, in other respects the same but the colors perhaps more brilliant. The blackish-golden ~~purple~~ green on the wing, has also a tinge of bluish purple.

Fig 2. Killed at.

Length $5\frac{1}{4}$ - $4\frac{3}{4}$ - Bill $\frac{7}{8}$ - Broad 12 - inches. Tongue flat, horny at the end and divided. Belly color of rump and vent. Middle and outer toes joined half-way up the 1st joint. Ears very large and low down, surrounded by black feathers with white tips. The yellow on the quills is only on the outer webs, inner webs blackish slate color. under side of wing quills greenish slate color. sides like the back. inner wing coverts the same. under side of tail marked like the upper, but colors not so bright. Tail 12. the 5 left ones not drawn. Found in the Doon

See Vol 4. Pl. 25.

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Red jungle-fowl (*Gallus ferrugineus*).

5/4 - 2⁷/₄

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Fig 2. Nov 15th

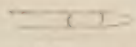
Fig 1. Apparently the Black headed Oriole. Vol 3. Pl. 140.

Killed near Hurdwar. I saw two together apparently alike.

The two middle feathers of tail are as described in Latham. The next two are like the two middle, but with left black. The two next, or fourths have a black spot on outer web, and in this the left feather had another on the inner web. The two seconds and thirds wholly brilliant yellow. The two outer have a stripe of black on the outer web. The outer webs and tips of all the quills are yellow. broad & bright towards the inner; very narrow, and almost white on the outer quills. The spot (yellow) on the wing is made like that of Fig 1. Pl. 19. Inside of wing light slate color; but the inner webs of quills yellowish near the root. Inner and outer wing-coverts bright yellow; but part of the shafts of some of the outer are black. The shafts of the tail feathers except the two outer, are black in the middle. Rest of the bird, brilliant golden yellow; but the back in some lights, has a tinge of blue light blackish green.

Length $6\frac{7}{10}$ - $3\frac{7}{10}$ - Bill $1\frac{1}{2}$ - Broad $16\frac{1}{2}$ - inches.

Tongue flat, horny at end & bristles, near the root two bristly bits of flesh on the upper part of the tongue point backward.

Shot one Dec 23 its tail had the 2 middle feathers  like this. the 2 fifths had only a spot of black on their inner web. Nest wholly yellow. The yellow at the tips of the quills was not so broad.

Drawn again
See Vol. 2 Pl. 22.

Fig 2. Nov. 5. Length $7\frac{1}{8}$ - $3\frac{3}{4}$ - Bill $1\frac{1}{2}$ - Broad $16\frac{7}{8}$. Killed in the Doon. Tail 12 very slightly cuneiform. The two outer white at the tips & about an inch down the inner web. The 2 seconds white on $\frac{1}{4}$ inch of the tips. The two 3rd, 4th & 5th white at the extreme tips. The two outer dark brownish green. Growing lighter till the middle feathers which are as drawn. Across the middle of the quills on the under side, a bar of white, made by each quill having a patch of white on the inner web. The larger inner wing coverts are brownish black tipped with white. The smaller do are pure white. Sides of the body under the wings like the breast. Belly white. Vent & under tail coverts do. with a very slight tinge of cream color: & the extreme tips of the feathers are light brown. Of the outer large wing coverts, those near the body are tipped with light brown. The others are patched in the middle of outer web with light brown (both together making that light brown bar) while the ends are black. The blackish brown crescents are made by the ends of the feathers being that color.

See Vol 2. Pl. 9.

Fig 1. Oct 27th



Black-headed Oriole (*Oriolus xanthornus*).



Fig 2. Nov. 6

Fig. 1. Length $8\frac{1}{2}$ - 5 - Bill $1\frac{1}{2}$ - Broad $3\frac{3}{4}$ - inches.

Tail 12. The two middle light pinkish slate color. The rest slightly so on the outer webs. This on upper side. On under all white. Upper tail coverts ^{like back}. All the parts that do not appear, are beautiful pure white, with an excessively light tinge of blueish on upper part of breast; and of yellowish on belly vent & under side of tail, but so light that ^{it is} only in particular lights that it appears. The under side of wing white, except the lower half of outer quills, which are light blackish slate color. Mouth more like a goat-sucker than a hawk. The inner side of the eye is sunk in a deep hollow, so that fronting the bird the eyes appear directly fronting you as in an Owl. Called by the Patans ^{and Rohillas} Toormootce.

Drawn again Killed at Kichranagar it is also found in Hindostan
See Vol 4. Pl. 34.

Fig 2. A species of wood pecker killed in the Sherce pass.

Length $7\frac{1}{2}$ - $3\frac{3}{8}$ - Bill $1\frac{3}{8}$ - Broad $1\frac{1}{2}$ - inches. The throat feathers are fringed with lighter brown. The breast, belly & vent are a shade darker brown than the back, and have none of the black bars. Under side of wings & tail, like the upper, but colors lighter. Tongue round, soft, horny for $\frac{1}{2}$ an inch at the end and barbed slightly. will project $1\frac{1}{2}$ inch beyond the point of bill.

The legs & toes, large strong, rough & scaly. The inner back toe not above $\frac{1}{4}$ inch long, & the claw so short as to make it apparently useless. Front outer toe 3 inner 2 joints, joined together to the first. Called Khat Khor (wood-eater.)

I suspect this to be a female, for I saw a pair, the other appeared to have some brighter color about the body. P.S. The people tell me that this is the female the male being much the same color but having a black crest.

Drawn again
See Vol. 2 Pl. 28

72 5/16

Fig 1. Oct 27th



Fig 2. Nov 27-



12-26

70



July 29th 1828.

Blue Jay (*Coracias bengalensis*).

Called Neel-kunt.

Length $8\frac{1}{4}$ - $8\frac{3}{8}$ - Bill $1\frac{3}{4}$ - Broad $2\frac{5}{8}$ - inches. Tongue narrow, excessively thin, flat, horny for half the end length, & fringed at the end. Sides greenish brown. Breast like the throat, but the white on the shafts of the feathers, gets less visible ~~lower~~ down. Belly, vent, & under tail, coverts, glossy light greenish-blue. inner wing coverts the same. Tail 12. the inner webs, much lighter than the outer. inner web of quills lighter than the outer, in the light blue. in the dark blue, the reverse, the inner web being dark purplish black. Legs & toes dirty yellow-ochreish. claws black. Toes 1. 2. 3. 4 joints.

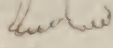
Found all over Hindostan. Male & female alike. sits in a dumpy posture; flies in an awkward flapping butterfly sort of way; screeching loudly. apparently lives on insects.

Fig. 1. Killed in the Doon.

Length $8\frac{1}{2}$ - $3\frac{1}{4}$. Bill 3 - Broad $1\frac{1}{2}$ - inches. The gape very broad. Both mandibles hollow. The white of the chin, continues down the throat and breast. Belly & vent same color as head. Inner wing-coverts the same, but a shade lighter. Where the white appears on one web of the quills; on the under side, it is white both webs & shaft. The rest of the under side of the quills blackish-brownish slatecolor. Sides of the body same as head. Legs short Light vermilion on under part; blackish on front part. Toes as those of Pl 31. Tail 12. a little cuneiform. Under part blackish brown slate color. The blue on the wings and back, has a bright silky gloss: it is difficult to draw, as it in some lights appears green, in other blue, in others greenish blue, and in some lights appears to have a violet tinge. Strongest on the half-white feathers of the wing.

See Vol 2. Pl. 17.

Var 1. of *Myiagra magpie*. Vol 4. Pl. 19

Fig 2. Length $3\frac{1}{8}$ - $1\frac{3}{4}$ - Bill $\frac{1}{2}$ - Broad $7\frac{1}{8}$ - inches. Tail 12 a sort of very slight double rounded fork  like this. Inner side of the wing lighter than the belly, color the same. Upper side of tail and rump like the back. Tongue thin, horny, slightly divided, and has the jointed hook. All three toes membranous together halfway up the first joint. Called Chicke beng by Goorkus. Builds in holes in trees. Lays four eggs white, nest of feathers, & of strips of the bark of the Dhäerä tree. Male and female alike.

See Vol 4. Pl 51. only a fig.



White-breasted Kingfisher
(Halcyon asturina).

Fig. 1. Nov 16



Fig 2. Nov 24.

Fig 1. The Hurreeal . or green pigeon.

Length 9 - $4\frac{1}{2}$ - Bill $1\frac{1}{6}$ - Bread $2\frac{1}{2}$ - inches. Found all over Hindostan. Inside of the wing light bluish slate color. rather darker on the quills. A slight dash of yellow on the lower part of the belly. The under tail coverts large. each feather reddish brown with a white tip; but from their over-lapping each other, appears as drawn, when sitting. The under side of tail is dark blackish slate color, where it is yellowish green above; and color of the belly, where it is slate color above. Gape broad, and throat very large. Tongue rather small for its size, compares with other pigeons. Called Elinsä by the Hill people, as well as Pl 19 Fig 2. The toes are broad at the bottom, almost as if made so by sitting. Builds in trees, lays two eggs pure white. Nest of grass. Male and female alike.

Brown over again
See Vol 2. Pl. 25.

Fig 2. A species of Kingfisher. Killed at Thurduwar.

Length 9 - $2\frac{3}{4}$ - Bill 3 - Bread $1\frac{1}{2}$ - inches. The black marks appear in this irregular way; but they are at the ends of the feathers, with a slight fringe of white beyond. Some of the feathers are pure white mixed among those with the black patches. On the breast are two bands of these black patched feathers about half an inch apart. The upper the broadest. Two or three of these black patches on each side of the belly. The rest of the under parts pure silky white. The inside of the wing the same, except the ends of the quills, which are light black where dark above. The outer quills are black ended on both webs, one or two having white tips. The middle quills are black ended on outer webs and a little of the inner, & the inner quills have black patches on outer webs. Tail 12 cuneiform. The middle feathers white at roots and ends, black in the middle. 2 outer on each side the same, but patched with black in the middle. Under part the same, but light where it is dark black above. Does like the other Fig 1 a few pages back. - Common all over India. called by the Bengalees Jungä Doobee (river diver) It usually carries its beak pointed downwards whether sitting or flying. Flies slowly, and frequently hovers over the water like a hawk. generally seizes its prey from a hover.



Fig 1. Nov. 19.



Fig 2. Nov 20


Drawn again
de Vol 2. Pl. 15.

Fig 1. Length 8 - $4\frac{3}{4}$ - Bill $1\frac{1}{2}$ - Broad $18\frac{3}{4}$ - inches. Sides of the body like the belly. Under side of wings wholly light black. Under side of tail like the upper, but colors lighter and not so brilliant. 12 feathers slightly unneiform. The two middle feathers are edged with blackish on both webs: the others only on the outer, all only at the end half. Middle and outer toes joined to first joint. The black of the head has a silky gloss and a tinge of blue. The outer wing coverts have it also but not so strongly. The body feathers are blueish black at the roots, & white in the middle; so that if the feathers are displaced, it appears to have patches of white; but not in the bird's natural position when alive. Tongue flat thin, & divided at the end. Found in Gurbuwall.

See Vol 4. Pl. 24.

Fig 2. Length $8\frac{3}{8}$ - $4\frac{1}{4}$ - Bill $1\frac{5}{8}$ - Broad 17 - inches. The tongue round, & can project 3 inches beyond the tip of the bill. it is soft except $\frac{1}{2}$ an inch at the end which is furnished with small barbs, & horny. Feet & toes strong & large. Outer front has 3, inner do 2, outer back 4 & inner do 1 - joint. The whole of the under part is a mixture of yellowish green, light blackish brown, & dirty white. each feather is fringed with the first, bordered by the second, & is dirty white in the middle like this; while the shaft is brown. The quills are blackish brown, with white spots on both webs; i.e. the outer; those nearer the body are so only on the inner web; the other being dirty yellowish green. Tail 10 - under part like the upper, but a dirty brownish tinge over it.



I shot another in company with this, precisely the same, except that where this is red on the head, that was black with dark cinereous dashes. Although the contrary would appear most probable, the people assured me that that was the male, & this the female. Both appeared full grown as to the hardness of the beaks & claws. Nostrils  this shape buried under projecting hairs. The tongue seems to fit into a hole at the root of the under mandible.

See Vol 4. Pl. 52.

Fig 1. Novr. 22^o



Fig 2. Decr 4.

Dheru. Nov. 10. 1828.

The Florikin or Indian Bustard of Latham. See Vol 8. p. 358.
Length 19 - $6\frac{7}{8}$ - Bill $2\frac{1}{8}$ - inches. Broad $3\frac{1}{2}$ $8\frac{1}{4}$ inches. Length of thigh joint.
 $6\frac{1}{4}$ - lower joint $5\frac{1}{4}$ - inches. Middle toe $1\frac{5}{8}$ inch. Girth round the breast
including wings $16\frac{3}{4}$ inch. of thinnest part of neck 3 inches. Quills white with
black shafts. The two outer black on outer webs and tips. next five have black
tips. The innermost two quills are black on the inner webs, with tips mottled;
and blackish slate color on outer webs. next two black on inner webs alone.
next two partially so. the seventh only on inner edge. The quills shut under
the wing coverts; only the tips of the two or three innermost quills being visible.
Inner wing coverts black, with some small patches of white towards the 2^d joint.
and of some of the middle quills are black on the inner webs towards the roots, on
the under side. Tail 16. The two middle mottled like the upper coverts; the
two next the same but with a little white at the tips. The others are chocolate
black, with half an inch of the ends white, and two or three irregular ^{white} bars
on them. Upper tail coverts so long as to hide the tail; which is slightly
rounded. Tongue half as long as the bill. soft fleshy, flat at top, rounded
at bottom; coming to a blunt point. Toes 1. 2. 3. 4 joints.

AB. In this the head is slightly too large, the neck a little too thick; and the
legs not quite thick enough, in proportion to the body.

See Vol 4. Pl. 6.
Drawn again.

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Length. $15\frac{3}{8}$ - 9 (NB. The tail is set on much higher up the body than it appears in nature) Bill $1\frac{7}{8}$ ^{inches} Broad. $\frac{1}{4}$ ^{in.} $\frac{1}{4}$ ^{in.} Breadth of gape $1\frac{3}{4}$ inch. Tongue small, flat, fleshy. The under side of wing chiefly cream color, dashed with light brown patches, & irregular bars. Tail 12. Color much as the outer wing coverts, but less of the dark, & more of the light brown about the feathers, except the two middle which have much dark brown. it decreases towards the outer feathers. Upper tail coverts very short. The quills, on their outer side are light brown on the inner, dark on the outer webs; both barred with black. The feathers at the back of the head are mostly dark brown and black, with small spots of light brown intermixed. Those of the neck (behind) and back, are chiefly light brown, with a black patch down the middle and some mottling with black on the webs. Sides of the body light brown, prettily marked with irregular blackish bars, like the outer side of the thigh.

Killed in the Doon. builds in trees. nest of large sticks, and small. Lays 2 large eggs. mottled black, reddish brown & white. The eggs are considered as good for medicine for bad eyes. Called Hokrä Cheel; the natives considering it among the Cheel or Kite genus; and say it is strong enough to, and does kill wild cats.

Hands in an ordinary position about $17\frac{1}{2}$ inches high. The lower joint of the leg, feet, toes & claws are very powerful. latter very sharp. Thickly Feathered to the claws. The legs look more like those of an animal than a bird; and are correct in the drawing.

Called also Googoo (from a resemblance to the noise it makes.)

Bottom of the feet and claws very rough. Middle and outer toes, strongly membraned together. The feathers or ears project $1\frac{3}{4}$ inch beyond the feathers of the head.

Great Horned Owl
Long-eared Owl



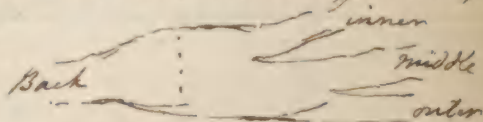
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Fig. 1. The Pied Horn-bill of Latham. Vol 2. P. 316.

* Length $22\frac{1}{2}$ - $13\frac{3}{8}$ - Bill $6\frac{3}{8}$ - Broad $4\frac{1}{2}$ - inches.

Latham's description is correct, but his plate XXXIII is badly done; neither the tail or neck being long enough in proportion to the body; and the neck being too thick. The tail coverts are very short, the upper not being visible when the wings are closed. Middle and outer toe each 3, inner 2, back 1 joint. Middle toe joined to the inner as far as the first, to the outer as far as the second joint; making a broad flat foot like the King-fishers Pl. 31.

Like this. the dotted line showing the joining on of the



back toe (which is very broad at its base) to the foot.

Found in the Doon, ^{Nepal} & the forests at the foot of the Hills. Called Dhunes, Dhoe, and Bunrao (the latter signifies "King of the forest" and is by the common people often corrupted into Boondal.)

Builds in trees, of sticks and grass.

The hind head feathers of the female do not project quite so much, otherwise the same.

Usually seen in pairs. sometimes five or six together ^{all alike, rather shy.} Flies heavily flapping its wings quickly for a little way, then sailing smoothly for a little, with the wings stretched out, & so on, but without dipping in the flight. Makes a loud shrill shrieking noise, which is heard a long way. During the first year the bird is all over dull brown, darker above and lighter or dirty white beneath, & has scarcely any projection above the bill; and may be seen a hundred together, moving quickly from tree to tree. Full grown it is rather shy.

NB. Both eye-lids are furnished with bristles or eye-lashes. Two or three are at the corner of the mouth, & also over the nostrils. - NB. The two first quills are black &c -

Inside of mouth black. tongue $1\frac{1}{2}$ inch long $\frac{3}{8}$ broad, rounded, & very thin. Depth from the hind point of the projection to the commencement of the chin feathers $3\frac{3}{8}$ inch. The yellow patch under the eye is a bare skin.

See Vol 4. Pl. 30. The small one is I believe the young of this bird for they may be seen many (sometimes 100) together, flitting from tree to tree, not shy and evidently ~~the~~ young birds of some sort from the softness of the bill and claws.

* measured along the upper surface of the bill; not over the projection.

Pl. 41.

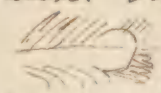
Decr. 5th 1827. Fig 1.

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Fig 1. A species of titmouse.


Length $3\frac{3}{4}$ - $2\frac{3}{8}$ - Bill $\frac{1}{2}$ - Broad $9\frac{1}{4}$ - inches. The black of the breast, extends to the vent, and is broader on the belly. Sides of the body are light greenish yellow. Under tail-coverts the same. Under side of wings light blueish slate color, inner web whiteish. Under side of tail light blueish slate color. Tail 12 as drawn. Some of the body feathers which hang over the wing coverts are blackish blue  ends, fringed with greenish yellow. The roots of all the body feathers are ragged light blueish slate color.

MS. The yellow of the breast is a little too dark.

Called by the Hill people (Nipal) Chiskoteeä. Female much the same but not so high a crest. builds in holes in trees. nest of grass. usually 5 eggs, white with dirty brownish white patches.

See Vol. 2. Pl. 19.

Fig 2. The Common Starling. Vol 4. P. 2.

Length $7\frac{1}{3}$ - $2\frac{3}{4}$ - Bill $1\frac{2}{3}$ - Broad $15\frac{3}{4}$ - inches. Found all over the upper provinces and in the Doon. Called by the Putans Tilier. only seen during the cold months. Tail 12. the two middle rather narrow and pointed.  is in this shape when a little opened.

See Vol. 3. Pl. 31.

Pl. 42.

Fig 1. Decr. 6.



Common Starling
(*Sturnus vulgaris*).

Fig 2. Decr 6.

Pl. 42, Pl. 3

See Vol 4. Pl. 51. only a fig.

Fig 1.

Length $3\frac{1}{2}$ - $2\frac{3}{4}$ - Bill $7\frac{1}{2}$ - Broad $6\frac{3}{8}$ - inches. Belly, vent, sides of body & under tail coverts, greyish, greenish, yellow. Under side of tail light black. So of wings still lighter. The nostrils are oval, abrupt on the root side, gradually sliding into the bill, on the point side, completely overlapped by a black membrane, which is what appears in the drawing. Colors and shape correct, but the former have in nature a brilliant gloss; particularly the blackish & golden green of the head, and golden green of the tail coverts, & middle feathers, and edges of the others. Killed in the Doon. Tongue can be made to project $\frac{5}{8}$ inch beyond point of bill.

MS The one I killed had but one middle tail feather, but there appeared to be the place of the other. Drawn of the natural size. MS. Shot one on July 22^d apparently of last year. Where this is red, that was all brown, with patches of red just appearing. Tail all brown, & the 2 mid^l feathers no longer than the others.


Fig 2. Length $4\frac{3}{4}$ - $1\frac{3}{8}$. Bill $9\frac{1}{10}$ - Broad $10\frac{1}{2}$ - inches. Lower part of back & rump, has a gloss of yellow, over the green. Two fore toes joined to the 1st joint. Larger has 3. smaller 2. Larger back 4. smaller do 1 joints. Tongue small for the mouth,  this shape, very flat, horny. Gape very broad. Tail is even. Killed in the Doon. Called Kat busy (wood carpenter. see obs to Pl 3, Fig 1.) found all the year. builds in hollow trees of feathers & hairs. lays 4 or 5 eggs, white. Male and female alike. See Vol 2. Pl. 58.

Fig 3.


Length $3\frac{7}{8}$ - $2\frac{3}{8}$ - Bill $5\frac{1}{8}$ - Broad $3\frac{1}{2}$. Tail 12. rounded. plumage as drawn. Gape wide for the size of the bird. Toes 1 - 2 - 3 - 4 joints. Tongue flat, horny, & fringed at the end. Both mandibles hollow. Tongue has the hooked joint,  Killed near Mohun choki. Middle and outer toes partly joined partly membraned to the 1st joint. The upper mandible has a very slight notch near the tip. Drawn of the natural size. See Vol 3. Pl. 24.

Fig 1. Decr. 9th



Coppermith
(*Xanthodoma hornacephala*).

Fig 2. Decr 9.



Fig 3. Decr. 29.

Fig 1.

Length $6\frac{1}{4}$ - $9\frac{1}{8}$ - Bill $\frac{1}{2}$ - Broad $16\frac{3}{4}$ inches. Tail coverts rather short & the color of rump & belly respectively. Two fore toes joined half way up the first joint. Large front toe 3. Small 2. Large back 4 small 1 joints.

These vary much in intenseness of color, having the red of the head lighter. the black ring round the neck narrower. the under mandible lighter. breast & belly more yellow. & edging of quills much narrower & almost white. *

See Vol 4. Pl. 10

Fig 2. Jan'y 12th 1827. Length $7\frac{3}{8}$ - $9\frac{5}{8}$ inches. Differs from Fig 1. in the color of some parts. viz head & bill as drawn. The inner ^{web} ~~edge~~ of the two fifth tail feathers & their tips are bright yellow instead of light blue and white. The ends of the middle feathers are bright yellow. The red on the wing is much duller. in other respects the same.

See Vol 4 Pl. 10. †

Fig 3. Length 7 - 10 - Bill $\frac{3}{4}$ - Broad $21\frac{3}{8}$ - inches. Under parts wholly light greenish yellow. inner wing coverts yellow, with a very slight tinge of green. Inner web of quills blackish brown. outer darkish green, with a slight yellow tinge at the edge of the 3 outer. Sides yellow. eyelids orange. Tail 12. Toes 1, 2, 3 & joints. Two front joined half way up the 1st joint.

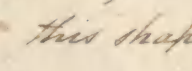
See Vol 4. Pl. 9.

One sort is perhaps the female of Fig 1. it is like figure 2. but the tail like Fig 1. nor has it any red on the wing. Bill has upper mandible yellow. lower dirty brownish yellow.

Some of these birds have no ring round the neck but in place of it the feathers are a shade darker. The hue of all differs in being lighter or darker having more or less yellow, green, or blue in the color which in different lights shows more than the other being compounded of all these.

* † These birds vary much in intensity of colour having the green darker or lighter, with more or less yellow in it, and sometimes with a tinge of blue particularly on the upper tail coverts. The ends of the long tails feathers are sometimes yellowish and those of the shorter ones sometimes whitish. The head has sometimes ~~less~~ violet and ^{more} red and that of a lighter colour and the black band on the head not so broad. The edging of the quills sometimes broader, sometimes narrower; sometimes bright yellow sometimes almost white. The red on the wing sometimes more or less, and darker or lighter.

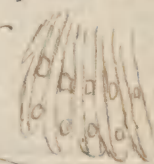
Fig 1.

Length $7\frac{1}{4}$ - $5\frac{3}{4}$. Bill $1\frac{1}{2}$ - Broad 22 - inches. Under part of wings and tail like the ^{upper part of the} breast. Gape $\frac{3}{4}$ inch broad. Tongue  this shape, thin & fleshy at the root, very thin, horny and fringed at the end. Vent and under tail coverts pure white. Killed in the Doon where it inhabits during the cold-weather. In the summer it goes to the borders of the Himalach, where it breeds; building on trees, on inaccessible rocks, so that no one has seen its eggs. Called by the Goorkus (in which province proper it is also found) Chänichur. The female is a little lighter color. Considered good to eat. Toes very rough and scaly. Middle 3, outer 4 joints, inner 2. Back 1 joints. Middle and outer joined to the first joint. It flies something like a wood-pecker.

Feb 29th. Shot one at Nujeebad. The whiteish ash at the edge of quills, not so broad, nor was there so much white at the end of the tail; which had the appearance of being shortened by rubbing. The tongue was only divided, not fringed. Its feathers have a coarse wiry appearance. It has a film over the eye from forehead.

Drawn again
See Vol 3. Pl. 63

Fig 2.

Length $4\frac{1}{2}$ - $1\frac{1}{2}$. Bill $1\frac{1}{2}$ - Broad $12\frac{1}{8}$ - inches. Killed at Hurdwar, running up the rocks like a creeper. The outer half of the greater wing-coverts, are scarlet on the outer, black on the inner webs. Quills the same two thirds of their length from the roots, except the outermost and the three inner. The four outer quills have each a large white patch on the inner web, about $\frac{3}{4}$ inch from the tips; and a second patch about an inch above that. The fifth quill has a small patch even with the latter.  . (omitting the three quills nearest the body, the three next have a small patch even with the upper patches above mentioned. like this } light brown blackish slate-color. Inner wing coverts black, dashed with pink. Tail 12, the two outer black at the root-half, the rest white with a light slate colored fringe. The two next the same, but only a white patch in the inner web, instead of being half-white. The 8 middle, black with light slate colored ends. Nostrils long oval in a long deep dent, covered with a black membrane. Tongue bayonet shaped at the root, & fleshy, rest horny, black, narrow, & very thin, divided at the end, not quite so long as the bill. Length of back claw $\frac{1}{2}$ inch.

See Vol 3. Pl. 2.

Fig 1. Decr. 11th



Wall Creeper (*Tichodroma muraria*)


Fig 2. Decr 14.

Fig 1.

Length $7\frac{3}{8}$ - $3\frac{1}{2}$ - Bill $1\frac{3}{4}$. Broad $1\frac{7}{8}$ - inches. Mouth broad, gape large. Tongue small, flat, horny, bluntly pointed, & divided at the end. Bill rather depressed where the nostrils are, which are slightly covered with small hairs besides the long ones. The feathers of the head and throat, and upper back, are greyish white in the middle, which gives them that dashed appearance. The very tips of the shafts of the wing-coverts are the same. The inner webs of all the quills and both webs of the two outer, are light blackish, brown. Tail 10. The under side lighter color than upper, and has a shade of light blue. Sides of body like belly & vent. Inside of wing quills light yellowish slate color, edges of inner webs dirty yellow ochreish. Inner wing-coverts the same. The yellow round the eye and ear is a cere. Back ^{small} toe 1 Large 4. Front small 2. Large 3 - joints. Two front joined to 1st joint. Eye-lids light grey. Sides hazel. Over the eye it has also a film underneath the eye-lid, ^{with} which it can cover the eye. it projects from forwards.

Drawn again
See Vol 3. Pl. 57

Fig 2.

Length $4\frac{1}{2}$ - $1\frac{5}{8}$ - Bill $\frac{5}{8}$ - Broad $8\frac{1}{2}$ - inches. Under side of quills slateish fawn color. inner wing-coverts fawn color. Tongue  this shape sharp & horny at the point, rest fleshy. Filled near Mohun Choki (in lower range of Hills).

I saw some with the colors lighter. Middle and outer toe joined to 1st joint. Back toe 1 - inner front 2 - middle 3 - outer 4 joints. Tail 12.

Drawn of the natural size. Called Chetroo by the Juhrwallees. This is the female. The male is much darker with white instead of yellow. Builds in beetle (holes in hill-field walls) lays 5 eggs white with reddish spots.

Drawn of the natural size.

See Vol 2. Pl 61.

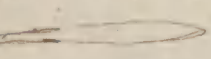
Pl. 46.

Fig 1. Decr. 12.



Fig 2. Decr. 29th

Fig 1. Apparently The Brown-necked Shag. Vol 10. P. 425.

Length $13\frac{1}{2}$ - $5\frac{3}{4}$ - Bill 2 - Broad $29\frac{5}{8}$ inches. Colors correct, but in some lights, some parts have a blueish greenish tinge. Webs of the tail feathers short near the roots  This shape, and very stiff. Beginning at the shortest, toes have 1, 2, 3 & 4 joints respectively. Length of longest $2\frac{3}{8}$ inch including claw, to nearly the point of which the webs extend. It has an inner film, under the eye lids, which it can project from forwards over the eye. It has no tongue, but a long round membrane in the place of one, which is joined to the bottom of the under-mandible in its whole length. It has a membrane over the under part of its throat, ~~the~~ which is a hole, through which it breathes. I could not with all the inspection I could make discover ~~any nostrils~~ ^{nostrils}. It is a cunning shy bird, difficult to approach, and makes a shrill screeching noise. ears very small. Killed on the Junga at Hurdwar. When swimming, usually a very little of its back is visible; often only its head. Stdives often and long. Called Jel Koua (water crow) also Pance Koua (same meaning.)

Drawn again
See Vol. 3. Pl. 65.

Fig 2.

Length $15\frac{1}{4}$ - $2\frac{1}{2}$ - Bill $1\frac{3}{8}$ Broad 27 - inches. Inside of wing like the belly in color, but the wing coverts are darker, the quills lighter, almost white at the end. The inner ones are white at the tips. Under mandible very hollow. Tongue soft, thick & fleshy; rather sharp and horny at the end. The shoulder of the wing is white, which extends along the edge of the wing to the body, & to the setting on of quills; but it does not appear as drawn. Although the tail measures as above (from its root to point.) it appears in nature as drawn, not above an inch long. Length of skin $2\frac{1}{2}$ inch. Longest toe exclusive of claw $3\frac{1}{8}$ inch. To show the exactly the annexed sketch of the left foot, supposing the bird fronting you is given. The back toe has only ~~one~~ small web which hangs underneath. Although the wing when full-stretched measures as above, the quills are very short, making a narrow wing when open; & the bird flies heavily close to the water, flapping its wings much, & making short flights.

Drawn half the natural size by scale.

See Vol 4. Pl. 43. only a fig



Pl. 47 -

Fig 1. Decr 12.



Fig 2.
Decr 23.

Fig 1. The Crow pheasant. or Chestnut Coucal of Satham.

Length. $10\frac{3}{4}$ - $10\frac{1}{2}$ - NB The tail is set on half way up what appears the wings.
Bill $1\frac{7}{8}$ - Broad $26\frac{3}{4}$ inches. All over Blackish bluish green. On the back of the head, the blue tinge appears most prominent. On the lower part of back, it is almost black. The wings alone, and a few of the feathers at the upper part of the back between the wings, are the chestnut color.

This is about half the natural size. by scale. Two front toes membraned together half way up first joint. Outer 3, inner 2. Outer back 4 inner 1 - joints.
Tail is a little rounded.


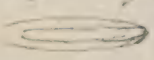
Drawn again
See Vol 4. Pl. 18.

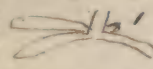


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Fig 1. Dec 14th

Fig 1.

Length $9\frac{1}{4}$ - 4 - Bill $1\frac{5}{8}$ - Broad $1\frac{1}{8}$ - inches. Killed near Moshun Choki. Found in the Doon and various parts of the Hills. Called Khat-khor &c the usual wood-pecker names. by the Goorkus (proper) Lächä. The yellowish quills which are the inner are black with white spots on their inner webs. The rest of the quills are so on both webs, but in the middle quills the white spots have a tinge of dirty yellow. Under side of quills wholly light blackish slate color with white spots on both webs. Sides of body like the belly. Inner wing coverts the same but the ^{colored} edge of the feathers darker and broader. The white on the crown & forehead is  at the end of the feather like this. On the breast the middle of the feather is white like this . The black gradually diminishes, leaving only a fringe. Back (lower part) rump, & upper tail coverts, fine dead black.

²  4 Joints. Inner back toe so small as to be useless.

The female is said to have a less crest, & to be black where this is red. in other respects the same but colors not so bright.

Drawn $\frac{3}{4}$ the natural size. NB. I have seen them a little larger. Tongue like that of Pl 38. Fig 2. But this can project 4 inches beyond the point of bill.

Drawn again
See Vol 2. Pl. 27.

Fig 2. killed near Threec. Bill like a *Pycnonotus*.

Length $3\frac{1}{2}$ - $4\frac{1}{8}$ - Bill $\frac{1}{2}$ - Broad $9\frac{1}{4}$ - inches. Toes 1. 2. 3. 4 Joints. Middle and outer toe joined to the first joint. Under parts wholly like the breast. Under side of quills and tail like the upper but ~~black~~ lighter. Tongue thin, very flat, pointed, & horny. & has the hooked joint. It takes very short flights, but hops from twig to twig, every instant spreading & closing its tail. Tail 12. Called Takoolcä in Sushwall. Female a little lighter color. builds in holes under the stone walls of the Hill-fields. lays 4 eggs. yellow, black, & white irregularly mixed together. Seen all the year.

Drawn of the natural size. Seen in most parts of Sushwall.
See Vol 2. Pl. 20

Pl. 49

Fig 1. Decr. 29.

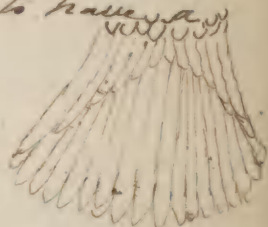


Fig 2. Decr 29

Fig 1.

Length $26\frac{1}{2}$ - $28\frac{1}{2}$ inches. Bill $6\frac{1}{2}$ inch. Broad $5\frac{1}{4}$ - $5\frac{3}{4}$ - Length of thin joint 7 inch.
NB. The head is a little too large, & beak a little too long in proportion to the rest of the
bird. It is drawn one third the natural size. standing as drawn, it would
be about $2\frac{1}{2}$ inches high to the crown of head. The feathers where the neck
joins on to the body are very long, & would form a ruff; but I did not ever observe
the bird erect it. Vent & under tail coverts white. Other parts like the body
in color, but the inside of wing is bare of feathers, the skin glossy even
slightly horny, & vermilion. Tongue $\frac{3}{4}$ inch long flat, thin & fleshy. nostrils
perious. Side of head under the eye bare of feathers, but has a few straggling
hairs. The feathers of the neck are soft like down. It appeared to have a
sort of double tail the white one having 18 feathers rounded.

The other 12 feathers much forked lying over it like this.



For it appeared ~~too~~ composed of too stiff for the tail coverts, of which
it had small ones above the upper tail, whose color is blackish greenish
bronz. Called by the Pustans Nukta. Found in Bengal and Hindostan.
I have seen many, apparently all alike but only ^{shot} this one; another was in
company; as they are generally seen in pairs.

Back toes 1, inner two, middle, three, outer four joints. Middle ^{webbed} ~~joined~~ to the
inner halfway, to the outer wholly, up the 1st joint. A very narrow thick
web, or membrane up each side of the toes to the very claws.

See Vol 4. Pl. 19.



Fig 1. Jan 4, 1828

The Violet Stork of Latham. V. 9. P. 54. or a slight variation.

Length $25\frac{1}{4}$ - $21\frac{1}{2}$ - Bill (from the tip of the under bill) $3\frac{7}{8}$ - inches Broad $3\frac{1}{2}$ - ^{ft} inches
Perpendicular height to the crown, when standing as drawn. $2\frac{1}{2}$ inch. Middle toe
 $3\frac{7}{8}$. 2^d Claw $1\frac{1}{4}$ inches. Inside of the wings Dull light brown. Inner wing coverts
like the outer, but not quite so dark. Scapulars very large. same color as
the wing. Tail the same but lighter, & the middle of the feathers whiteish.
The feathers of the head and neck are somewhat hackled. At the lower part of
the neck behind the feathers are fringed with very light brown. Tail 12. a
little cuneiform; and although measured as above, the feathers seemed to have
lost from half to one inch of their length by rubbing on the rocks.
Between the joints of the wings when spread. $3\text{ ft } 1\frac{3}{8}$ inch.

Found in Sushwall. Called *Bokab* and *Suroor*. (The Persian & Sanskrit
names for, and as indiscriminately applied as our, Eagle)

Inner toe 2. Middle 3. Outer 4 joints. all slightly membraned together at the
root. about half way up the first joint. The under mandible has a groove at
the end into which the upper fits. Tongue soft thick, fleshy at root, horny
and hard at the end, and shaped like the under mandible into which
it fits and lies. Nostrils oblong. covered with reflected bristles like the crow.
^{They are not uncommon and some have been killed more than 10 ft in}
^{breath of wing}
See Vol 4. Pl. 37.

$$6\frac{3}{8} - 3\frac{7}{8} = 2\frac{6}{8}$$
$$5\frac{2}{8} = 11\frac{5}{8}$$
$$12\frac{5}{8} = 15\frac{1}{4}$$

Pl. 51

$$\frac{14}{5} \frac{10}{10} = \frac{140}{50}$$

$$5\frac{1}{2} - 3 = 2\frac{1}{2}$$

(1111111111111111)

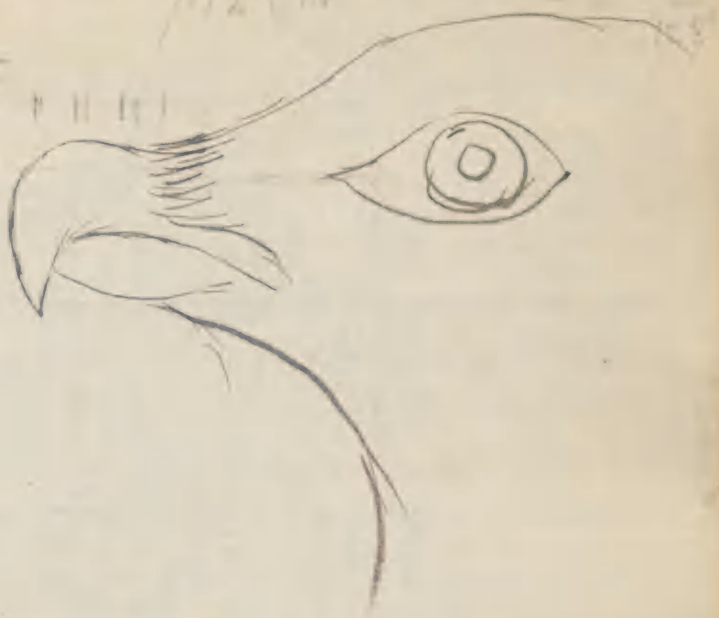


Fig 1.

Length $9\frac{1}{2}$ - $7\frac{5}{8}$ - Bill $1\frac{1}{4}$ - Broad $38\frac{1}{4}$ - inches. The irides are a beautiful glass whiteness with a slight greenish tinge just perceptible. I have left it white being unable to hit the color. Length of skin joint $2\frac{3}{4}$ inch. The eye-brow projects over the front part of the eye like that of Pl 34 Fig 1. The feathers on the breast are light-brown with spots of white on both webs. The shafts of all the feathers are dark. Of the inner wing coverts, the smaller are like the outer. The middle like the breast feathers and the larger, are white with light blackish grey patches. Under side of quills is whiteish grey with a slight tinge of violet. The outer side as drawn, the inner web lighter than the outer, and has several blackish bars. Tail 12. color as drawn, but it has the blackish bars on both webs of the 6 middle: on the inner webs and partially on the outer of the two 2^{nds} & 3^{ds}, only on the inner web of the two 1. Feet strong in proportion. claws sharp. It is a long-legged awkward looking bird. Drawn half the natural size by scale. Toes 1. 1. 2. 3 joints. Middle and outer toes strongly membraned together.

MB. This is like but very coarsely done.

See Vol 4. Pl. 45. only a fig

Dec 15. Fig 1.



Fig 1.

Killed in the Doon.


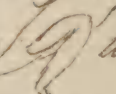
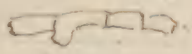
Length $7 - 5\frac{3}{4}$ - Bill $\frac{5}{8}$ - Broad $25\frac{1}{4}$ - inches. Colors correct, but in nature it has a delicacy about both color & shape. The smaller quills as drawn (appearing between the coverts and the larger quills) The middle quills are barred in the same way, but the black bars much broader. The outer quills, are blackish blue, with bars of the light ^{almost white} blue, i. e. on inner web, on outer web, wholly blackish blue. Inner wing coverts like the belly. Under side of quills whiteish grey, with blackish bars, broader than on upper side. Under side of tail the same. Upper side as drawn. 12 feathers rounded. Claws polished black, very sharp. Back toe 1. inner front 2. middle 3. outer 4 joints. The under side of the toes, has a curious projection at the end of each joint like this  in a side view, except the outer toes, which only have them at the end of the 3rd & 4th joints. tail tipped with white. I saw a pair apparently alike, but only shot one. See Vol 4. Pl 44. only a fig.

Fig 2.

Killed near Kherce.

Length $6\frac{1}{2} - 6\frac{5}{8}$ - Bill $\frac{3}{4}$ - Broad $26\frac{1}{4}$ - inches. High joint which is long in proportion $2\frac{7}{8}$ inches. The upper joint is also long, and projects much from the body.  like this. The tail is set on high up. The quills are brownish slate color on the outer web. The inner is much lighter color, barred with the brownish slate color. The inside of the wing is almost white, barred with brownish slate color. The inside of the breast, but the bars are more brown. Sides of the body under the wing are light-reddish-brown. Toes have 1. 2. 3. 4 joints. At the end of the 2nd joint of the under side  like this.

Drawn half the natural size.

See Vol 4. Pl. 40 only a fig.

$5/8 - 3 = 8/8$




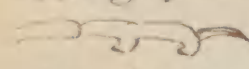
Fig 1. Jan'y 5. 1828



Fig 2. Jan'y 19th

Fig 1.

Killed near Hurdwar.

Length $6\frac{1}{2}$ - $6\frac{3}{8}$. Bill $\frac{3}{4}$ - Broad $28\frac{1}{2}$ - inches. Drawn half-size. Back light blueish slate color. Middle wing coverts (only ends seen) like quills, but edged & patched with chestnut. Lower part of belly, vent & under tail coverts light pinkish fawn color. The inner edge of quills is edged and serrated into the brown with white  Inner wing coverts white patched with brownish black the breast. The patches all over are at the ends of the feathers, & the shafts are also black, but not seen from the overlapping of the feathers. Toes 1. 2. 3. & joints. The two last joints of each have  the projection at the lower part. Tail 12. It is a handsome bird, well shaped and flies swiftly. Middle and outer toe membraned together half way up the first joint.

Drawn again
see Vol 4, Pl. 32.
only a figure



Fig 1. Jan'y 25. 1828.

Fig 1.

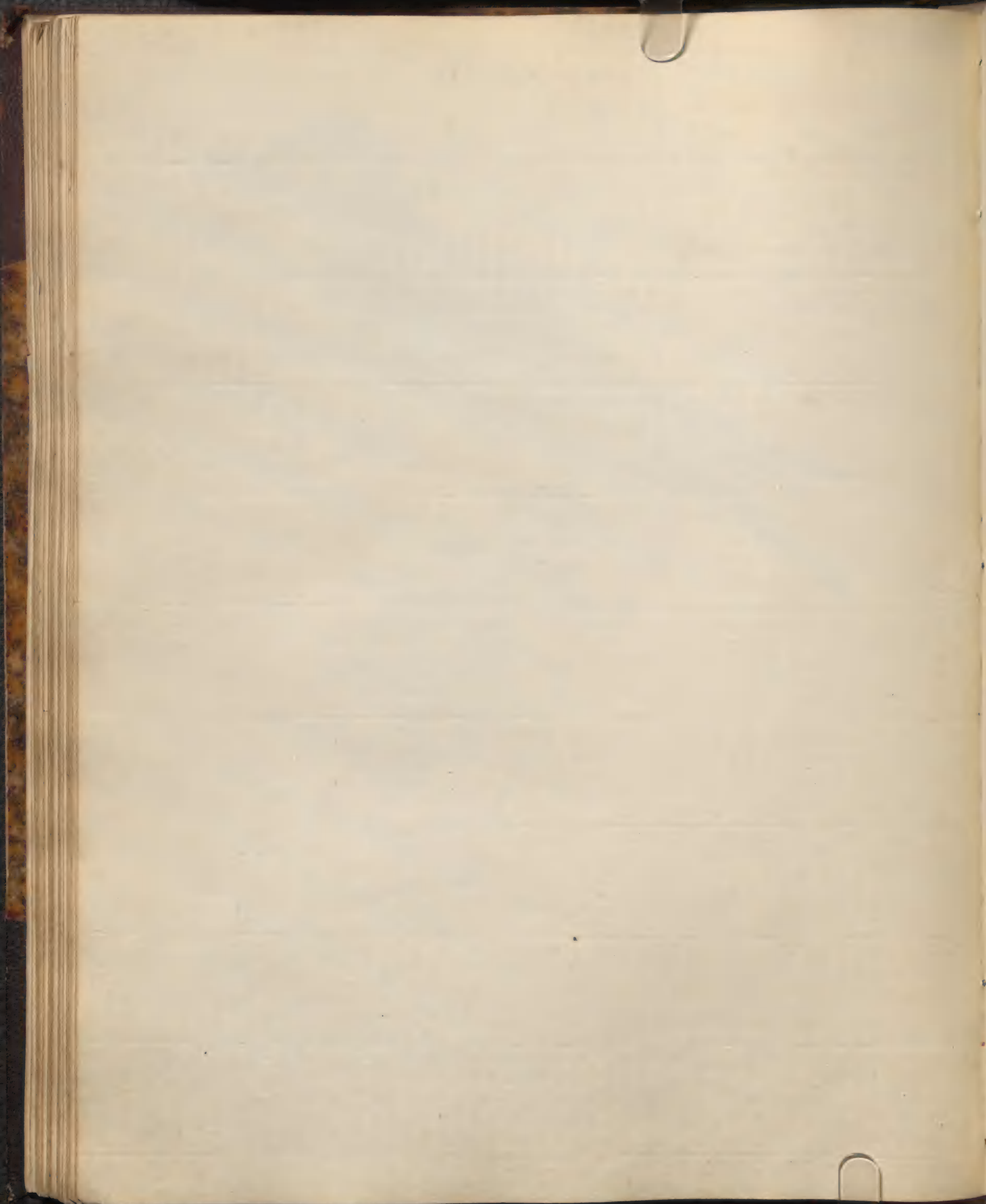
Killed in the Doon.

Length $12\frac{1}{8}$ - $11\frac{3}{8}$ - Bill $1\frac{3}{8}$ - Broad $58\frac{1}{4}$ - inches. The feathers of the head ^{& back of neck} are brown fringed with dirty whiteish ash, some of them have a tinge of rufous. Those of throat breast & belly are dirty whiteish ash in the middle brown at the edges. The feathers all over have black shafts, sides olive-greenish brown. Quills dark brown, almost black the outer ones, but the edge of the inner webs are patched with light blueish brown. (as seen in the innermost quill.) Tail 12. Light brown, inner webs patched like the quills, outer webs have shades of dark brown here and there. Toes 1, 1, 3, 3 joints. Middle and outer membraned to the 1st joint. Back claw longest and strongest. The whole of the feathers except the quills and tail, are pure white and downy at the root half. The body is also clothed with white down under the feathers. Inner wing coverts darker than upper, & tipped & edged ^{with white} irregularly. This is a fine eagle looking hawk, and kills hares. Out riding I have seen it pounce, galloped up & got a hare for my dinner which it had killed. This has happened twice to me, once in the Doon, once near Meerut.

See Vol 4. Pl. 39



Fig 1. Feby 4. 1828.

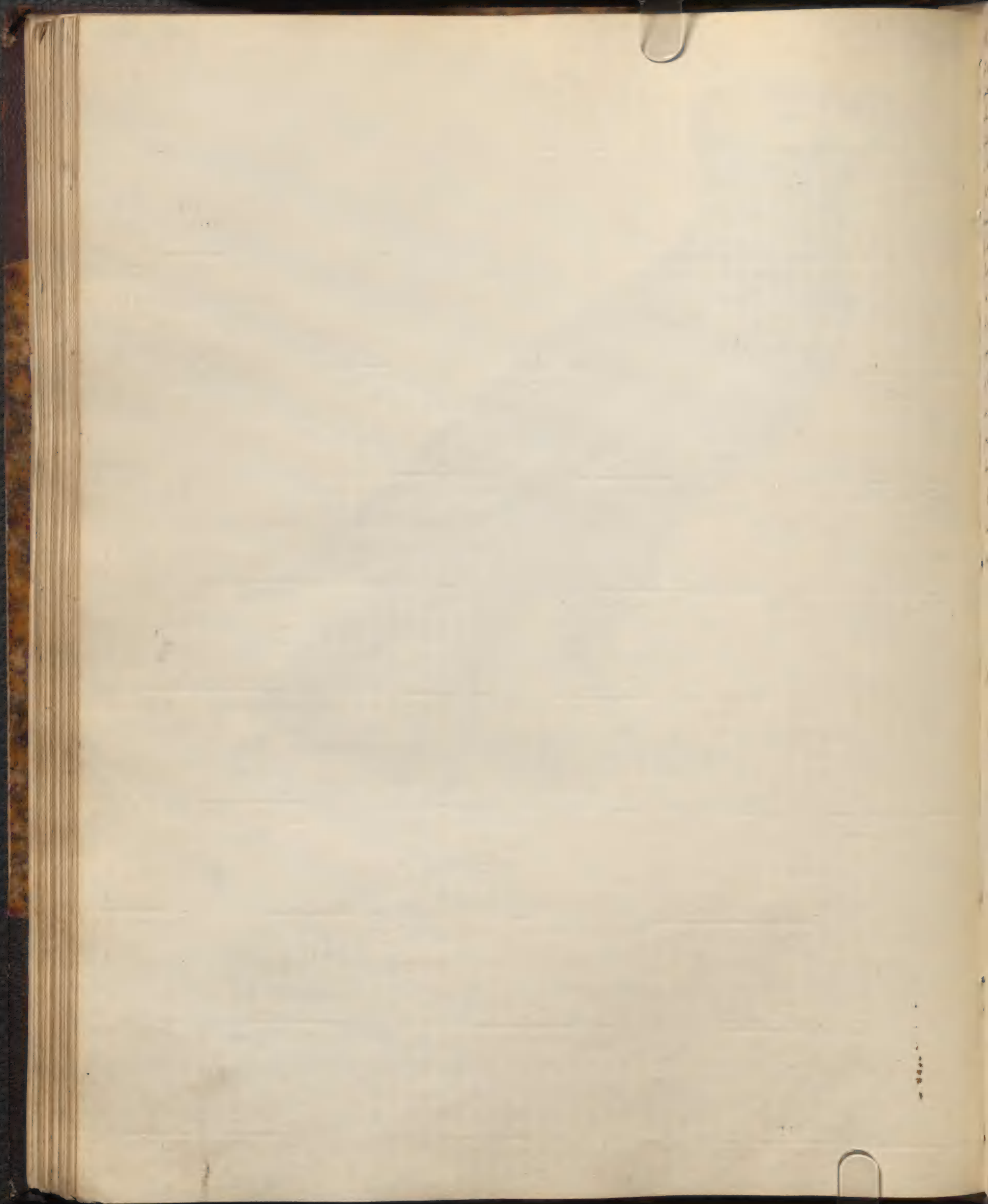




12 April 1823.

Length $17\frac{1}{8}$ - $11\frac{1}{2}$ - Bill 2 - Bread 66 - inches. The black feathers of the head are pure white on the root half. Quills are barred in two or three places, with mottled brown & white on the outside, dirty white on the inside, some of the inner quills are tipped with dirty white. Tail 12, where it is dirty white underneath, it is light brown above. Sides of the body, and inner wing coverts like the thighs. Toes 1, 2, 3, 3 joints. Perpend. height $18\frac{1}{2}$ inches. Killed in the Doon

See Vol 4. Pl. 38.



Additional observations, to Different birds.

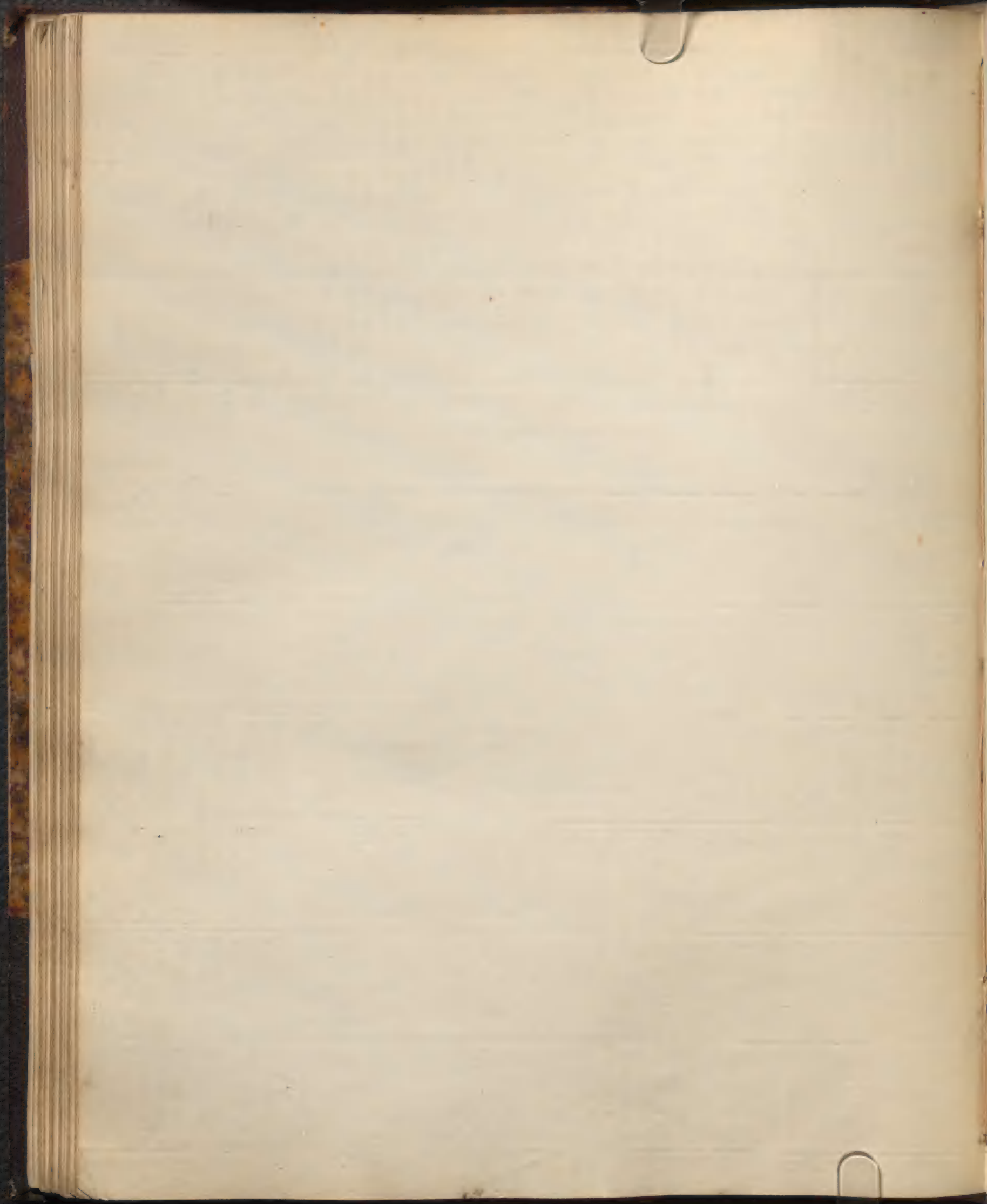
To Pl. 11. June 9th. 1828. A boy brought me one alive, which he had caught by setting a noose over its nest, in an oak tree. It was probably the female. I put it in a cage; it refused to eat insects, seeds, bread, but on the next morning I gave it a small bird as large as a green finch which it eat, & drank water as soon as I put some in the cage. & seemed quite quick in its confinement. In the afternoon I gave it another bird as large as the former, which it seized as soon as I held it within its reach, & began eating before me.

Yet its chief food can hardly be small birds for it flies too slowly & clumsily to catch them. & young ones it can only procure at one season. and it hops about on the ground apparently by looking for insects.

June 10th. The same boy brought me the mate of the above, which he caught with a noose on the same nest. I put it into the cage with the other, & offered it a small bird which it began eating immediately. I lent the boy for the nest which he brought with one young just hatched & a broken egg. The nest was of sticks as thick as a quill, with a few ^{thin} wavy roots above, so loosely put together & so shallow, that I wonder the eggs are not shaken out, should it high wind move the branch a little. The egg was light greenish blue, with brownish green irregular spots & patches on it. The young being alive I put it into the cage; but the old ones immediately killed and eat it.

Both were exactly alike, & I have seen numbers all the same. They go down into the Doon & warm valleys in winter, & spend summer & breed on ridges cold enough for snow to fall on in winter. - Eye has a vitelline membrane from upwards.

To Pl. 8. Fig 1. June 11th. Shot one. in which the vent was white, with a very light buff tinge. Tail had the two outer ^(one on each side) feathers with triangular white spots on each edge of both webs, & spots on the shaft. (like that in Vol 3. Pl. 9. but the spots smaller.) next 3 on each side, had the spots on the shaft, & only on inner webs. two middle ones only on the shaft. Tips of all but the two middle white. Tail rather olive-brownish black, than black. Bill only $1\frac{1}{4}$ inch. The quills have triangular white spots at edge of inner web; a little purplish at the inner corner. Nostrils surrounded by a very prominent rim.



Names according to Heermann

Cermisina



Light Verm?



Venetian red



Lt. Venⁿ. red.



Indian red



Lt Indian red.



Saturine red



Lt Satur^m. red.



Dark Lake



Middling Lake



Pink



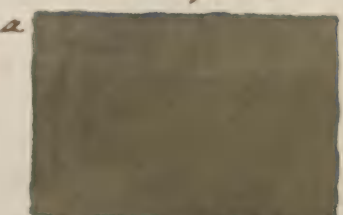
Lt Pink.



Dark bottle green



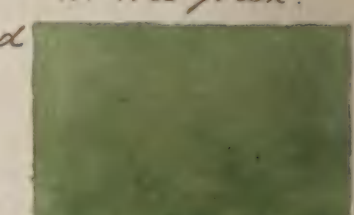
Lt Bot. green



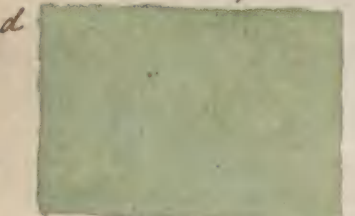
Dark tree green



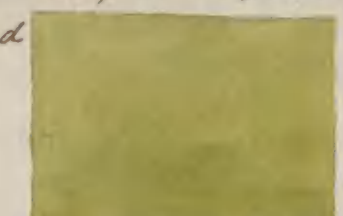
Lt Tree green.



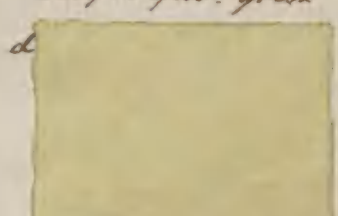
Very Lt Tree green



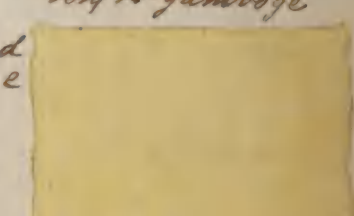
Lt Yellowish green



Very Lt Yell. ish green



Very Lt gamboge



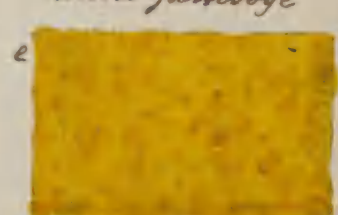
Dark yellow ochre



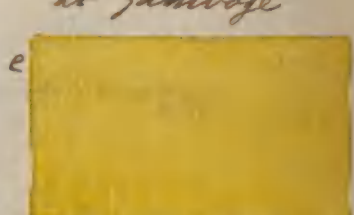
Lt Yellow ochre



Dark Gamboge



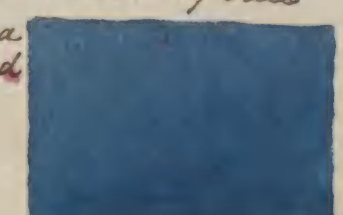
Lt Gamboge



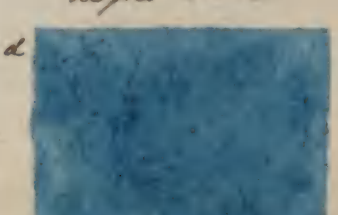
Dark blue



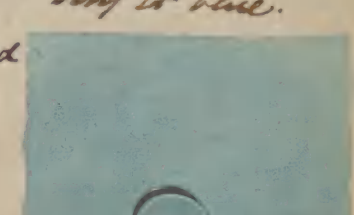
Middling blue



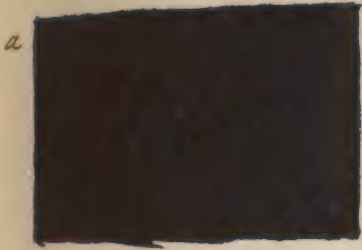
Light blue



Very Lt blue.



Dark Black



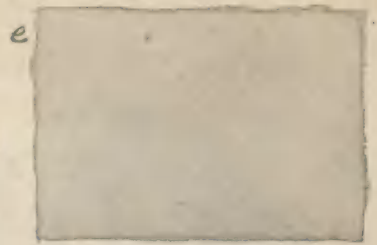
Blackish



Lt Blackish



ash or cinerous.



Reddish purple



Lt Red^d purple



Bluish purple



Lt bluish purple



Dark brown madder



Lt brown madder



Dark Umber 60²



Lt Umber^d brown



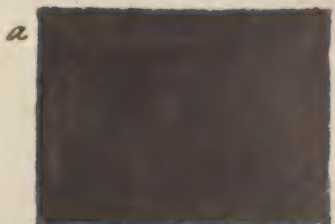
Dark chocolate



Lt Chocolate



Dark Neutral tint



Lt Neut^d. tint.



Raw Sienna



Lt Raw Sienna



Dark Burnt Sienna



Lt Burnt Sienna



Dark brown pink



Lt brown pink



Dark bistre



Lt. Bistre.



The preceding are for the convenience of ascertaining the colors of eggs, or other things from the Natives of India; by shewing them the plate and letting them point out the color. otherwise very little can be made out from their descriptions as the common people have very few ideas on the subject.

Usually they rank every thing under five colors. viz

- a Kälā. literally black, but may be translated dark; under this head are ranked black and its shades, bottle or other dark greens, dark blues, purples, browns;
- b Lall. red. under this are ranked, red and its shades, orange, reddish brown, reddish purple (if not very dark, in which case it would be called Kälā)
- c Pinglā, Peela, zurd, - yellow. includes yellow & its shade; light orange; yellowish brown;
- d Humrea. green. includes light blue; light green; light blueish purple; yellowish green;
- e Tuffed. literally white. but may be translated light. includes white; ash or cinereous; very light orange, yellow, pink, or brown;

The letters refer to those at the colors, and show under which head, ordinarily, the natives would rank the latter. Some would have two names. thus light-blueish-purple would by some be called Kälā, by others Humrea. & so on with some others.

Index to Vol 1.

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Native Names of different parts of Birds.

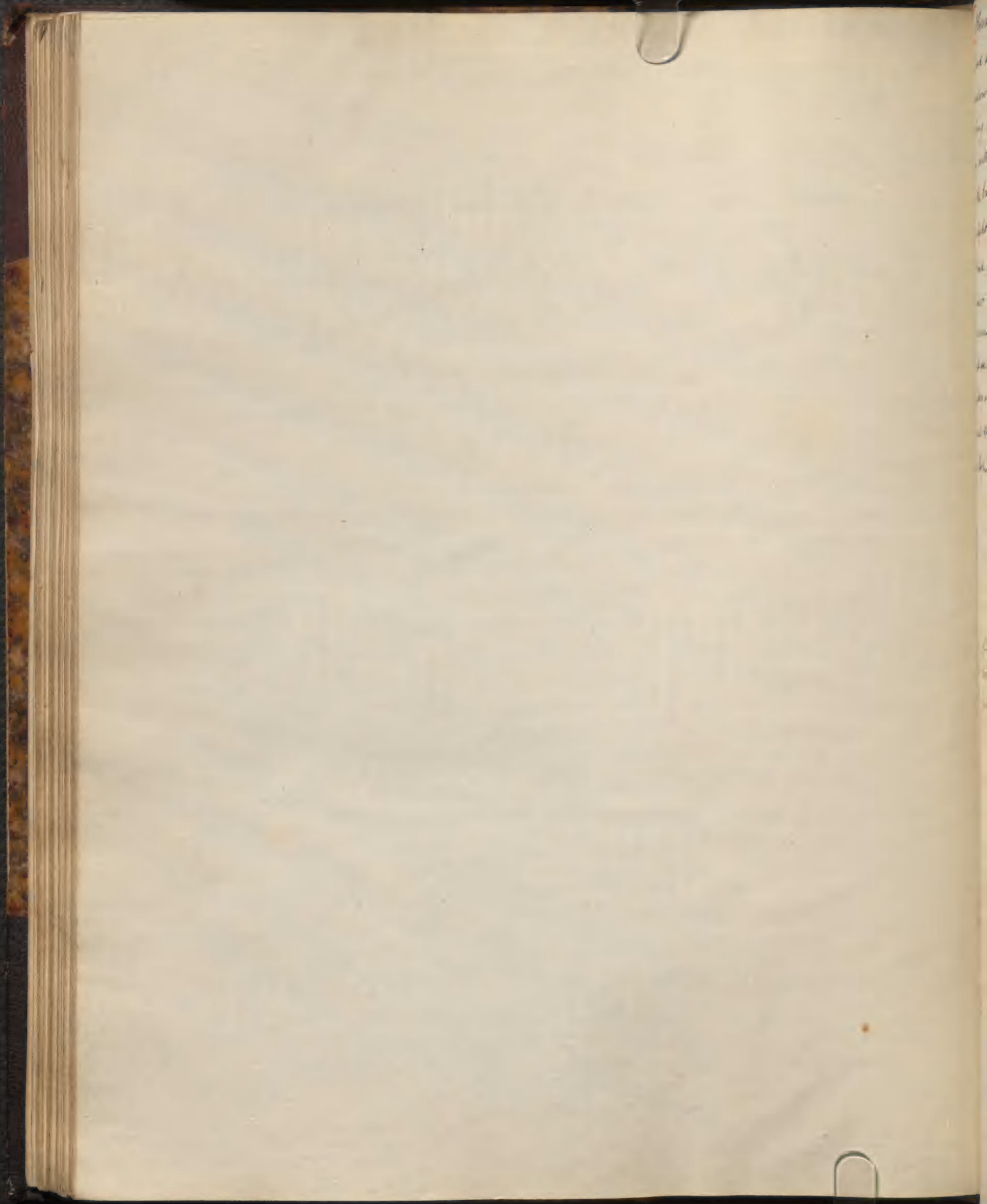
Native names of different parts of birds.

Beak . Choich . Nok . Toontur . Tonce by the Sikhs.

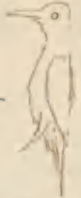
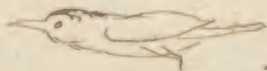
923


Crest . Chöopul . Kuchungee

Spur . Lantä . Zhar . Panchura by Soorkul . Azjaro in Nagpore.



[Observations in addition to those at Page 20.

MS. I find that if the bird be placed in this position  holding it by the bill, and allowing the body to hang down; the measurement is the same, if the string be taken from the bill over the crown of the head, straight down, without pressing it into the curvature of the neck. This saves trouble. Or if the bird be drawn out straight like this  pulling the neck very slightly, the measurement is the same.

To find the setting on of the tail, it is cocked up like this  and the inner corner of the angle it makes with the body, is the point of measurement. This sometimes gives a greater difference than the appearance of the bird would indicate; as some have the feathers of the rump, vent, and tail-coverts very long in proportion to their size; which makes the body appear longer and the tail shorter than it is. e.g. Pl 53. Fig 2. Pl 48 & others.

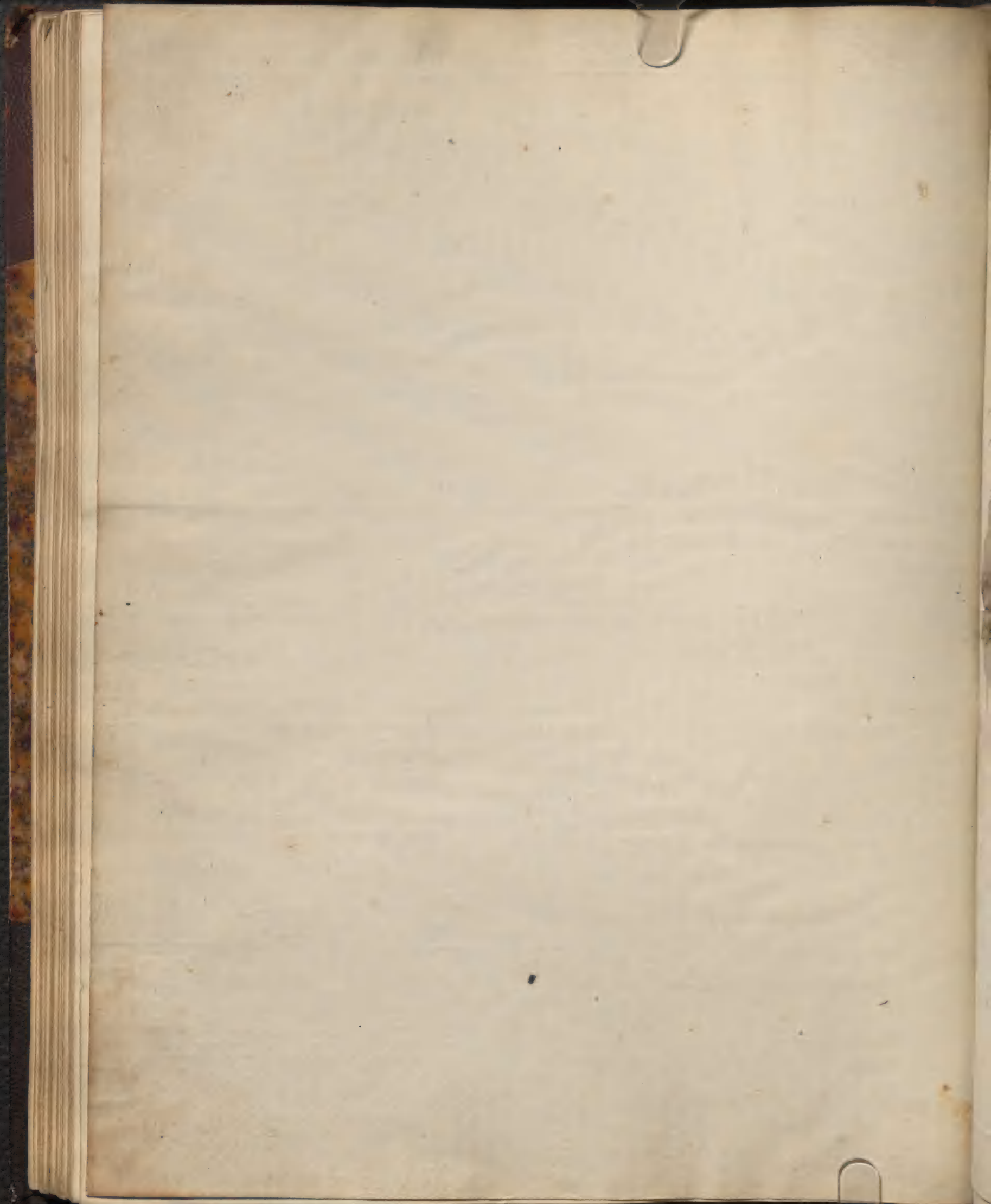
The Perpendicular height means when the bird is standing as he is drawn.

It is strange that not a single native has any idea of the migration of birds; they know that at certain seasons certain birds disappear, and reappear at others; but they suppose that they hide themselves in the jungles.]

Memorandum of Vol 2^d.

Pl 1 to 6	to be left for Pheasants.
7 - 14	Partridge.
15 17	Kingfisher.
18 30	Waterfowl.
31 33	Woodpeckers.
34 36	Swallows.
37 45	Pigeon.
46 47	Grackles.
48 51	Miscellaneous.
52 56	Owls.
57 62	Crows.
63 64	Wagtail
65 66	Hornbill
67 68	Grouse.

Index of Vol 2^d
 Pl 1. Miscellaneous
 2. 3. 6. Duck
 7. 8. 9. Cuckoo
 10. 11. 12. Sparrow
 13. 14. 15. Miscellaneous at top



86 - 9
 95 - 3 - 18
 3 - 11 = 78
 4 - 36 - 13 = 23
 41 165
 245 321
 April 29 86
 41 95
 165 200
 245 321

N. 22
 57



Fig 1. Jan 19. 1828

123 32
 86 13
 4 6
 123 45
 192
 215

March
 April 2. 1829.
 In Vol 2
 3
 4
 53 22
 64 13
 6 12
 123 47
 47
 170
 uncopied in Vol. 1. 45
 215
 182 29
 37
 191

Fig 1.

Killed in the Doon.

Length $2\frac{7}{8}$ - $1\frac{7}{8}$ - Bill $\frac{1}{2}$ - Broad $6\frac{1}{4}$ - Inches. Inside of wing light slate color. Outer side; quills yellow on outer web, black on the inner. Tail 12. colored like the quills, but black on inner web not so dark. Inner wing coverts whitish yellow. Outer tail coverts like the back. The eyelids are a brilliant silky white, which I could not imitate. Toes 1 - 2 - 3 - 4 joints. Middle jointed to the inner half-way to the outer whole way up the 1st joint. Drawn the natural size. *

14 Full grown
15 Nest
16 Shred

* Tongue flat, thin, horny, & fringed at the end. Shot one at Barton ka phola. not in a hollow, but with a membrane.

staircase
like the
wells
e, when
or half

111

the

107

F. Moore. Jan. 1st 1828.

Appendix
to
Latham's Birds.

[Vol. II.

Jan. 1st 1827.]

Observations.

Of the figures of Length. The first means from the point of the beak to the setting on the tail: placing the bird in its natural sitting position, & measuring by the curvature of the head (pressing down the crest if the bird has one) neck, back &c.: The second from the last point, to the end of the longest tail feather.

The Length of Bill or for short "Bill". signifies from the point, to the corner of the mouth when open.

The Breadth means from the extreme points of the longest quill from wing to wing, when full stretched; whether the outer quill or not.

The above are invariable, unless other measurements are expressly specified.

The Native names given, allude to the place where the bird was killed, unless otherwise specified. For the names of the same bird differ often in different parts of India; as indeed is the case with plants, insects, and even animals. In the Hills (of the Himalayah) villages a few miles apart have sometimes different names for the same bird.

The information about their nests, eggs, time of breeding, migration and other local points, is collected chiefly from the village boys, who (in the Hills particularly) from being continually bird-nesting, and playing about in the jungles, are well acquainted with these matters.


N.B. The men comparatively know little: they often say "When I was a boy I could have told you all about it, but I have forgotten it now."

The native names are given with exactness; spelling according to Gilchrist's plan. This generally is not sufficiently attended to, which creates confusion. Many native names of birds, have some meaning, characteristic of their color, song, shape, manners &c. —

The under parts, and those which cannot appear in the drawing are minutely described. Where I have not exactly hit the color, it is mentioned. From want of this having been done in the drawings from which Latham's descriptions are taken, he has described the color of some incorrectly.


Almost every picture is taken from a real specimen, immediately after it has been shot: chiefly shot by myself, which gives me an opportunity


of observing their natural position and motions. Some few are taken from live birds in cages, but where this is the case it is mentioned, also if it is taken from another picture, or a stuffed specimen.


In some the tongue is mentioned to have the "hooked joint". that is when the tongue has a joint near the root, with a sort of barb above pointing backwards like this 

When a bird is stated to be drawn $\frac{1}{2}$ - $\frac{3}{4}$ &c the natural size; it is done by scale, with proportional compasses.

5 The toes are sometimes said to have 1, 2, 3, 4 joints, or 1, 2, 3, 2 &c &c. The first number relates to the back toe, the second to the inner, the third to the middle, the fourth to the outer toe.

NB. I find that if the bird be placed in this position  holding it by the bill and allowing the body to hang down, the measurement - the string be taken from the bill over the crown of the head, straight down, without pressing it into the curvature of the neck. This saves trouble.

NB. To find the setting on of the tail, it is cocked up like this  and the inner corner of the angle it makes with the body, is the point of measurement. This sometimes gives a greater difference than the appearance of the bird would indicate: as some have the feathers of the rump, vent, and tail-coverts very long in proportion to their size; which makes the body appear longer, and the tail shorter than it is. e.g. V. Vol 1. Pl. 53. Fig 2. also Pl. 48 and others.

NB. I find that if the bird be drawn out straight like this  pulling the neck very slightly, the measurement is the same as either of those mentioned above. In some the eye is said to have a "film from forewards" (or backwards, upwards, downwards) that is when it has a film under the eyelid, with which it can cover the eye; and which projects from the front or back, or upper, or lower side of the eye. (Some of the birds being only wounded enables one to ascertain this)

For brevity's sake, when the toes are directly joined to each other, they will be said to be "joined"; if joined by a membrane, to be "membraned".

The perpendicular height, means when the bird is standing as he is drawn.

5 NB. Should the bird have two toes before, & two behind, the numbers will refer respectively to the inner back, inner front, outer front, outer back toes.

Fig 1. The Kalij.

Length $15\frac{1}{4}$ - (pressing down the top-knot) = 8 - Bill $1\frac{1}{4}$ - Broad $29\frac{1}{2}$ - inches.
From tip of beak to the end of the longest feather of crest $5\frac{1}{2}$ inches. Spur $\frac{1}{4}$ inch.
The throat and breast feathers are long hackles. The shaft white. Blacker near the roots, gradually lightening to ash-color at the tip. Sides of body under the wings like the belly; i.e. blackish with the extreme tips of each feather brownish ash-color. Tail 12, and perhaps 14. For two middle feathers do not appear clearly whether they belong to the tail, or coverts, like those of the Jungle Fowl. See Vol 1. Pl. Fig. Tongue flat, thin, lancet shaped.

Fig 2. is the female. a little smaller, all brown, with light edging to the feathers.

The position of these is correct. They are not handsome shaped birds at all. Having long bodies, and the legs far behind, duck-fashion.

Head, neck, breast & belly, dark brown, with light brownish grey shafts & ends. Back the same, but darker & only ye very ends of the feathers light brown, & slightly speckled with very minute black spots. The two middle tail feathers the same; rest dark brownish black. 16 feathers. A just perceptible knob in the place of a spur.

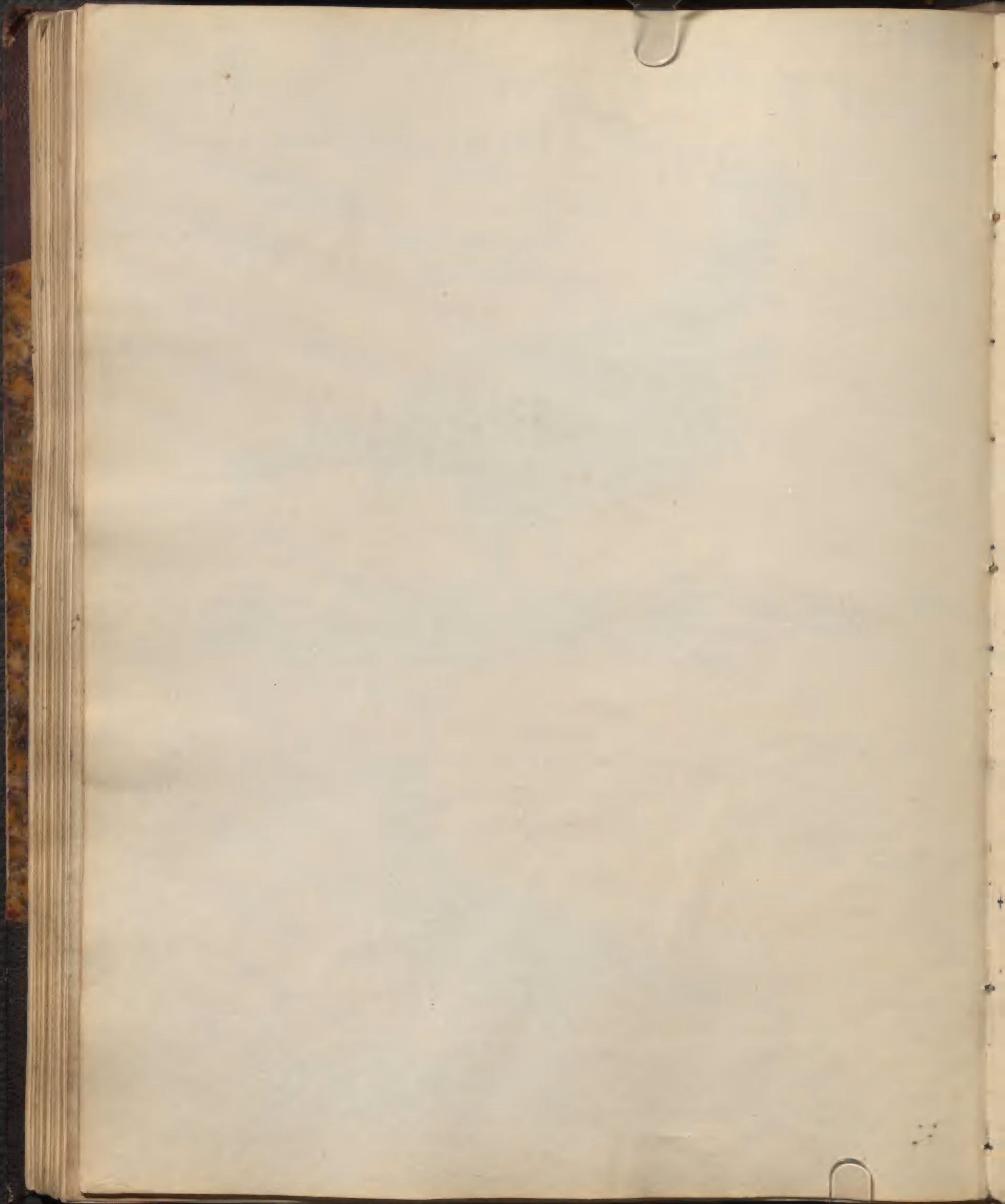


Fig 1. Jan'y 3.
1827.

Common Kalij Pheasant (*Gallus leucomelanus*) See also pl. 3.



Fig 2. Feb'y 19th
1828.





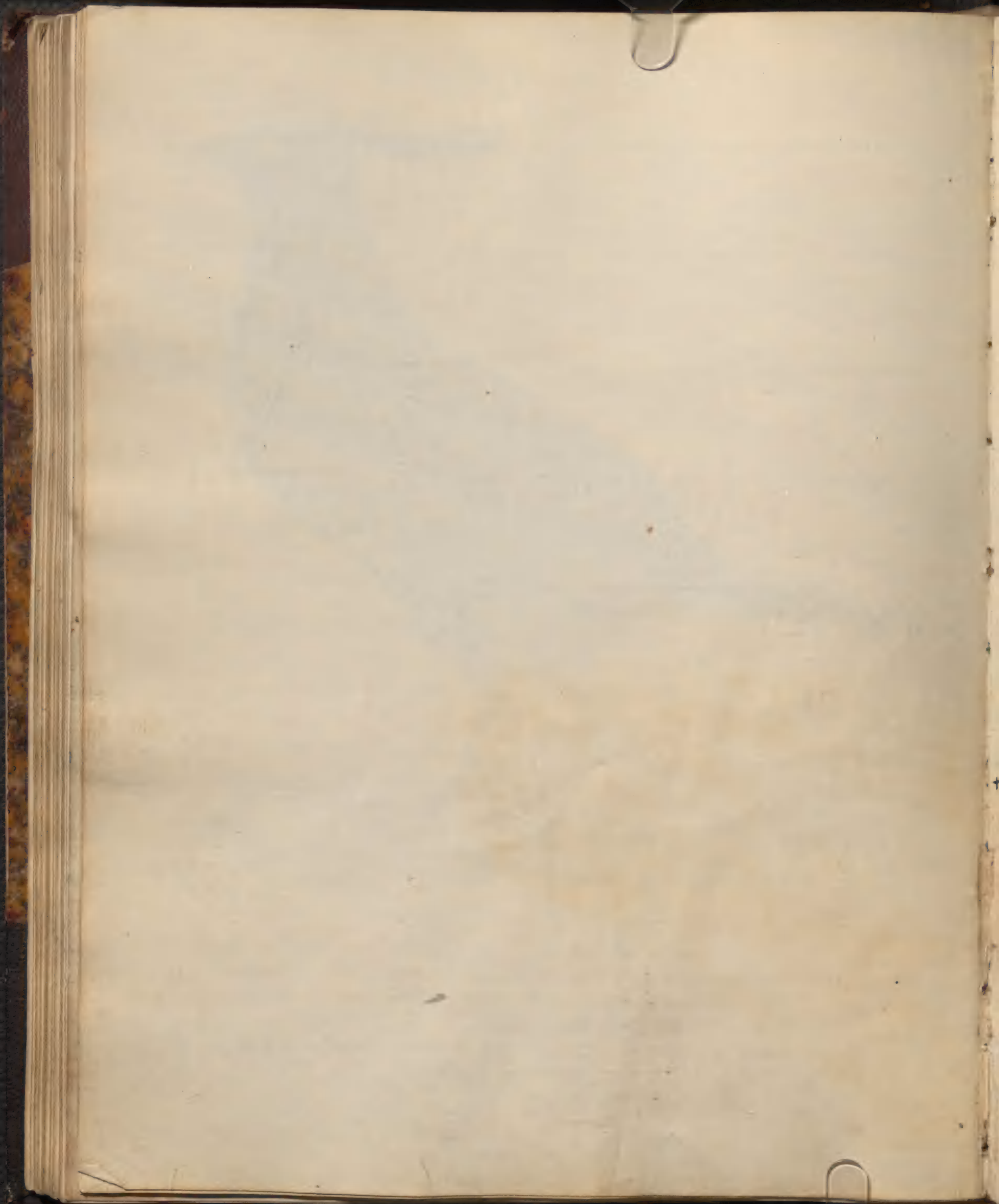
+ June 5th. Half size. very correct.

Killed at Pokree in Nagpore.

Length 14 - 9 $\frac{1}{4}$ - Bill 1 $\frac{1}{10}$ - Broad 30 - Perpend^r. 14 - inches. Inner wing coverts light blackish brown, with white shafts & edges. Quills all alike. Tail 16. Tail coverts 8.

Toes 1, 2, 3, 4 joints. Middle membraned to inner, as far as 1st; to outer as far as 2nd joint. Spur $\frac{1}{2}$ an inch. Thigh but very sharp.

Found all over Gushwall, on ridges from 5500 to 8000 ft high. Called Koklas or Fuklas.



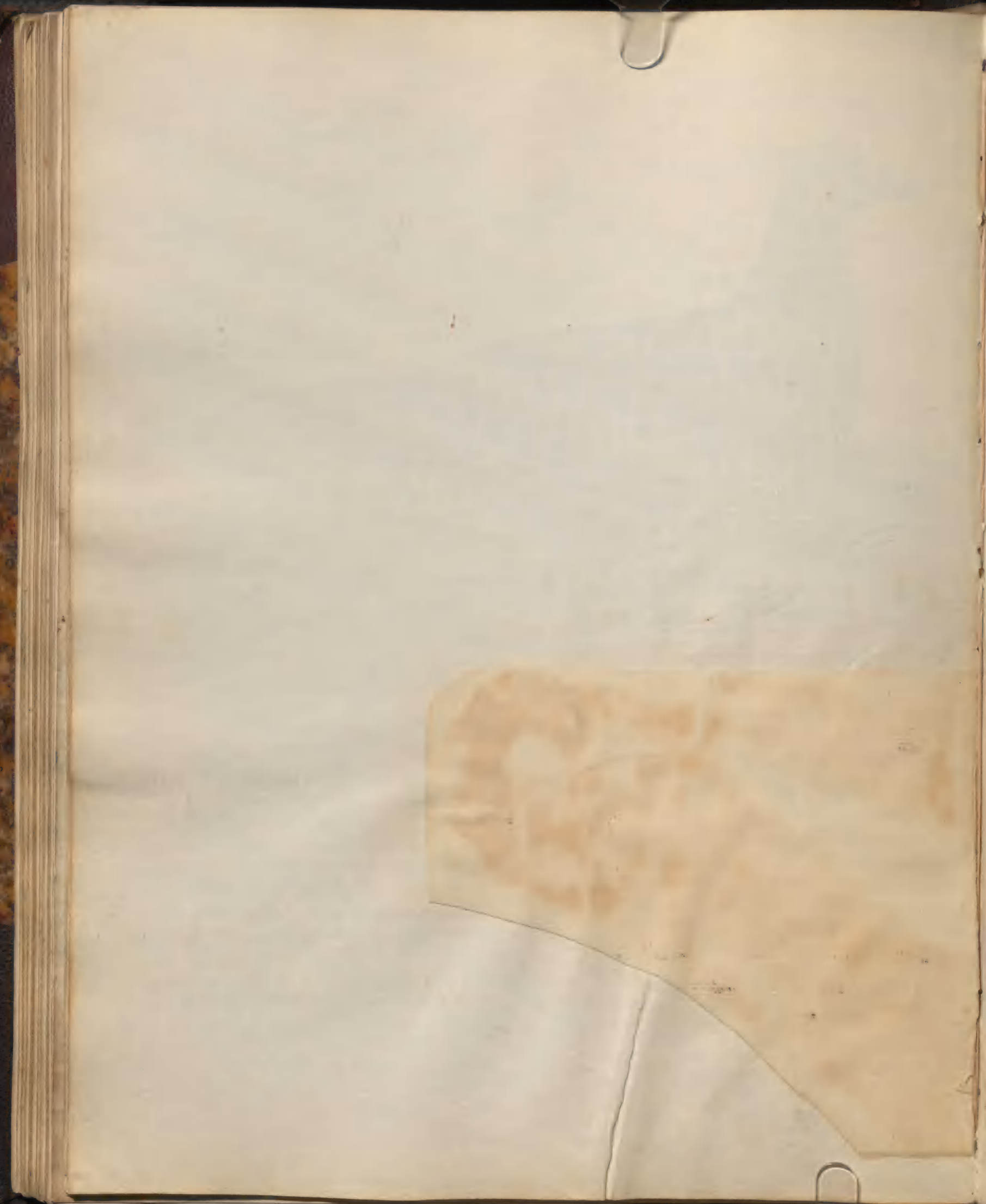


+ a copy of Fig 1. Pl. 1, that being not well done. Common Kalij Pheasant (*Gallus leucomelanus*).

Poorce Aug 16. 1828
a little less than half size.

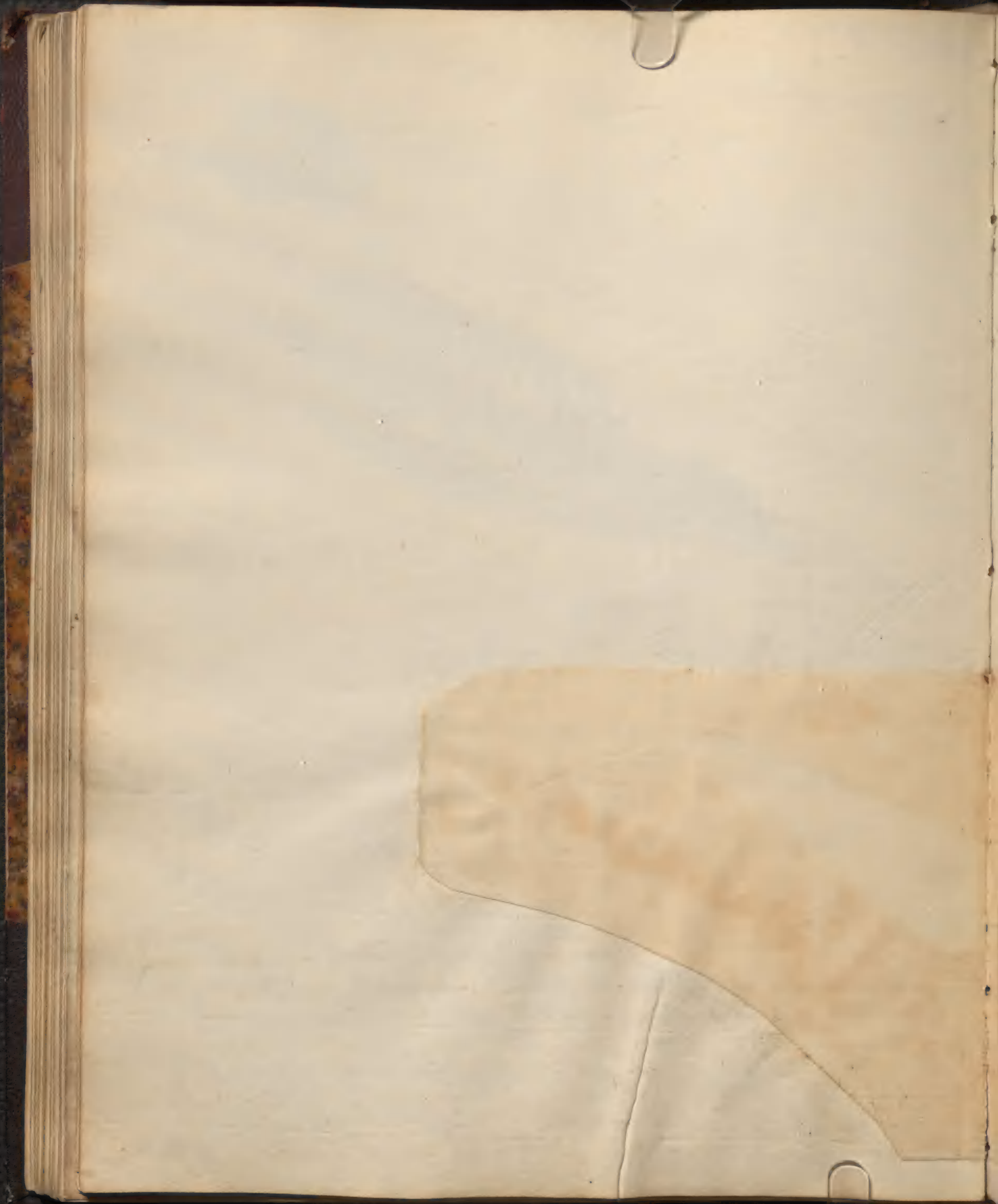
A difficult bird to draw. But on the 3^d trial, this is pretty well done. The general color is a mixture of black, green, blue, & brown. Not only in different birds do different colors predominate, but in different lights, the same bird will appear different. The lower part of back & rump, has the feathers dark ash at the root (as indeed the feathers all over are,) then blue black, like the rest of the body, but the contrast of the white makes it appear darker; with $\frac{1}{4}$ inch of the end of each white.

This appears to be found all over the hills from Nipal, up to the Sutlej, both in hot & cold places. When a flock is disturbed, they start off, making a curious noise compounded of cackling, hisping, & chirping.





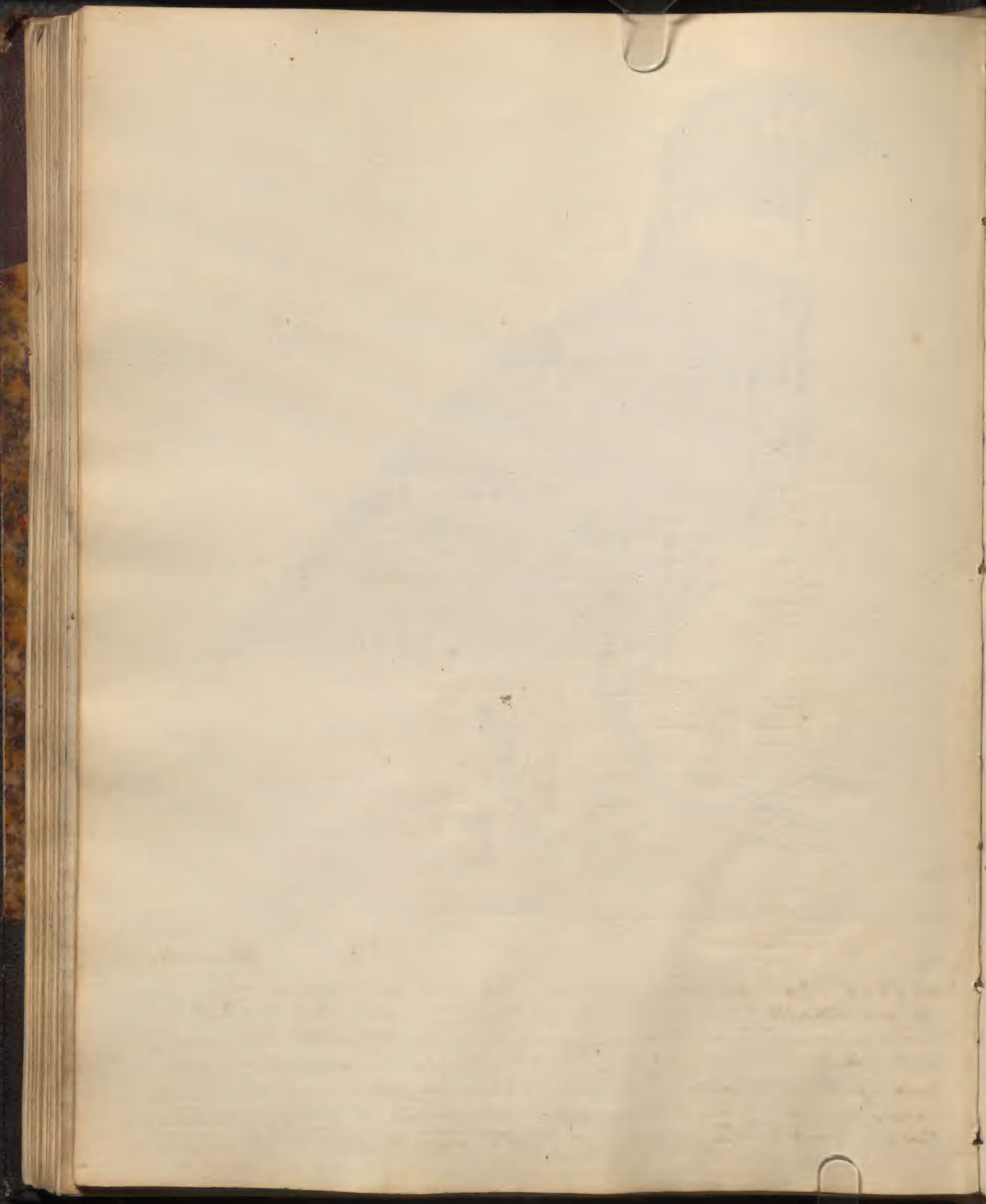
length $8\frac{1}{2}$ - $5\frac{1}{2}$ - - 27 inches. Inner-wing-coverts pure white. Tail 12
 slightly rounded. Killed in June 1827 near Kedarnath, not far from the per-
 petual snow. Called Tānkulū. two thirds size.





three fourths size.

Length $2\frac{1}{4}$ - 3 - $9\frac{1}{10}$ - $18\frac{1}{2}$ - inches. high 9. inch - Tongue soft, short & rounded. Sides like breast, with white & rufous dashes. The pink round the eye is bare & carunculated. The side feather shows those of the rump. back the same without the spot. Inner wing-coverts smaller like the back, larger light brown with white ends. Tail 14. hidden by the coverts. Found in Gorkhwall from 5000 to 9000 feet, i.e. where snow falls in winter. Called Picorã. makes a large nest of grass. Greater quills chocolate brown with light rufous or buff edges. Toes unmembraned together up to the first joint. Middle toe $1\frac{1}{2}$ inch long.



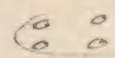



+ Thence. Nov. 11. 1828.
Full size.

Length $8\frac{3}{4}$ - 4 - $\frac{3}{10}$ - $19\frac{1}{2}$ - Tail 8 - inches.

Fig 1.

The Black partridge, - Tectus.

Length $10\frac{1}{4}$ - 4 - Bill $\frac{15}{16}$ - Broad $19\frac{5}{8}$ - inches. Tongue soft fleshy. Nostrils at the bottom of a projection. The black on the throat & belly has a fine gloss. The black of the belly extends to the vent, which is rufous, grey, & brown mixed. Inner wing coverts light black, light brown and white mixed. The shoulder and lower part of neck feathers have some two some four spots of white  like this. Those of the sides of the body have the same but placed like this . The lowest only being seen, owing to the overlapping of the feathers. Tail 12. the root end barred like the back. $\frac{1}{3}$ of the tip ^{ends} black. It is hid completely by the coverts.

Toes 1. 2. 3. & joints. Middle membraned to both the others up to the 1st joint. The cock which this is has a small knob in place of a spur.

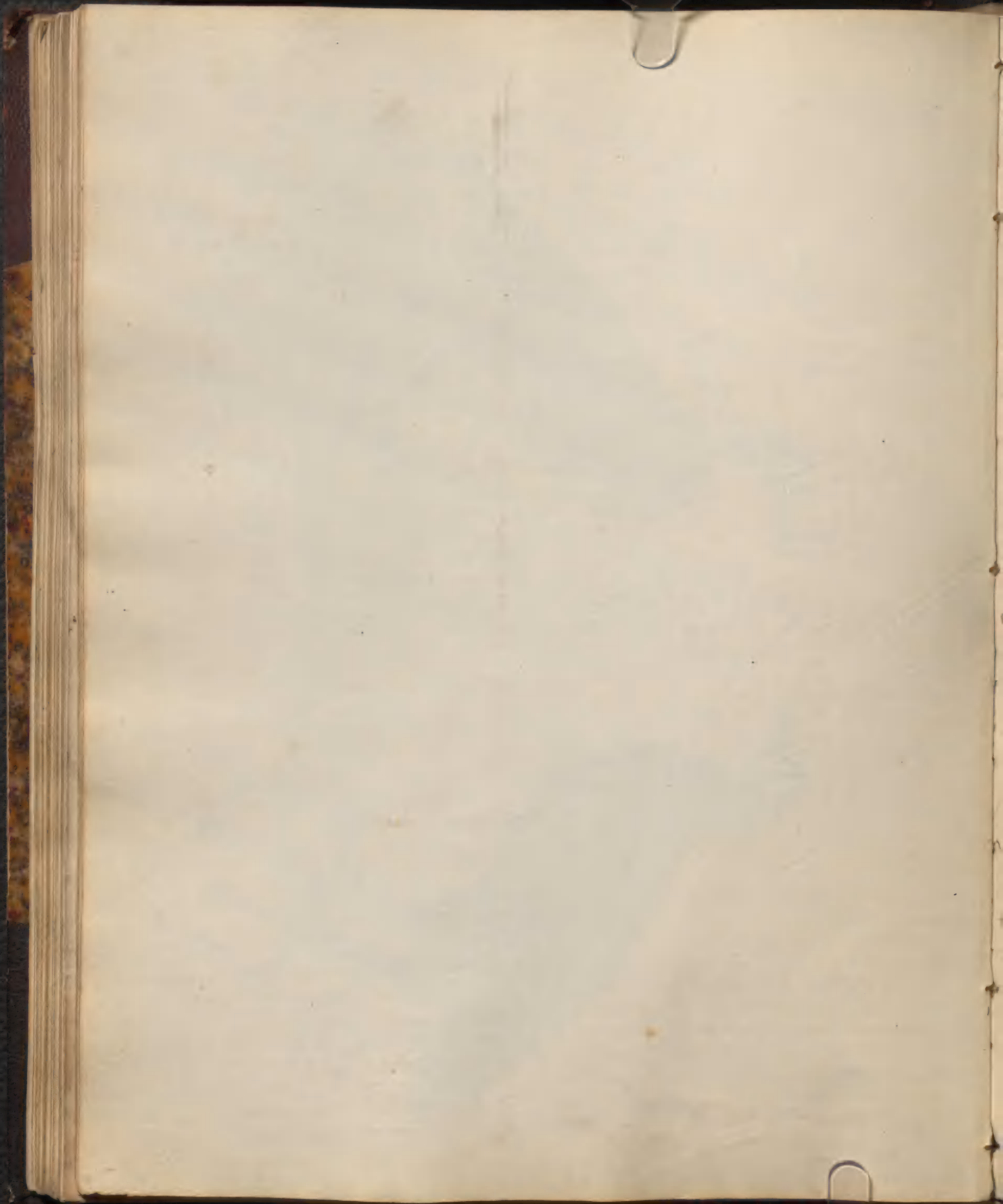
Drawn half size.

Half size by scale.



Black Partridge (*Francolinus francolinus*). ♂ & ♀
 The Francolin Partridge of Latham. Vol. 8. p. 272. *Var. A.*

Fig 1. July 5th 1828





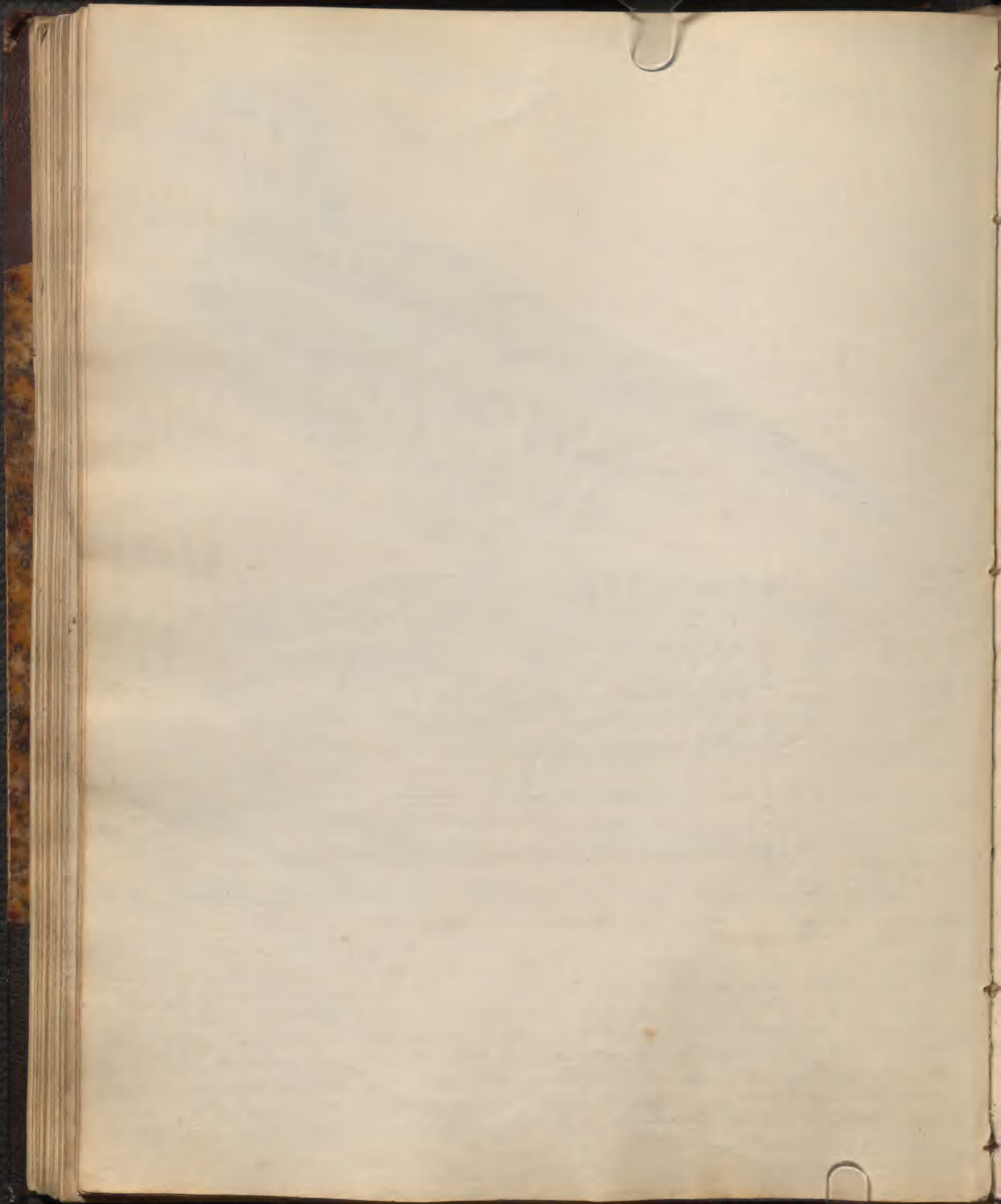
June 25. 1828. Florence.

Very correct. $2/3$ size. by scale.

The Barbary Partridge of Latham. Vol 8. p.

Chukor (*Alectoris graeca*).

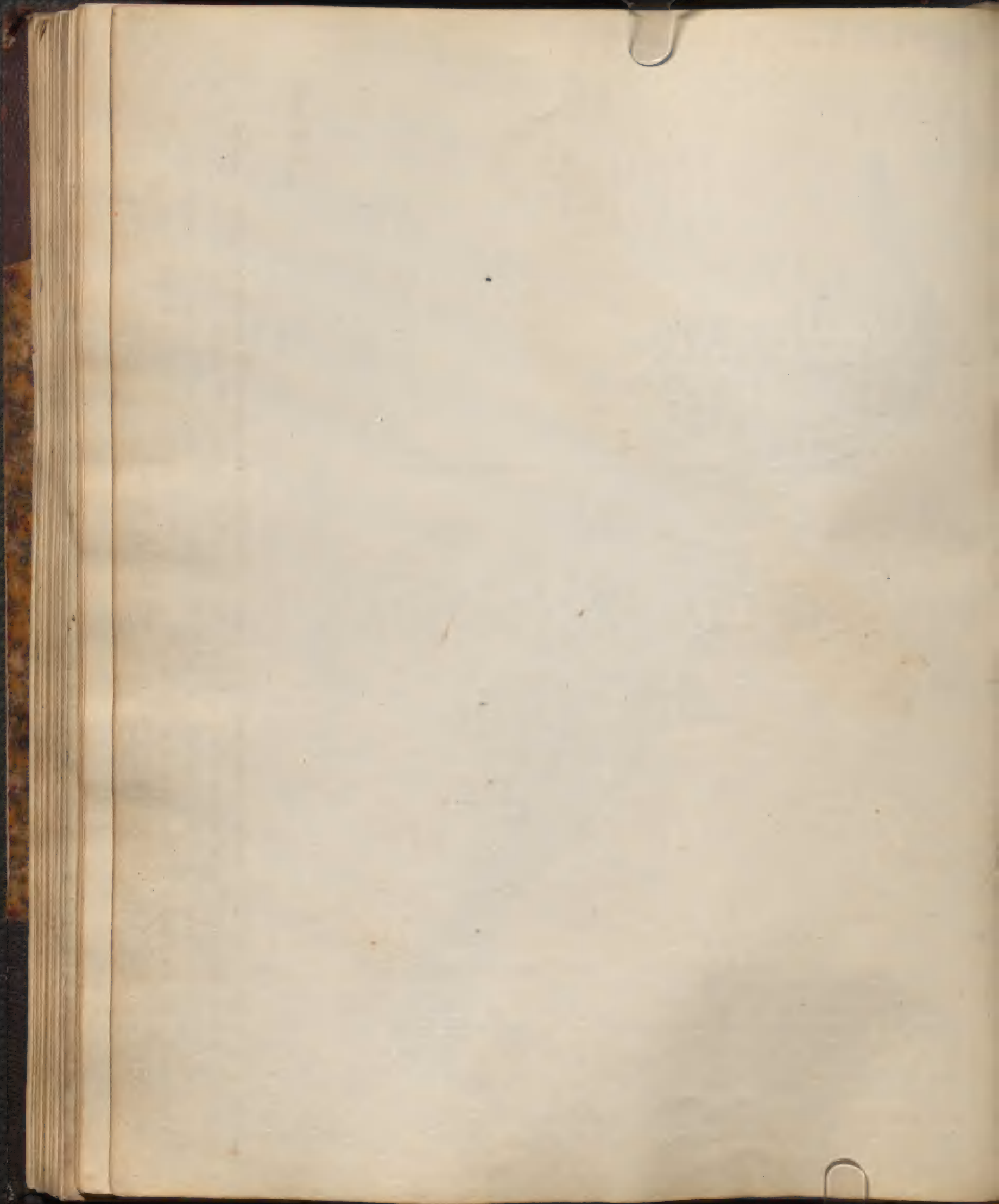
Length $9\frac{3}{4}$ - $4\frac{1}{8}$ - $\frac{7}{8}$ - $20\frac{1}{2}$ - inches. Perpend? $8\frac{3}{8}$. Quills brown, with buff shafts, and buff edging to some of the outer quills near their ends the very ends being brown. The feathers of the sides of the body on which the stripes are, are very long. inner wing coverts light buff. Tail 12. the four middle. color of the back - rest are that color for the not half, reddish brown at the end half. Toes 1. 2. 3. 4 joints. Middle one webbed to both the others to the 1st joint. Hind toe, seems not be used on level ground. The colors of different birds, vary much, both in intenseness, & even in the shades, particularly in the upper parts. This was drawn from a live bird in a cage for the shape, the color & measurements taken from a fresh killed wild bird. Sometimes the wing shafts under the striped feathers at the side of body, instead of covering them.



Full size.



Length $7 - 3\frac{3}{4}$ - $1\frac{1}{8}$ - $16\frac{7}{8}$ - inches. Irides broad, pupil small. Each quill has about its centre a patch of white on the inner web. Inner wing-coverts smaller pure white, larger brownish black tipped with white. Sides of body like the breast. Belly, vent, & under tail coverts white. Tail 12 all but the two middle tipped with white, more towards the outer ones; the outermost had an inch of the inner web white, at the end. + the two latter having a slight fringe of cream color, & the very tips of the feathers light brown. Found in the Sherre Door.

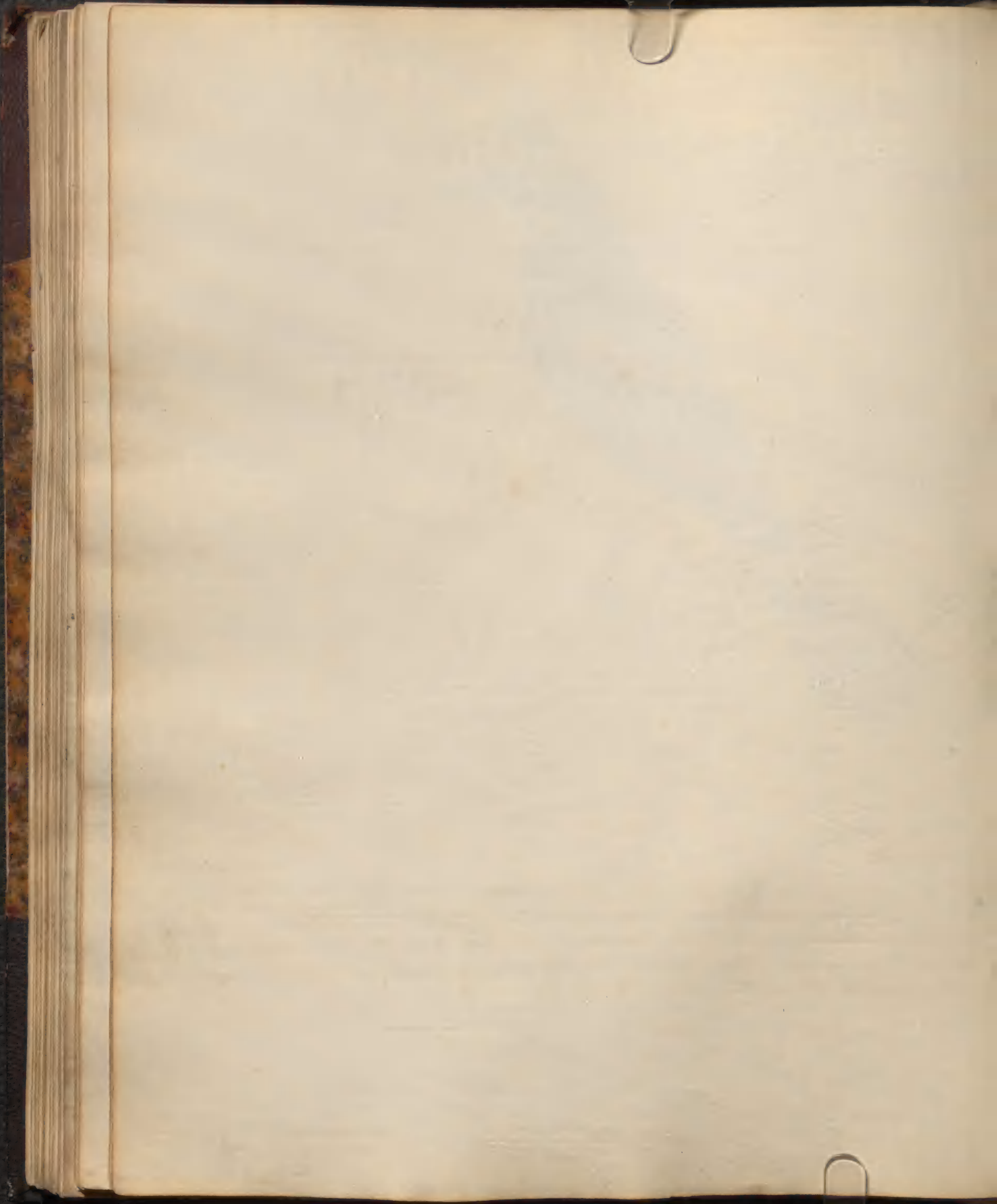




Rajmuhil 23 March.

Full-size. Sc.

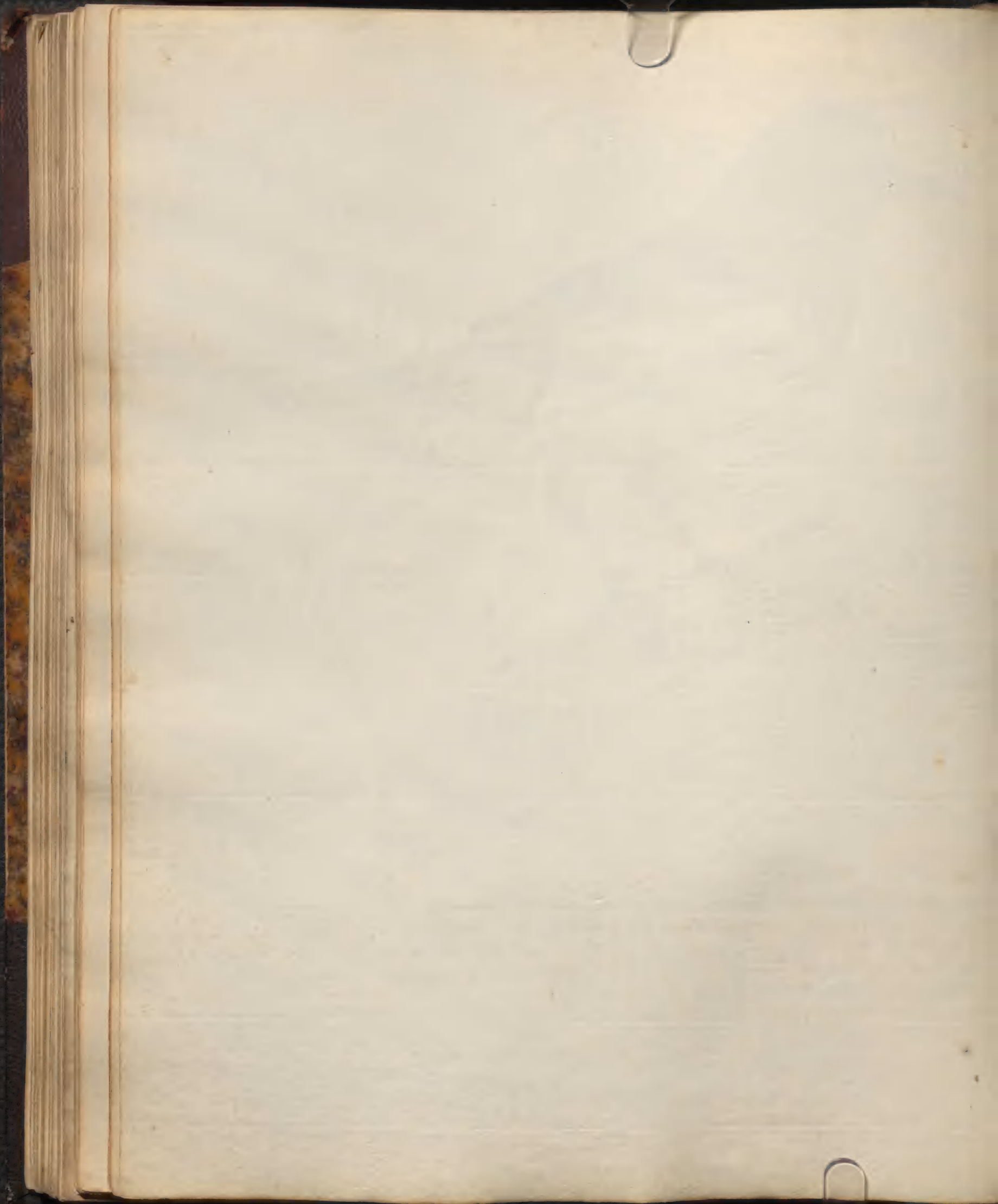
Length $4\frac{1}{2}$ - $3\frac{1}{2}$ - $3\frac{1}{4}$ - 11 inches. Bill has a notch. Tongue fleshy at root, horny at tip & divided. Bill is compressed, Nostrils in a slight depression on each side. Inner wing-coverts white. Sides like the back, gradually blending with the white belly. Tail 12 all but the two middle tipped with white, outer ones most. Toes 1. 2. 3. 4 joints. Middle & outer joined to 1st joint.





Fresno, Oct 5. 1828
Full size, correct. +

Length $5\frac{1}{2}$ - $3\frac{3}{4}$. 1 - 12 - inches. Bill has a notch. Tongue thin, flat, divided at the end.
The 4th & 5th quills from inwards have the whole breadth of outer web white at root, narrowing towards the tip. Tail 12. 3 outer all white except just the root black. 4th the same with the black reaching up the inner web a little way. The 4 middle all black. Toes 1. 2. 3. 4. Middle joined to outer to 1st joint. Nostrils previous.





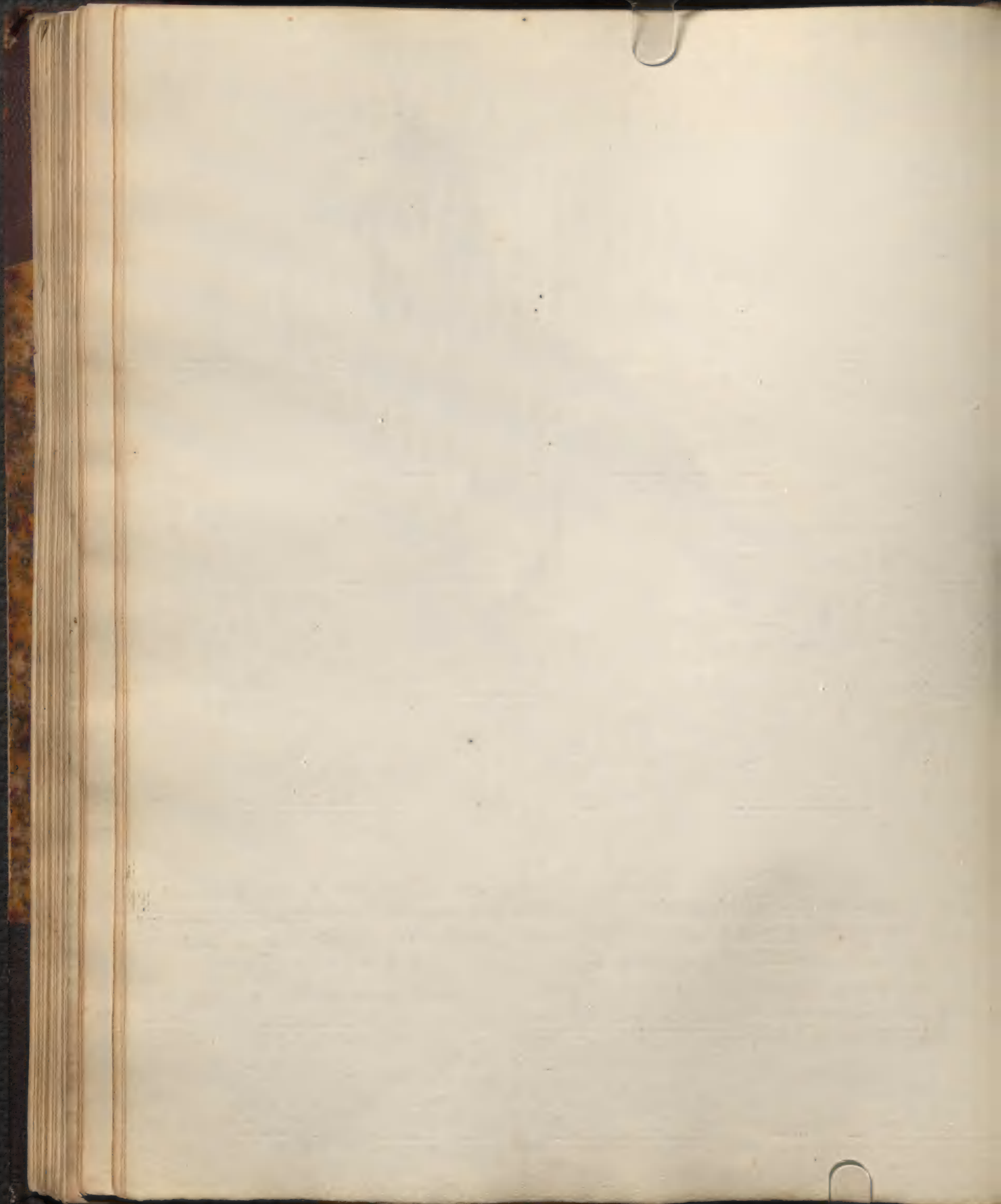
Thomson Octr. 1828.

Full size. Correct.

Length $4 - 3\frac{3}{8} - \frac{3}{4} - 9\frac{1}{4}$ - inches. Bill has a slight notch. Tongue sharp, thin, & divided at the end. Inner wing coverts ~~fringe~~. Belly white with in some a greyish greenish fringe. Under side of tail feathers blackish slate color. Under tail coverts yellow. Toes 1. 2. 3. 4 joints. Middle & outer joined to 4th joint. Tail 12 -

Found in the Doon & most parts of Gushwall & under the hills; goes on the cool ridges in summer, comes into the valleys in winter.

Some of these have the tail much more cuneiform.





Poorce. Sept 26th. 1820.
Full size. correctly drawn.

Length 5 - $3\frac{3}{8}$ - $9\frac{1}{10}$ - $12\frac{3}{4}$. Bill has a slight notch. Tongue flat, thin, horny, sharp pointed, & divided for some way. Lower part of back rump, & vent, dirty white. inner wing - covered the same. Toes 1. 2. 3. 4 joints. Middle & outer joined to 1st joint.

Found all over Hindostan. called Doolbird in the plains. Raice or Gheer Pinchoo'a in Serkwall.

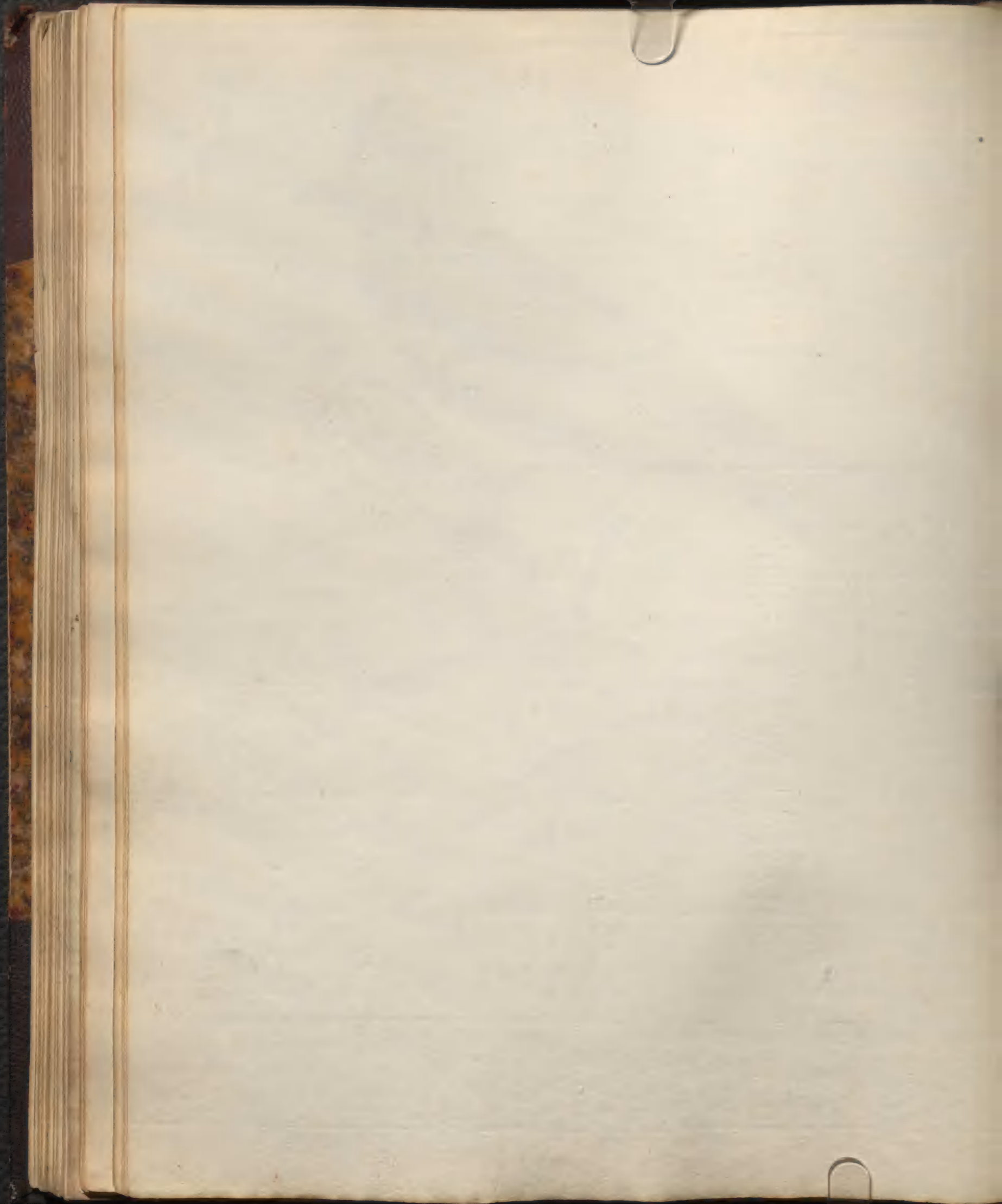




Fig 1. Pääree Sept 20. 1828.
Well done. Full size.


Length $3\frac{7}{8}$ - $2\frac{1}{2}$ - $\frac{1}{2}$ - $9\frac{1}{4}$. inner wing coverts light greenish white. rump like back. Tail 12 making a sort of festoon like  Does 1. 2. 3. 4 joints. middle joined to outer to 1st joint. Tongue horny & divided at the tip. rest fleshy.

Fig 2.

Fig 2. A very little longer, but a much stouter & fatter bird. From the breast, downwards, & inner wing coverts, grey-ish-creamish-white. Characteristics of bill, tongue, & toes the same. Legs & feet rather darker color, with a reddish-brown tinge. The people say they are male (the red one) & this the female. I saw a flock together, & shot 2 red & 3 of the other sort. has the manner of sparrows. Called *genöörä*, *genduuru*, *toome*. common names of several sorts of Finches.

Builds under eaves of houses. nest of grass & feathers. not very large.

Of those I shot some were just finished moulting. some almost finished.

= more of one or the other appearing, according as the feathers lie smooth or ruffled.
Does as usual. Called Jungā doobee (river diver) common all over Hindostan, &
Bengal. does not fly very quick. often hovers, & generally seizes its prey from a hover,
makes a screeching noise. The ends of the mandibles are often blunted, as if made so
by continually striking against the ground when catching fish in shallow places.

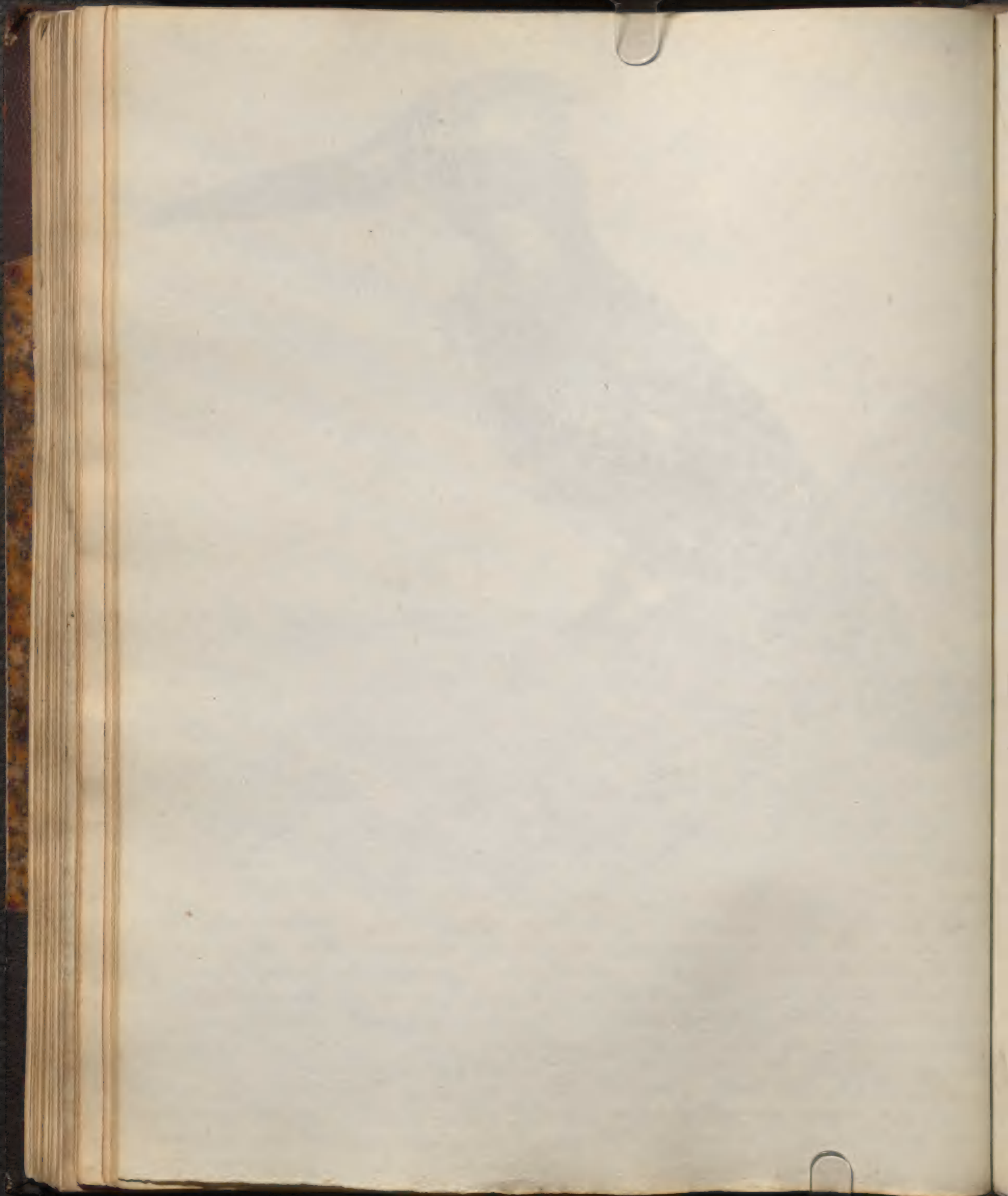
In some the black of the shoulders meet across the breast, and some have even a second
row of black spotted feathers, half an inch below that; making a second bar across the breast.
The white all over has a beautiful silky glossiness.



Therap. Nov. 10. 1828.
 all sized. correct.

Length ♂ - $3\frac{1}{2}$ - $2\frac{3}{4}$ - 19 - inches. Tongue \rhd This size & shape - fleshy. The feathers of the crown and behind & below the eye are long & narrow, black fringed slightly with white. Their roots are dark ash color. The feathers of the back & wing coverts are white, with in some the ends black, in others only a spot of black near the ends, all having a white fringe beyond. Those on the shoulder have not any white fringe, otherwise the same. Underparts pure white, on the sides of body just before & behind the thighs, some of the feathers have a black spot near their ends. inner wing coverts pure white. Greater quills white with black ends. Middle quills black outer webs, & some black on inner webs. tips of both black. Smaller quills white with black patches on the outer webs near the end. Tail 12 as drawn, the outer feathers only having the black broken by a patch of white on its outer web. altogether the black & white have a most irregular appearance =

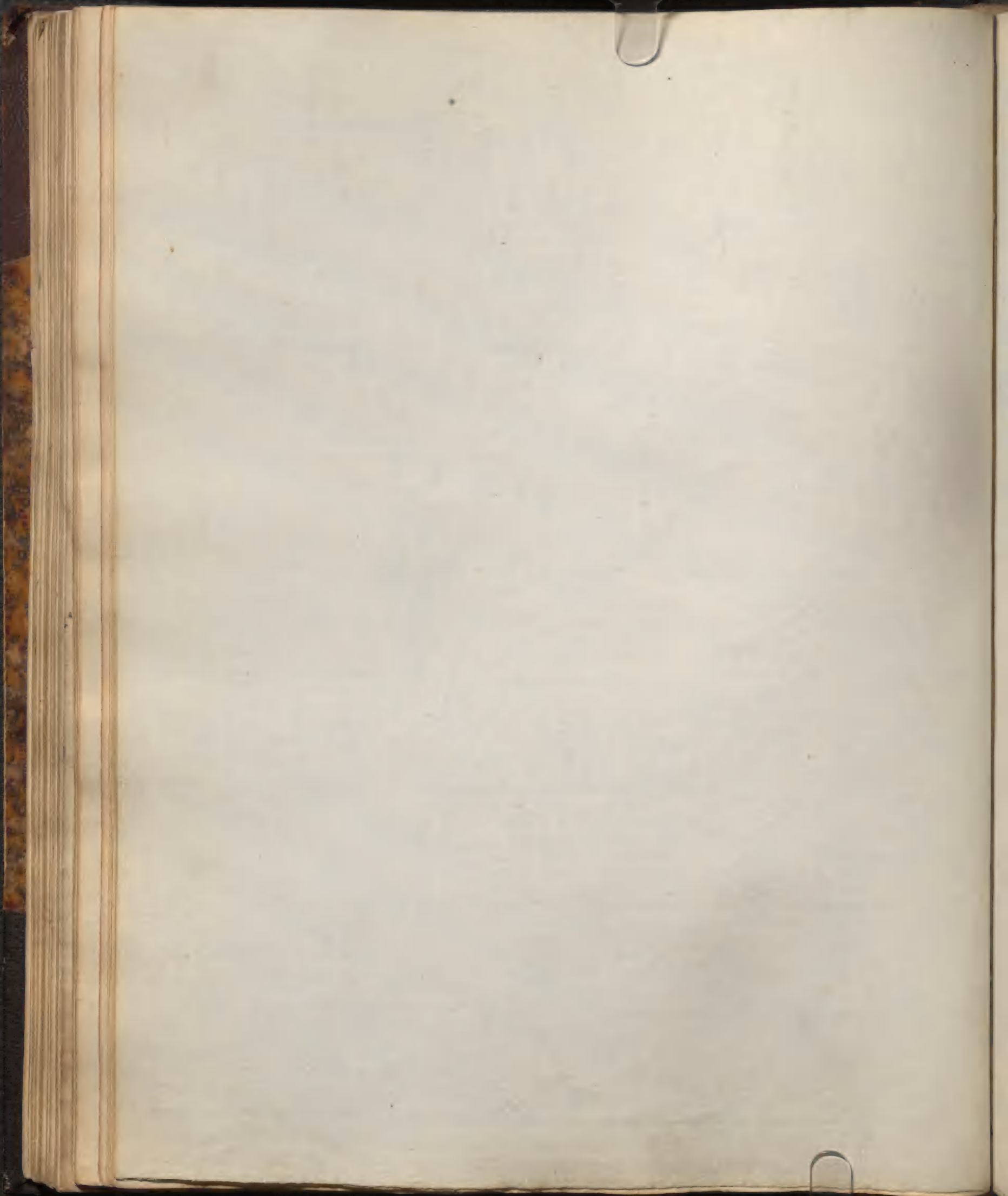
+ one or two have white tips.





* *Phoen. Str. 10. 1828.*
Threequarter size.







Shenou Nov. 8. 1828. +
Full size. Correct.

Pl. 17.

White-breasted Kingfisher (Halcyon leucopygia).

Length $8\frac{1}{2}$ - $3\frac{1}{4}$ - 3 - $17\frac{1}{2}$ - inches. Gape very broad. Under tail coverts & inner wing coverts like belly. sides of body the same. Greater quills are black on the end half, on root half the outer web is light violet blue, inner web white. The black extends, till the middle quills have only the tips black. The smaller quills g. v. Tail 12. Tars as usual. The tint of the blue is difficult to fix, appearing in different lights blue, blue-green, or green. has a silky glossing. Found in the Doon, makes a loud screeching noise. Edge of inner webs of tail feathers blackish. some of the smaller quills are the same.

Fig 1.

Killed near Suhr Meerpoor.

Length $12\frac{1}{4}$ - $3\frac{1}{8}$ - Bill $1\frac{5}{8}$ - Bread $24\frac{1}{4}$ - inches. The upper mandible hollow. The under nearly flat, and shuts in under the upper one, so that only the root of the under one is seen. The green of the head and wing, appears in some lights blue, in others purple. Sides of the body just under the wing, like the back. Upper part of belly white with a slight dash of yellowish fawn color. Lower part the same with some light ash colored bars. Vent ~~the~~ same. Under tail coverts, the middle ones black, the sides fawnish yellow, and some of the longest close to the tail are black tipped and edged with yellowish fawn color. ~~Hook~~ like this and pointed. Upper tail coverts like these last. Tail (which is almost hidden by the coverts.) color of quills. Feathers much pointed. contains 16 feathers. Toes 1. 2. 3. 4 joints. The black of the tail coverts (upper) has in some lights a tinge of purpleish blue.

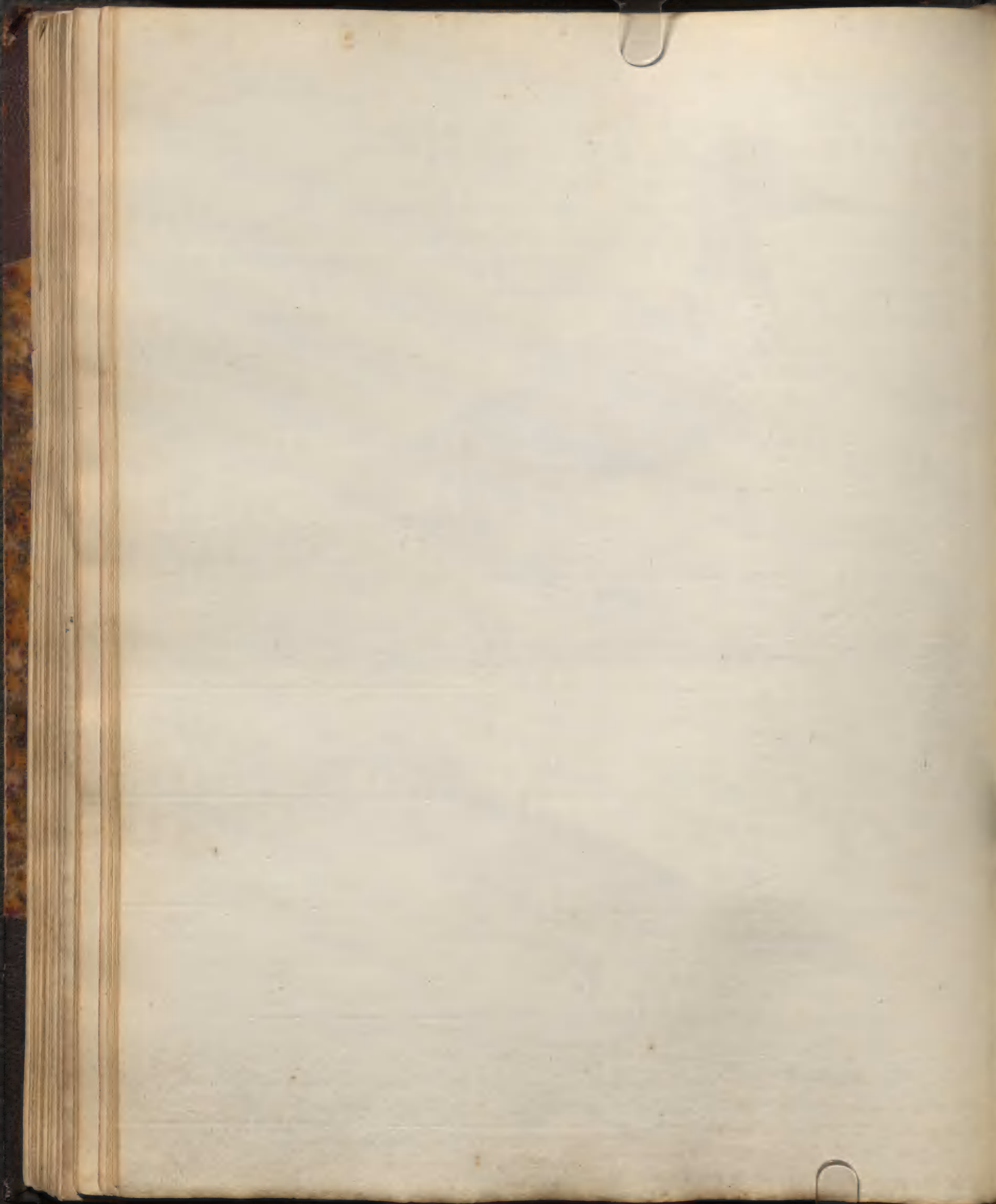


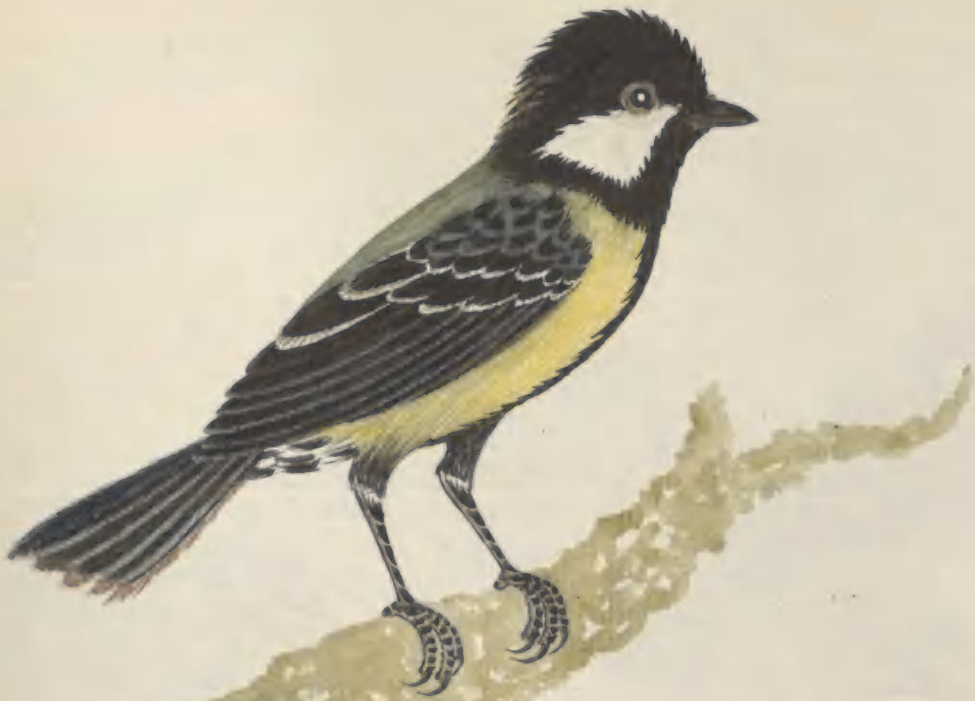
Fig. 1. July 29. 1828.



Full size.

Length $3\frac{3}{4}$ - $2\frac{1}{3}$ - $11\frac{1}{4}$ - inches. Nostrils fenestrate. Bill like a lark's. inner wing-coverts yellowish green. Tail 12. the outer white on most of the outer web & part of the inner. the 2nd white at the tip. Killed at Kedarnath under the Himachyals in June, with snow still on the ground. Called by the people there Sarrince.



Fig 1. Pááree Oct 9th 1828.

correct. Full sized.

Length $2\frac{7}{8}$ - $2\frac{1}{4}$ - $\frac{1}{2}$ - 8 - inches. Tongue flat, thin, horny at the end & bristled. Nostrils hid under projecting hairs. Inner wing coverts white - edge of inner web of quills whitish. upper tail coverts dull light blue. under black at root, white ends. Tail 12. The outer has a white outer web. The others light blue inner webs all black & all tipped with white. Toes 1, 2, 3, & joints, middle & outer joined to 1st joint. I saw a great many on the ridge between Pááree & Cólka. both of this which I suspect to be the female, & of Fig 2. which is perhaps the male.

Fig 2. +

Fig 2. $3\frac{3}{4}$ - $2\frac{3}{8}$ - $\frac{5}{8}$ - $9\frac{1}{4}$ - inches. irides hazel (not quite correct in drawing) black of breast extends to vent, broader on the belly. Sides of body light greenish yellow. under tail coverts the same. under side of tail & wings light blueish slate color. roots of all body feathers ragged, light blueish slate color. Tail 12.

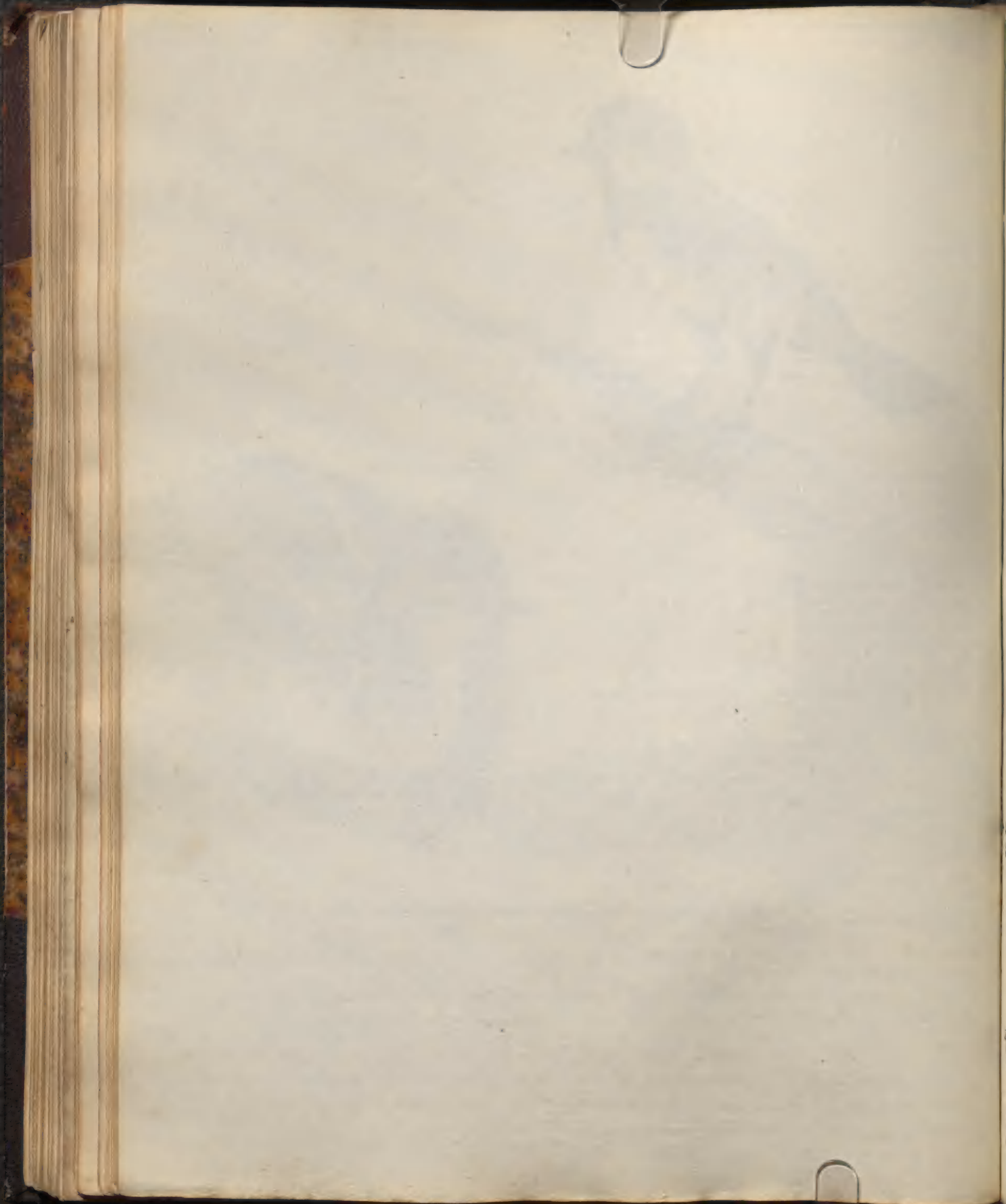


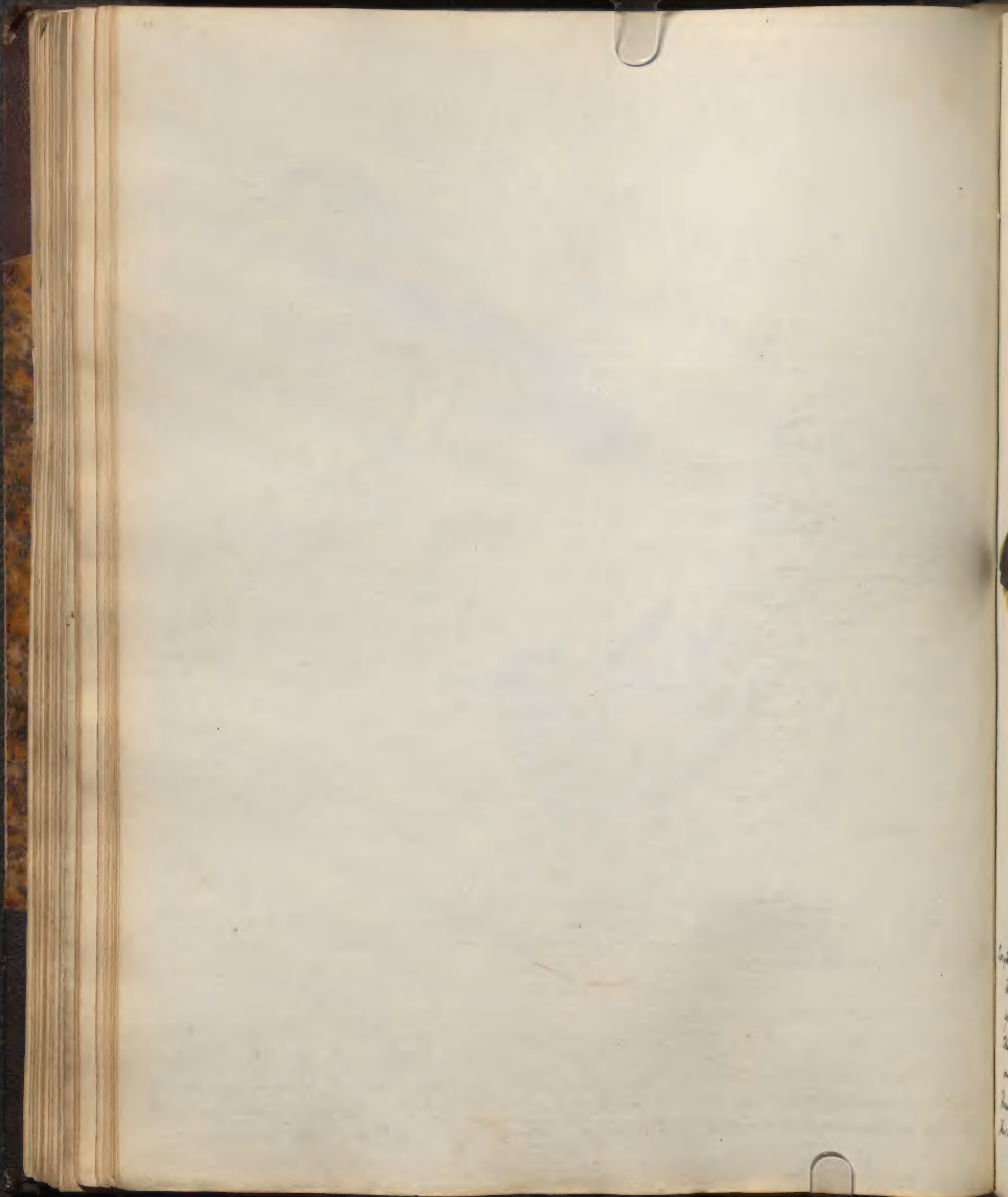


Fig 1. +
Shore. Nov. 3. 1828.
Full size, correct.

Fig 2. Shore. Nov. 1828.
Full size.

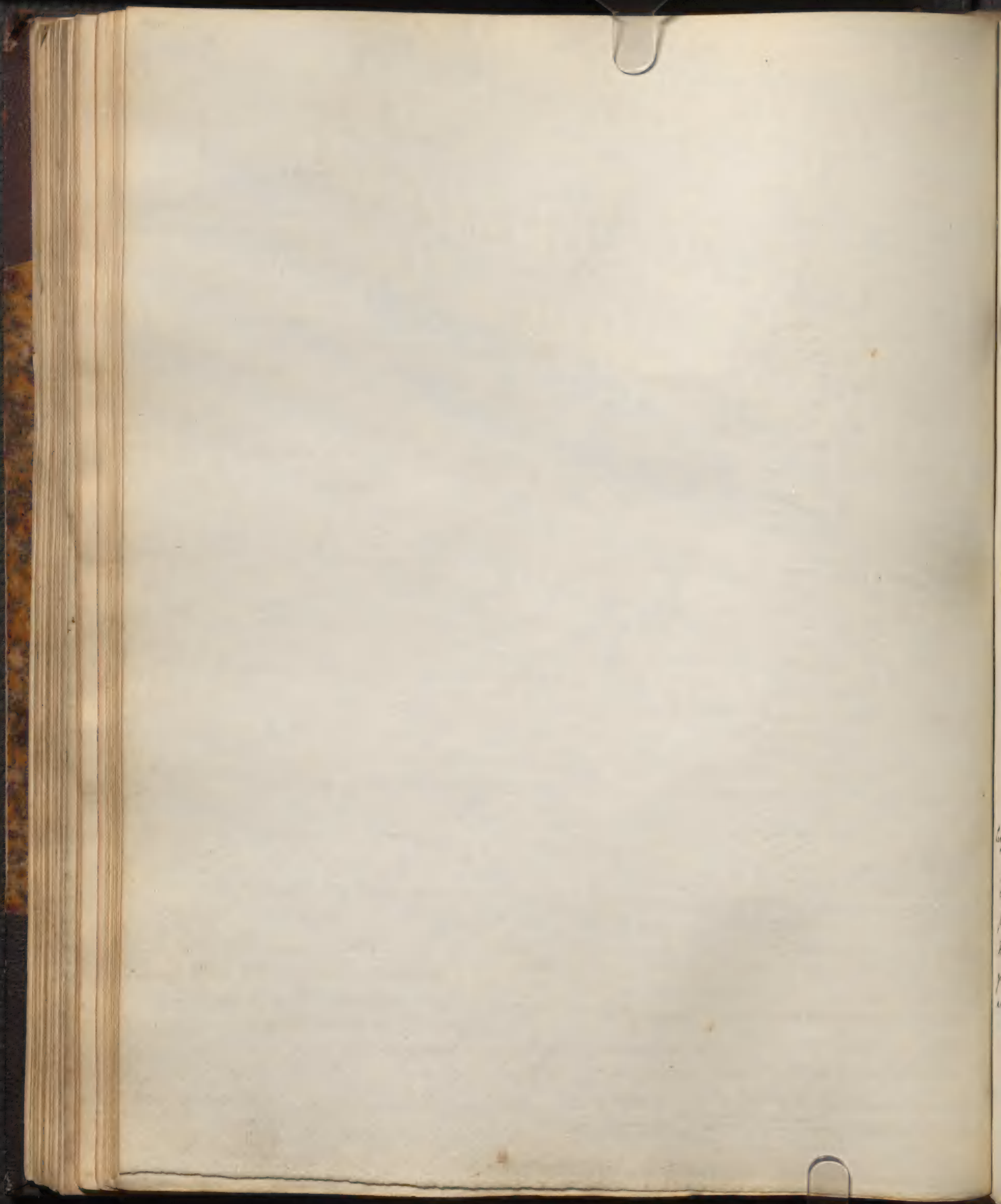
Fig 1. Length 3 - $2\frac{1}{2}$ - $9\frac{1}{16}$ - $8\frac{3}{4}$ - inches. Bill like a warbler. Tongue flat, thin, horny, & divided to the end. Inner wing coverts like throat. Belly & below peculiarly delineate silky white. Tail 12 - Toes 1, 2, 3, 4 joints. Middle joined to outer to 1st joint.

Fig 2. Length 3 - $4\frac{1}{8}$ - $\frac{1}{2}$ - $9\frac{1}{4}$ - inches. Bill like a fly-catcher. Tongue thin very flat, pointed, & horny. Under parts wholly like breast. Tail 12 - Toes 1, 2, 3, 4 joints. Common in the valleys of Suckwall, & under the Hills. Takes short flights, continually hopping from twig to twig, very instant opening & closing its tail like a fan. Called Takoollea. Female a little lighter color. Builds in holes in the stone field-walls. Lays four eggs yellow, black & white irregularly mixed.






Length $6\frac{1}{2} - 3\frac{1}{2} - 1\frac{1}{4} - 15\frac{3}{4}$ - inches. Tongue flat, horny, & bristled at the end. Eye-lids cinereous.
 The wing patch is by the ends of 5 or 6 of the longest coverts being yellow. Inner wing coverts
 yellow. Breast feathers of some have a light grey or cinereous stroke down the shaft. Tail 12.
 The two middle yellow at the root, gradually darkening towards the end. Middle &
 outer toes joined to first joint. Claws hooked & sharp.
 Found all over Persia, Turkistan, & India in general. in short,
 this & that in pl. 23. are probably varieties, or differences of sex.

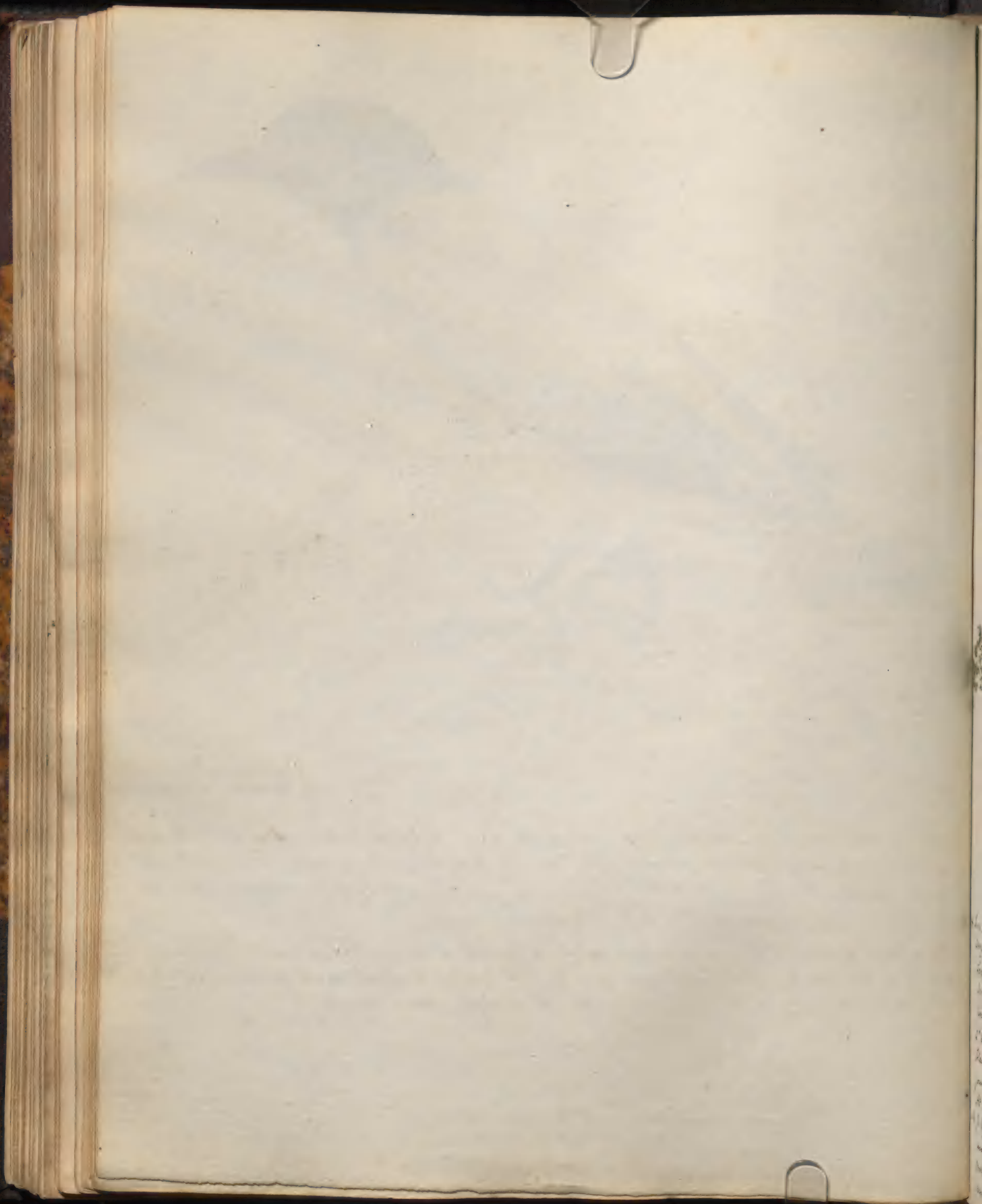




Hardwar. Nov. 13. 1828.
* Full size. See Vol 1. Pl. 33

Length. 6 - 3³/₈ - 1³/₈ - 17 - inches. The patch on the wing is by the ends of 5 or 6 of the tips of the coverts being yellow. Inner wing-coverts bright yellow. eye-lids light slate-color. Tail 12. The three outer black only on outer web. 4th  has a patch on inner also. 5th & 6th black all across.

These birds differ a little. some have in some lights a tinge of very light blackish green on the back. The quills are more or less tipped & edged with yellow, so light as to be sometimes almost white. & the tails differ considerably.

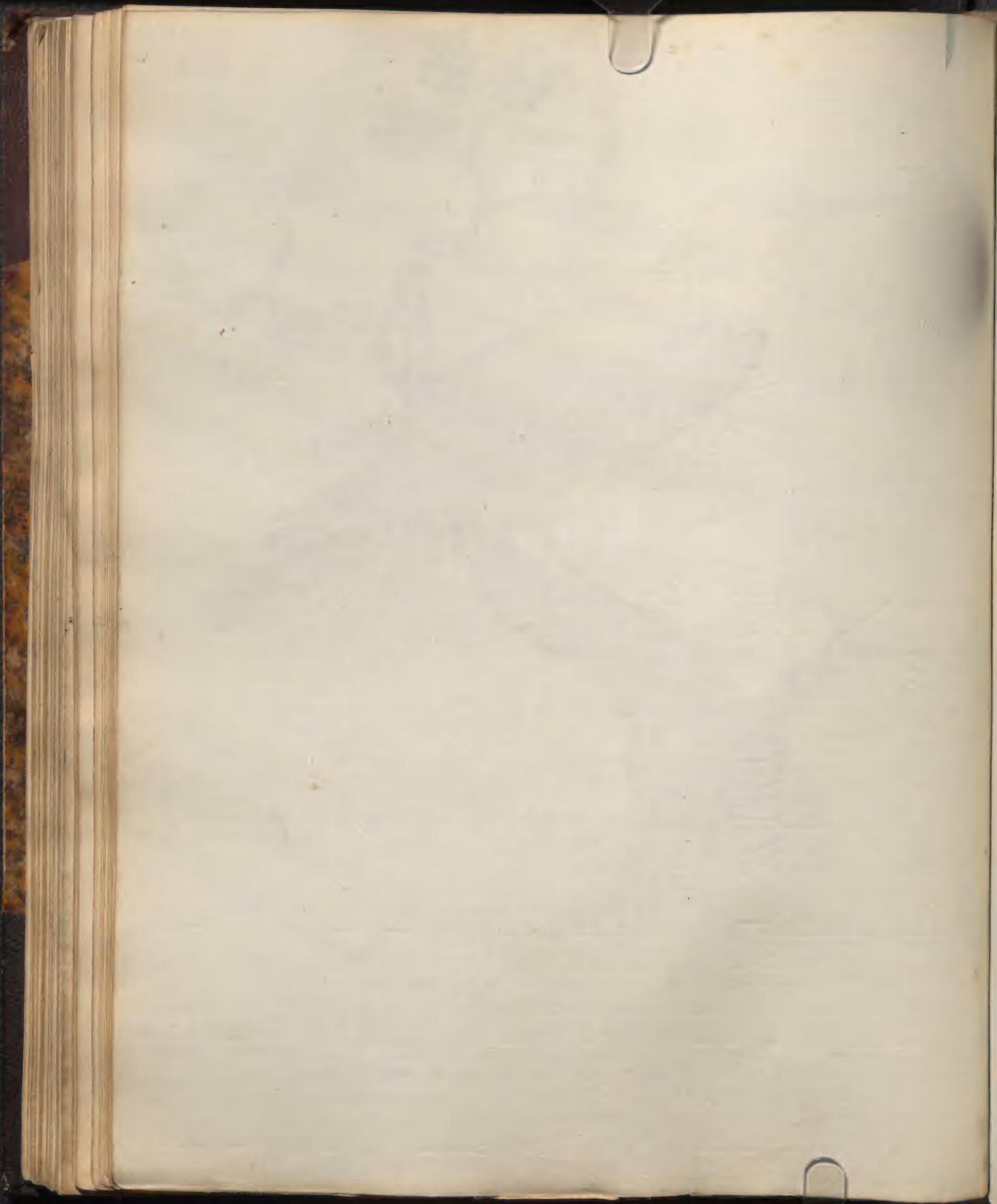




† June 26th 1828. Killed at Frenequier.

Very correct. Full size.

Length $5\frac{1}{4}$ - $3\frac{3}{5}$ - $1\frac{1}{4}$ - $15\frac{3}{8}$ - inches. Bill hooked, with a small notch. nostrils in a shallow hollow. Tongue, thin, flat, horny, divided; & each division bristled. Eye lids light blue grey. irides red. wings fine dead velvet black. lighter on outer quills. inner half have yellow tips. 3rd & 4th edged with light yellow. 2nd & 5th just perceptibly so. inner coverts yellow. Tail 12. two 1st & 2nd as drawn, 3rd has a little black on inner web. 4th a little more, 5th all inner web black but $\frac{1}{2}$ an inch of tip. Toes 1. 2. 3. 4 joints. Middle & outer joined to 1st joint. The yellow wing patch is on the larger coverts, not on the quills. At corner of mouth a few just perceptible hairs. The black spot under the eye, is the ear, which is large & bare. N.B. July 4. caught one just leaving the nest. all the upper parts greenish yellow. the feathers of wing coverts and the quills which latter are black, tipped & edged with yellow. Every tail feather has outer web brown, inner yellow. Under ^{part} white, with a silky gloss, & yellowish tinge. and a brown stripe in the middle of each feather. vent yellow.

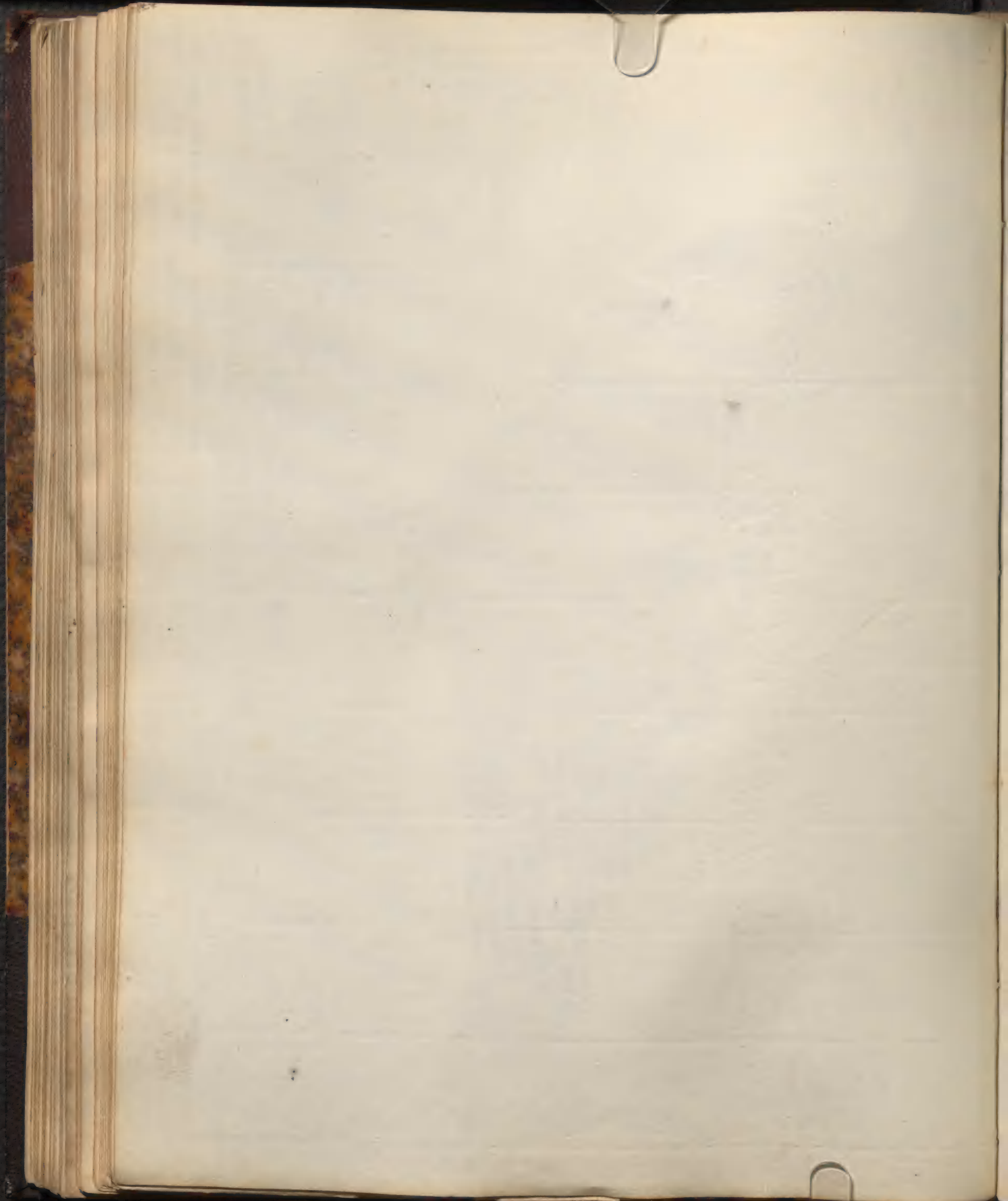




24.
+ Pairce. Aug. 25. 1828.
Full size. Well done.

Length. 8 5/8 - 4 9/8 - 1 - 25 3/4 - inches. The neck & breast is in some light golden green, in other brilliant pink. Tail 12. a little rounded.
inner wing coverts white. Those near the body very long. Toes 1. 2. 3. 4 joints. divided to origin. Tarsus all over Hindoo Tam & Sutchuall.
called jungle suboctor in former. Muller or Muller's in latter. Individuals differ much in intensity of color.

The jungle pigeon
of Linn Oct 8. P. 67.





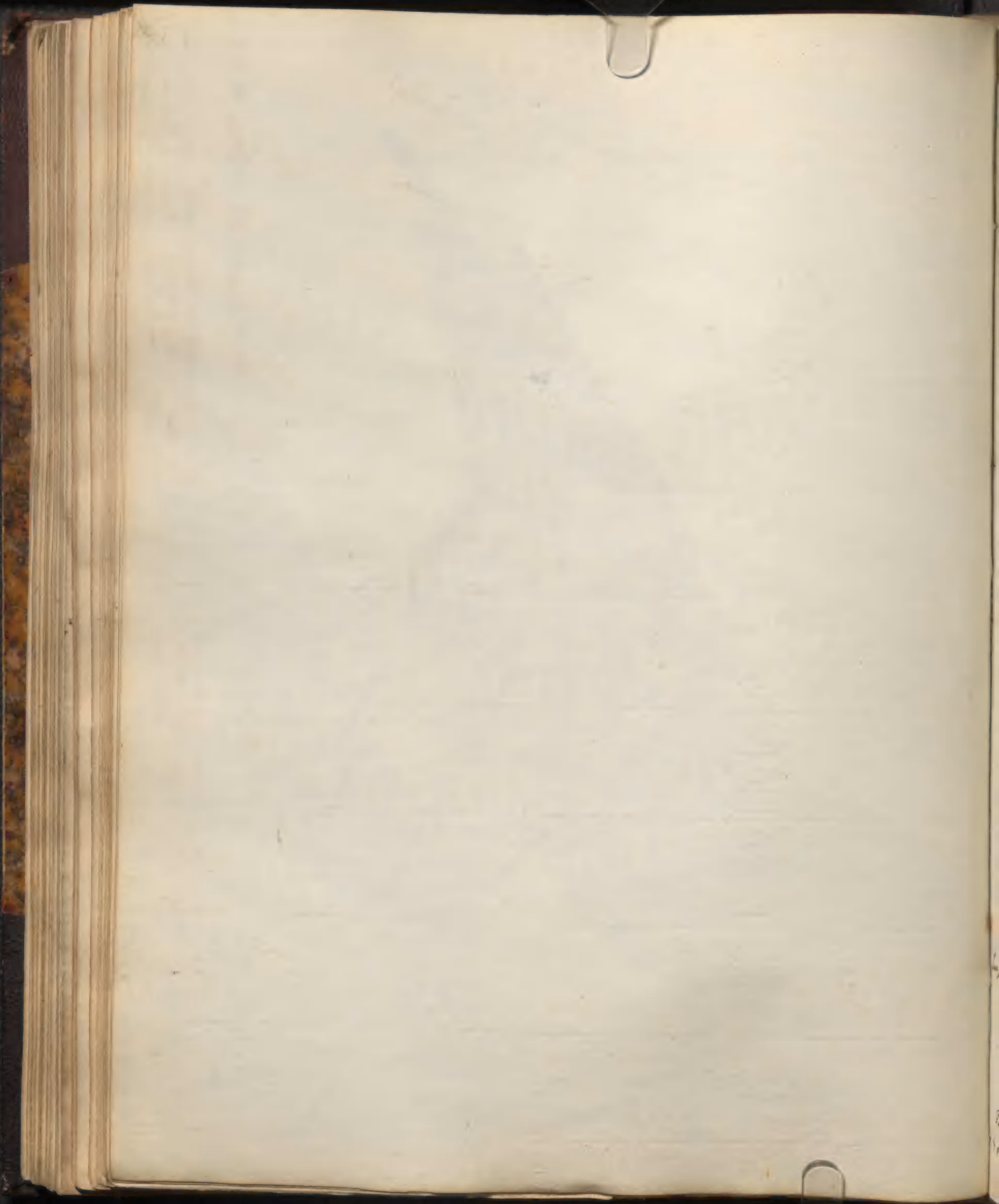
*Fraser's Nuthatch Oct 6th 1828.
 Full size, correct.

Length $8\frac{1}{4}$ - $4\frac{1}{2}$ - $22\frac{1}{2}$ - inches. Feathers of under tail-coverts very large; in some their tips are white. Under sides of tail dark bluish slate color at root half. Very light slate color at end half. Feet 1, 2, 3, 4, joint divided to origin. Builds in trees nest

by Plains, Elainia or Hokla by Hill-people.

The Humeral pigeon of Latham. U. S. P. 76.

Found all over Hindostan, & in some places in Surinam. Called Humeral (green).



See other birds
towards end



Length. 6 - $3\frac{3}{4}$ - $8\frac{1}{10}$ - $15\frac{3}{4}$ - inches. Inner wing-coverts like the breast, but a little darker. Upper part of back brownish-black, hidden by ye wings. The green should be a dark-golden green, the roots of the feathers are black. Greater quills a sort of chocolate-brownish-black, with the edge of inner webs rufous. Under tail coverts, like, but a little darker than, the upper.


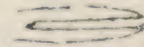
+ Drawn from one killed in a cage & from a living one
Siraj-poor July 19. 1829.
Full size.

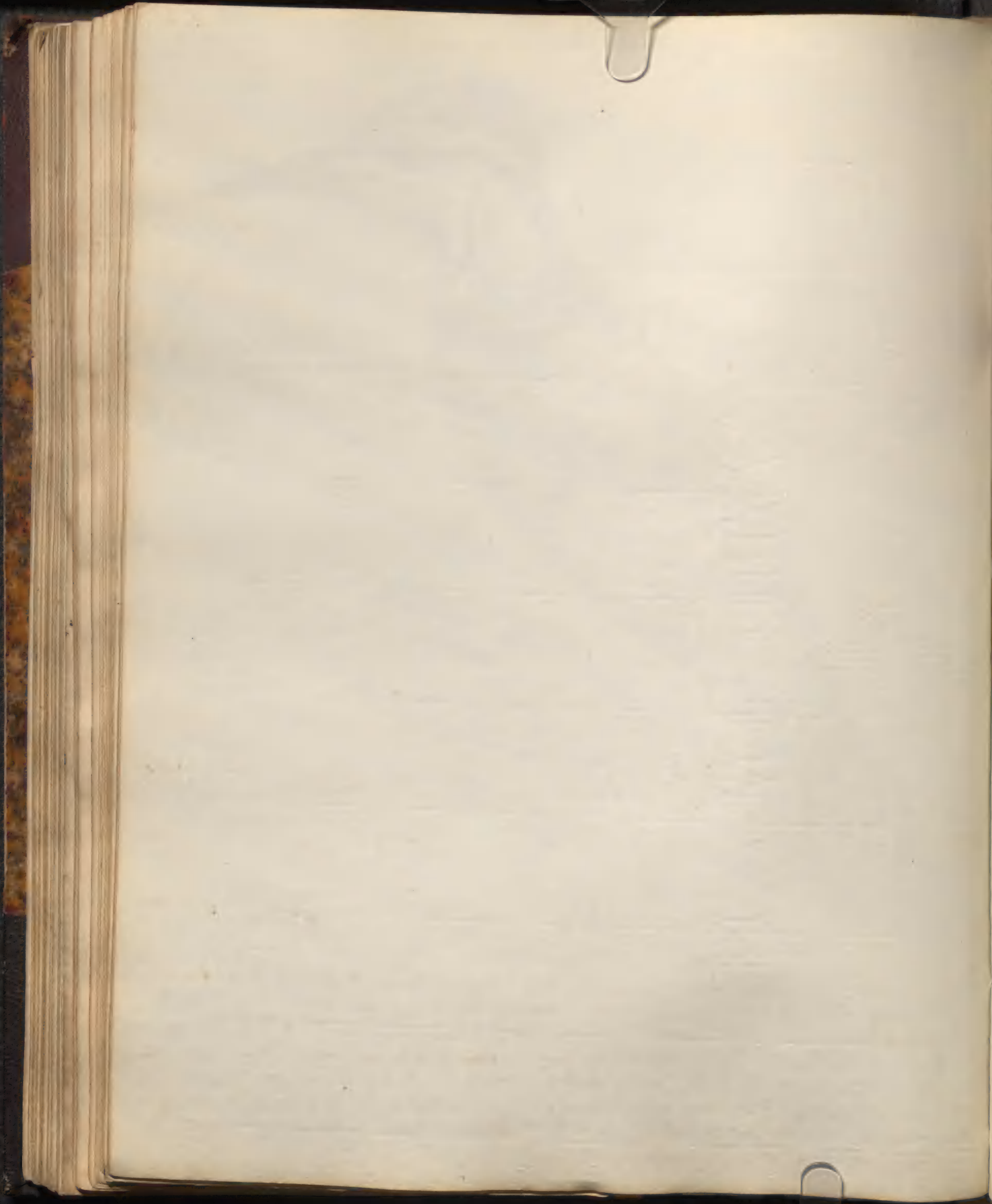
Found in the warmer parts of Gushwall. called there son-goojee.
+ crossed by a second & narrower bar of grey-ish white.

The female is said to have a less crest, to be black where this is red, in other respects the same, but colors not so bright. I have seen them larger.



Thorne. Nov. 29. 1828
+ Full size.

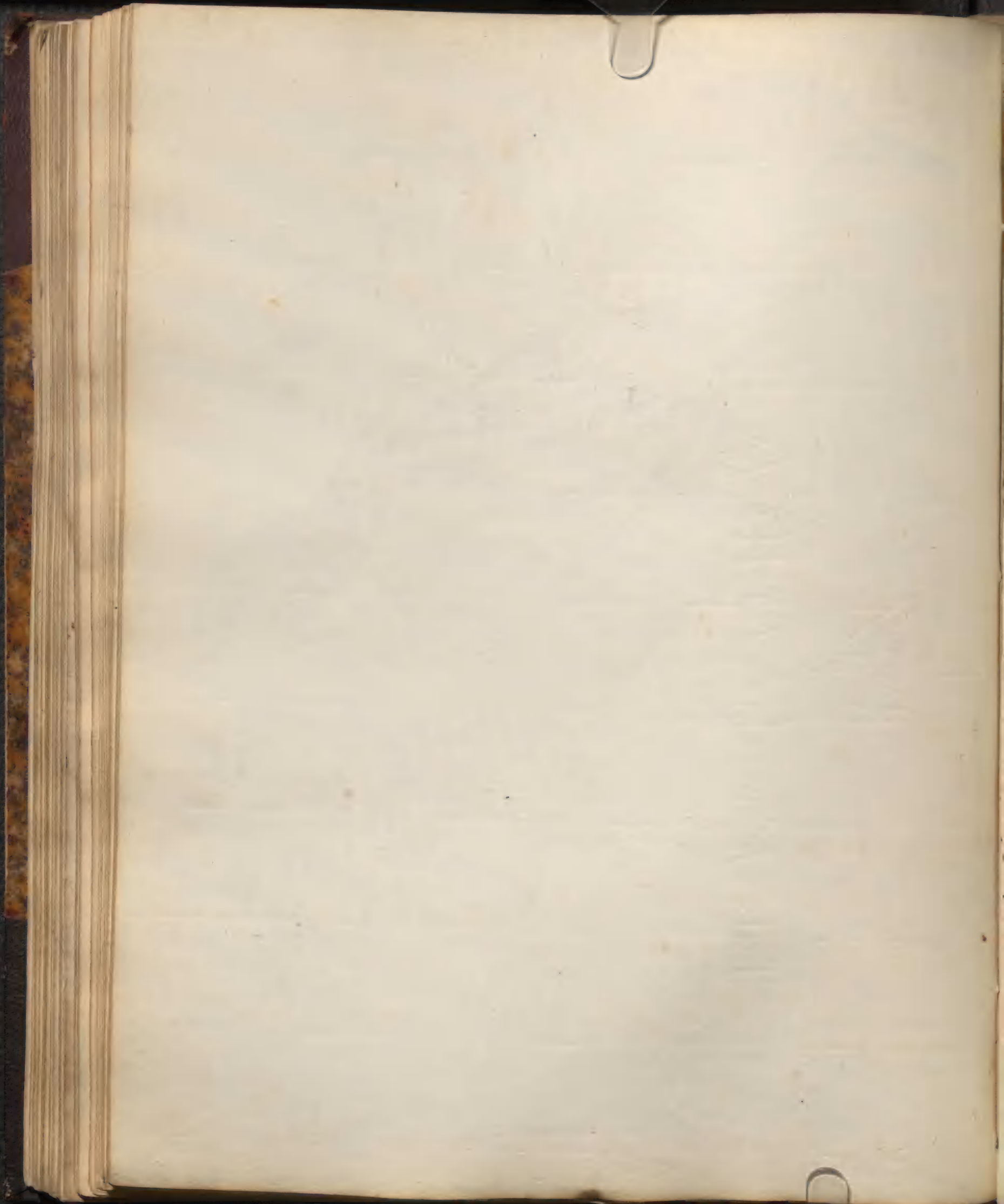
Length $7\frac{1}{2}$ - $4\frac{3}{8}$ - $2\frac{3}{4}$ - $19\frac{1}{8}$ - inches. Tongue can project $\frac{1}{2}$ inches beyond the point of Bill. & is connected with the brain. The white on the forehead is in the centre of the tip of the feathers like . on the throat the middle of the feather is white  towards breast & lower parts, the black gradually diminishes & grows lighter, leaving only a light fringe. Sides of body like belly. Inner wing coverts the same, but the colored edge of the feathers darker & broader. The smaller quills (the yellow ones) are black with white spots on inner webs. Vesh of quills so on both webs, but in the middle quills, the white spots have a tinge of dirty yellow. lower part of back, rump & upper coverts fine dead black. Toes 1. 2. 3. 4 joints. inner ^{back} is small as to be useless.





Length. $7\frac{1}{2}$ - 3 - $1\frac{3}{8}$ - 16 - inches.

Hardwar. Nov. 13. 1828.
* Full-size.



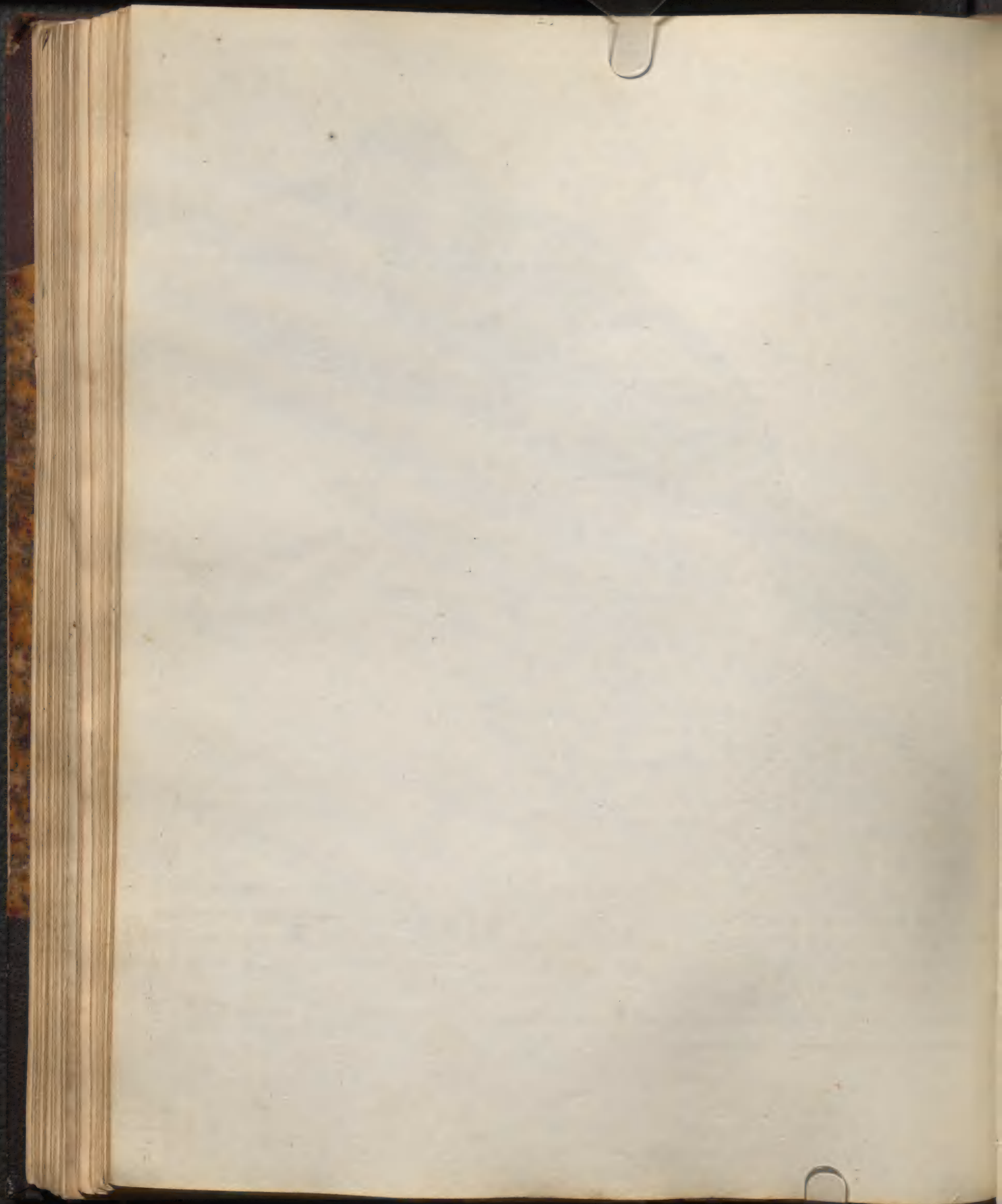


+ *Chumara surree*. Oct 11. 1928.

Full size. correct.

Length $4\frac{3}{4}$ - $3\frac{1}{8}$ = $1\frac{1}{10}$ - $13\frac{3}{4}$ - inches. Nostrils hid under the projecting hair. Tongue round, fleshy, at $\frac{1}{2}$ an inch of end horny & barbed. can project 2 inches beyond point of bill. Inner wing coverts like breast. The greater quills have six white spots on each web, but only 5 appear, the upper one being on the tips of the coverts. The smaller quills have some 3 some 4, some 5 rows. Tail 10. the 4 middle all black. Toes 1. 2. 3. 4 joints. the two front joined to 1st joint.

Found in most parts of Gushwall, chiefly in cool places. I have shot several all alike. Said to eat walnuts.





* Force Feb 2. 1818.

Correct. Fuller's. Pica formicivora

Length. $8\frac{3}{4}$ - $5\frac{1}{8}$ - 2 - $21\frac{5}{8}$ - inches. Tongue as usual, can project 3 to $3\frac{1}{2}$ inches beyond the point of bill. Nostrils ∞ this shape, his by the hairs. Quills have white spots on the inner web, all but a few of the smallest. Lower part of back, wings, & upper tail coverts greenish yellow. Inner wing coverts like the vent, but the blackish brown patches smaller & not so dark. Toes 1, 2, 3, 4 joint. The uncov'rs dashed on the head are + for $3\frac{1}{4}$ tho' of their length from the roots.

11

Fig 1. $2\frac{2}{3}$ size.

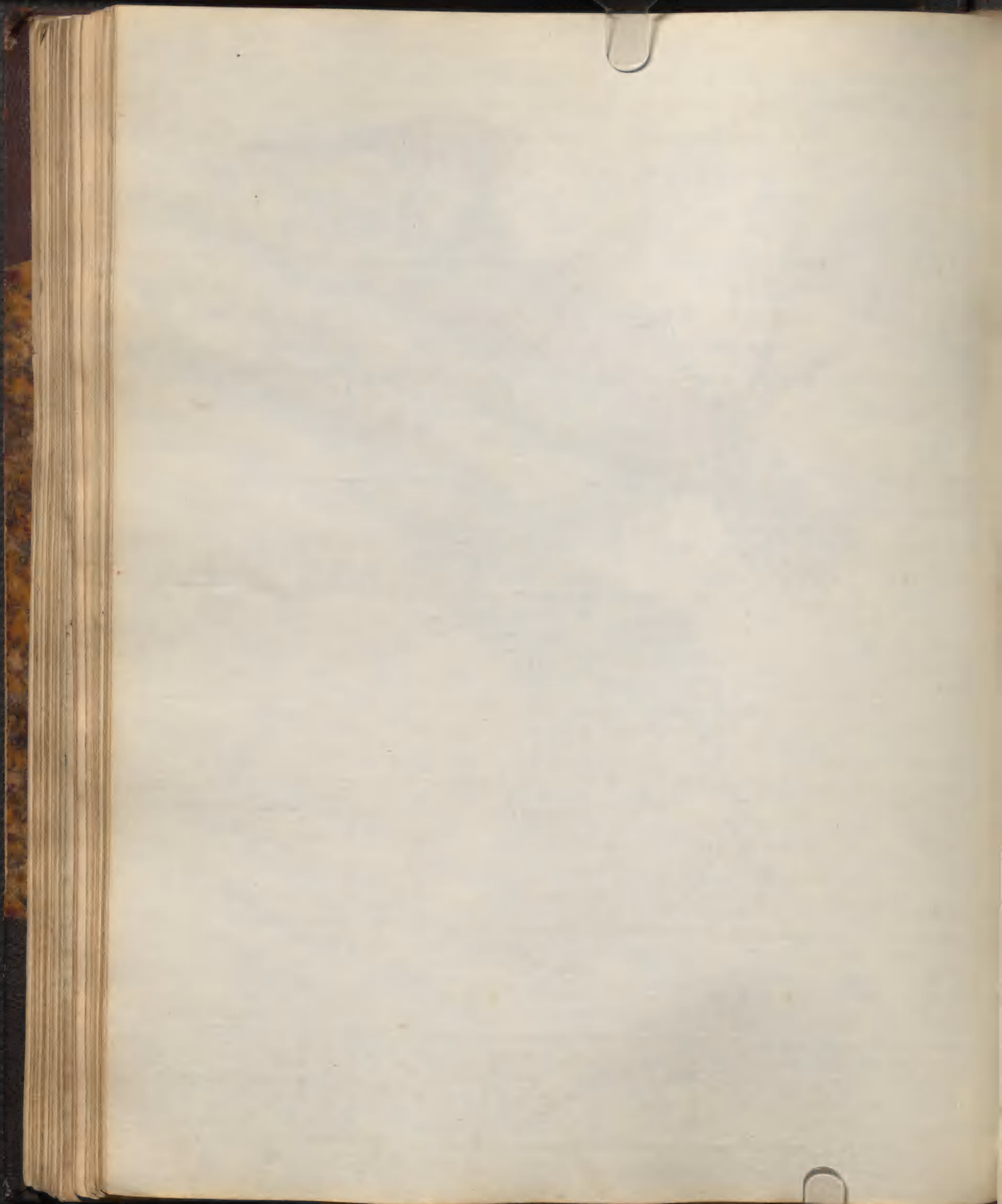
Killed in the Doon.

Length $3\frac{1}{4}$ - $4\frac{3}{4}$ - Bill $1\frac{3}{4}$ Broad $20\frac{1}{4}$ inches. Tongue round, soft, fleshy, except $\frac{3}{4}$ inch of the end, which is horny, pointed, and furnished with hooks. It is, ^{form} like that of Vol. 1. Fig 2. Pl 38. can project $\frac{1}{4}$ inches beyond the point of bill. Irides light brownish red. The feathers of the back are whiteish at the base (which does not appear) light brownish green in the middle and fringed with reddish yellow. The inner half quills are also tinged with that color on their outer web, which when flying in the sun (for it has a silky gloss) gives it a splendid vermilion appearance. The outer half of the quills are black on the outer web. The whole of the quills are black, with white spots on the inner webs. The breast feathers have whiteish ^{cream colored} shafts and for a little on each side. Light brown on each side. Lower part of breast, belly, vent and undertail coverts, the same, but the whiteish cream-color is broader. Sides of body, the same in the middle of the feathers, but edged with light black. Inner wing coverts like the sides of the body. Toes 0, 2, 3, 4 joints, i. e. in the room of what should be the inner back, it has only a stump. Two front membranes together to the first joint. Claws hooked and sharp, brownish horn color. has a shrill screeching whistle quickly repeated. Tail 10. Black. set on half way what appears the red rump.



+ Fig 1. Feby 13. 1828.

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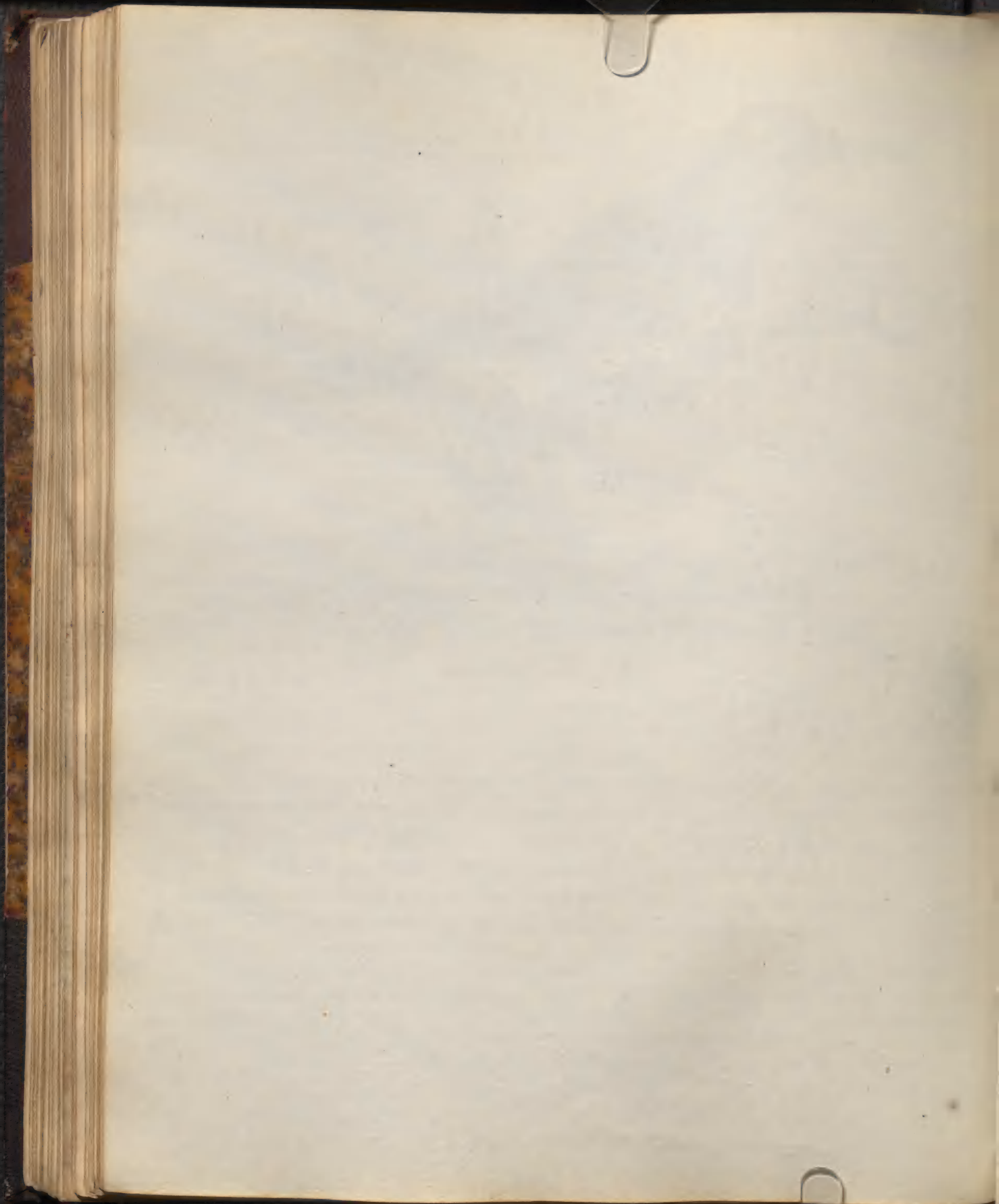
July 18. 1828.
Half-size.

Picus Occipitalis

Length. $9\frac{1}{4}$ - $5\frac{3}{8}$. Bill $1\frac{3}{8}$. Broad. $19\frac{3}{4}$ - inches. Tongue that of Vol 1. Pl. 38 Lij. 2. but can project $\frac{1}{2}$ inch beyond the tip of bill. Nostrils large hid under bristles. Under parts wholly green. All the quills have white spots on the inner webs. The two or three outer, on the outer web. The middle quills have spots of yellowish green on their outer webs. Tail 10. Toes 1. 2. 3. 4 joints. inner back half the size of the inner front.

This might seem allied to the one above mentioned but it is a longer & larger bird, besides being differently colored. Said to be the male. The female similar, except the head, which is all red, instead of black and red. Called Lacha. Lays 3 or 4 eggs. pure white.

June 8th. 1828. Shot one at Pokroo, apparently a last years bird. The head was dark blueish cinerous, & black mixed. The former predominating on the fore, the latter on ye hind part. A few red specks on the forehead. The sides of the head were dirty greenish ash, blended with the black above instead of being distinctly divided. Quills outer, dirty greenish, blackish, brown. The white spots dirty.





Paree Sept 14. 1828.
Correct, except that the
tail is a little too dark.

Indian Swift (*Micropus affinis*).

Fullsize.


Length. $3\frac{3}{8}$ - $1\frac{7}{8}$ - $\frac{5}{2}$ - $12\frac{1}{4}$. Breadth of gape $\frac{3}{4}$ - inches. Bill a little hooked. Nostrils this shape  surrounded by a low rim. Breast & belly like back, not quite so dark. Vent, under tail-coverts, and inner wing coverts, color of tail; & the feathers slightly fringed at the end with anserous. Tongue broad at root, flat, not very thin, fleshy; flesh at tip horny & divided. The sides of forehead project over the eye a little. Tail 10. Legs feathered to toes; which have each only one joint. The whole of the feathers have more or less a gilded-greenish-bronze gloss. Found in Jushwall both warm & cool places all the year. Called Gootnee (a generic name) as well as bahmencee. The female is a little smaller, not quite so dark colored. rump & underparts light blackish brown.

Fig 1. 26 July 1828.

Killed at Huron.


Length $3\frac{3}{4}$ - $2\frac{3}{8}$ - Bill $9\frac{1}{16}$ - Broad $13\frac{5}{8}$ inches. Under part from throat, dirty white with a pink tinge, to the tail coverts which are like the upper. Inner wing coverts a little darker than the outer. Tail 12, all but the two middle have the white spot on the inner web. Toes 1, 2, 3, 4 Joints. Middle and outer ^{half joined keel} membraned to the first joint. Tongue small, flat, pointed  this size in proportion to beak.
Drawn of the natural size.

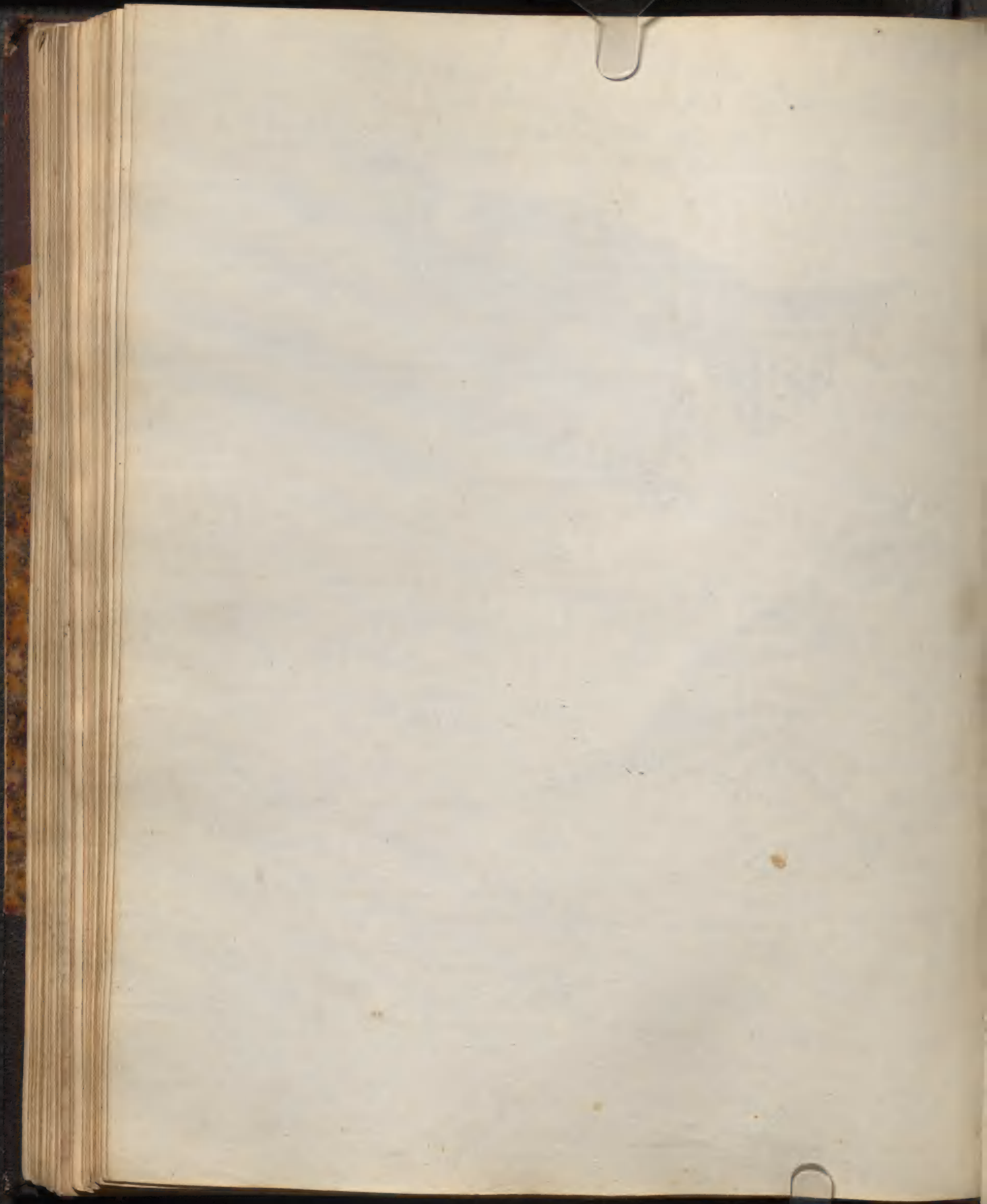


Fig 1.



See at the end of the book
the full size

Fig. 2. For description
see end of book.
It is full-sized.



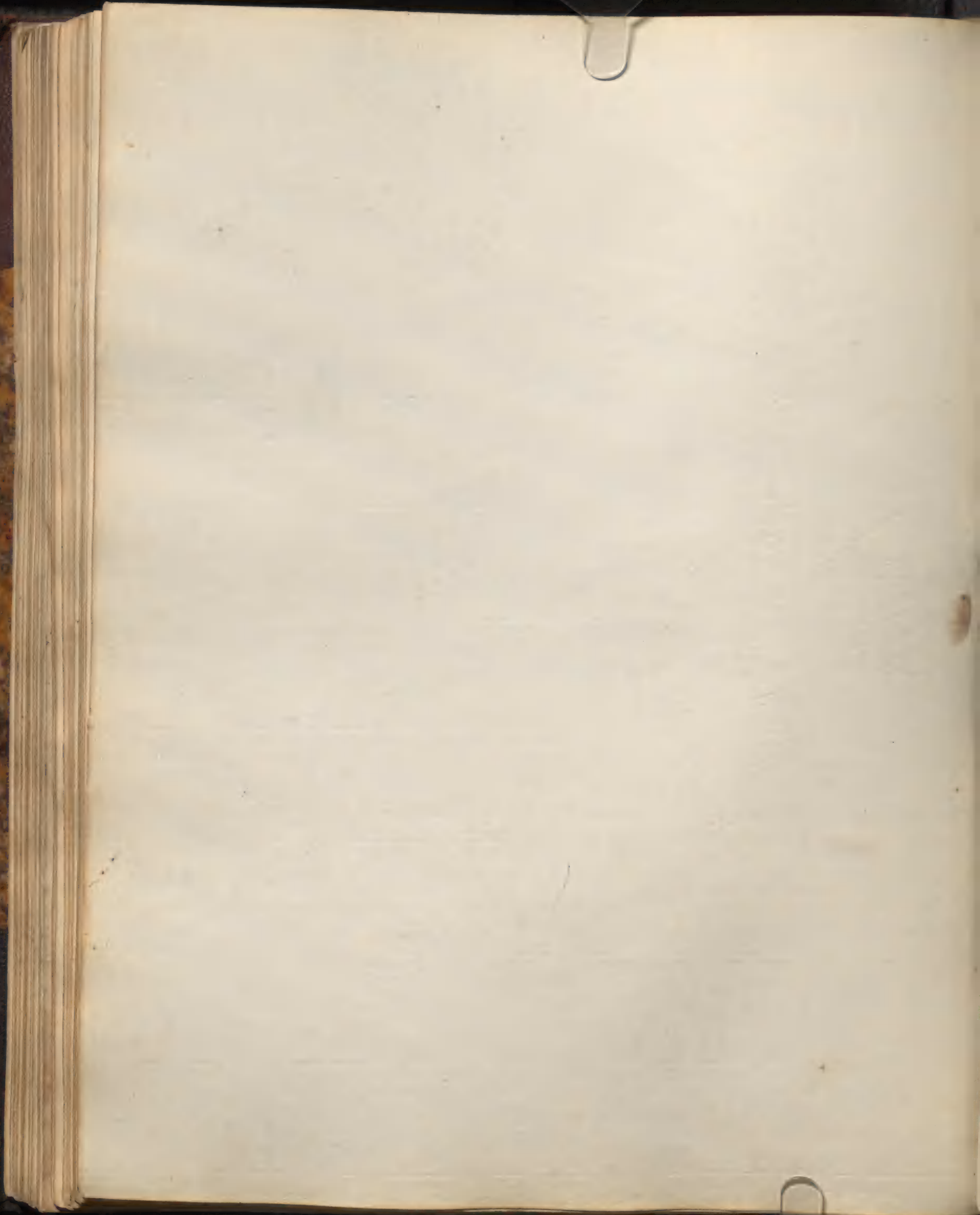


* Feb 20th. 1828. Full size. Killed at Luckburghat. *The Cinereous Pratincola. V. g. P. 365*
Little Indian Pratincola (Pratincola lactea)

Length $4\frac{1}{2}$ - $2\frac{1}{2}$. Bill $3\frac{1}{8}$ - Broad $17\frac{3}{4}$ - inches. Nostrils surrounded by a projecting rim.
Tongue broad thick fleshy at the root. Thin & pointed & horny at end. From the breast downwards pure white. Inner small wing coverts dark dead black, larger a little lighter. Smaller half of quills (which are hidden by the coverts in the drawing) pure white, except the tips which are light blackish brown. & the shafts at the root black.
Jul 12 as drawn ^{roots of all the feathers white} Called by the Luckburghat boatmen *Kunyjee*. not seen during the rains.

Its manners and appearance make it a swallow, but its legs are like a sandpiper. Shin joint $3\frac{1}{4}$ inch. Toes 1. 2. 3. 4 joints. Middle & outer membrane together to the first joint.

I saw some hundreds together, skimming over the Ganges at Luckburghat. Its appearance the same, but I only shot one. Feb 1829. Saw numbers on the river between Futlighur & Allahabad





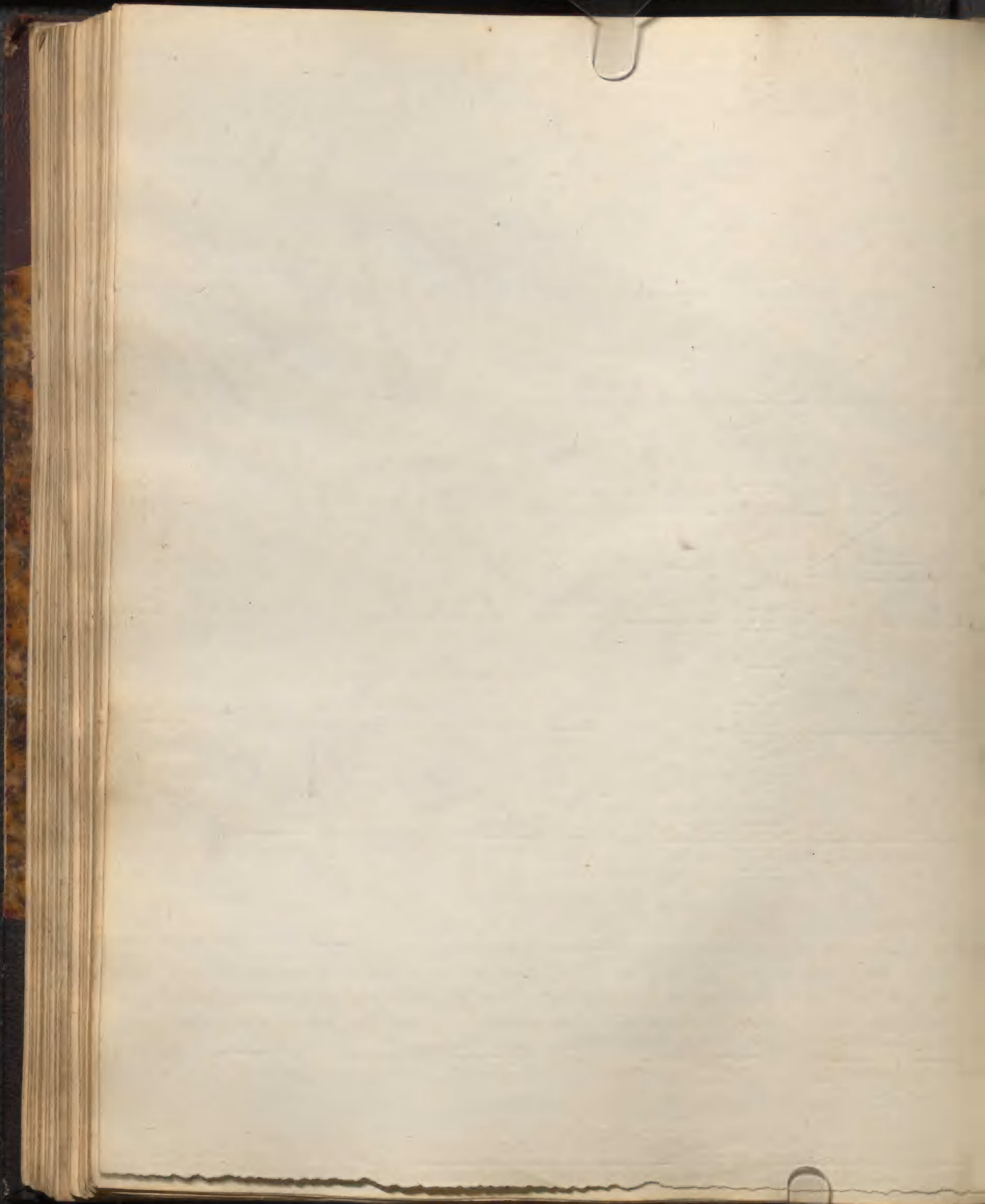
July 4th 1828. Full size.

Very correct.

Wire-tailed Swallow (*Hirundo swithii*)

Length $3\frac{1}{2}$ - $3\frac{1}{2}$ - $\frac{5}{16}$ - $12\frac{3}{4}$ inches. From the throat to the under tail coverts, and the under wing coverts, silky white with a very slight yellowish tinge. Toes 1. 2. 3. 4 joints. Middle joined to outer to the 1st joint. Tail 12. two middle feathers $1\frac{3}{4}$ inches. just half of the outer. The female is much the same, colors not quite so bright, or the outer tail feathers not quite so long as the male. For I caught both with their young. Found in the warmer parts of the hills.

Sept 20. Shot one a little smaller. The crown of head was mouse color, darker on forehead. chin & throat white. The 10 middle feathers of tail, the outer $\frac{1}{2}$ inch longer, the white patches not so large. It had a slight brownish tinge on the upper parts. From the softness of beak & claws it appeared a bird of this season. probably a young one of this species. The inside of mouth was yellow, which color appeared on the edges of the mouth outside, near the gape.





Red-rumped Swallow
(Hirundo daurica)



Fig 1. full sized +
Hærc. well done.
July 8th. 1828.

Fig 2.

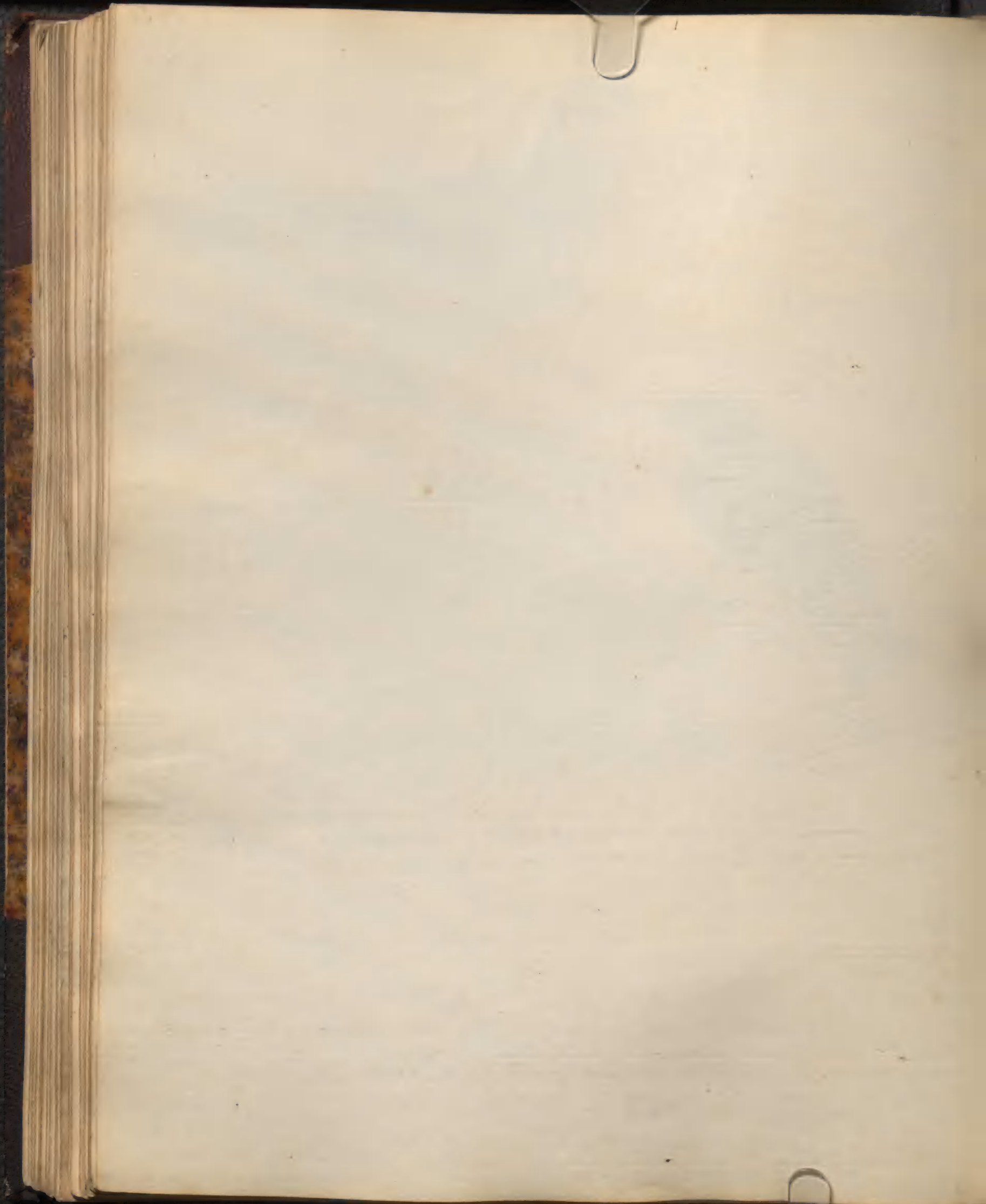
Fig 1. Length $3\frac{3}{4}$ - $2\frac{1}{4}$ - $\frac{5}{8}$ - $10\frac{3}{4}$ - inches. inner wing coverts, those near the outer edge. Lashed with brown like the breast. Under tail coverts slightly tipped with black. Toes 1, 2, 3. & joints middle & outer joined to 1st joint. It seemed a young bird, perhaps of last year.

Fig 2. Siroezullee. March 22nd. 1829

Full sized correct.



Length $2\frac{7}{8}$ - $1\frac{1}{2}$ - $\frac{4}{10}$ - 9 - inches. Nostrils pinnous. Underneath wholly white except a bar of light mouse color across the breast. Inner wing coverts like upper. Rump rather lighter than back. Tail 12.

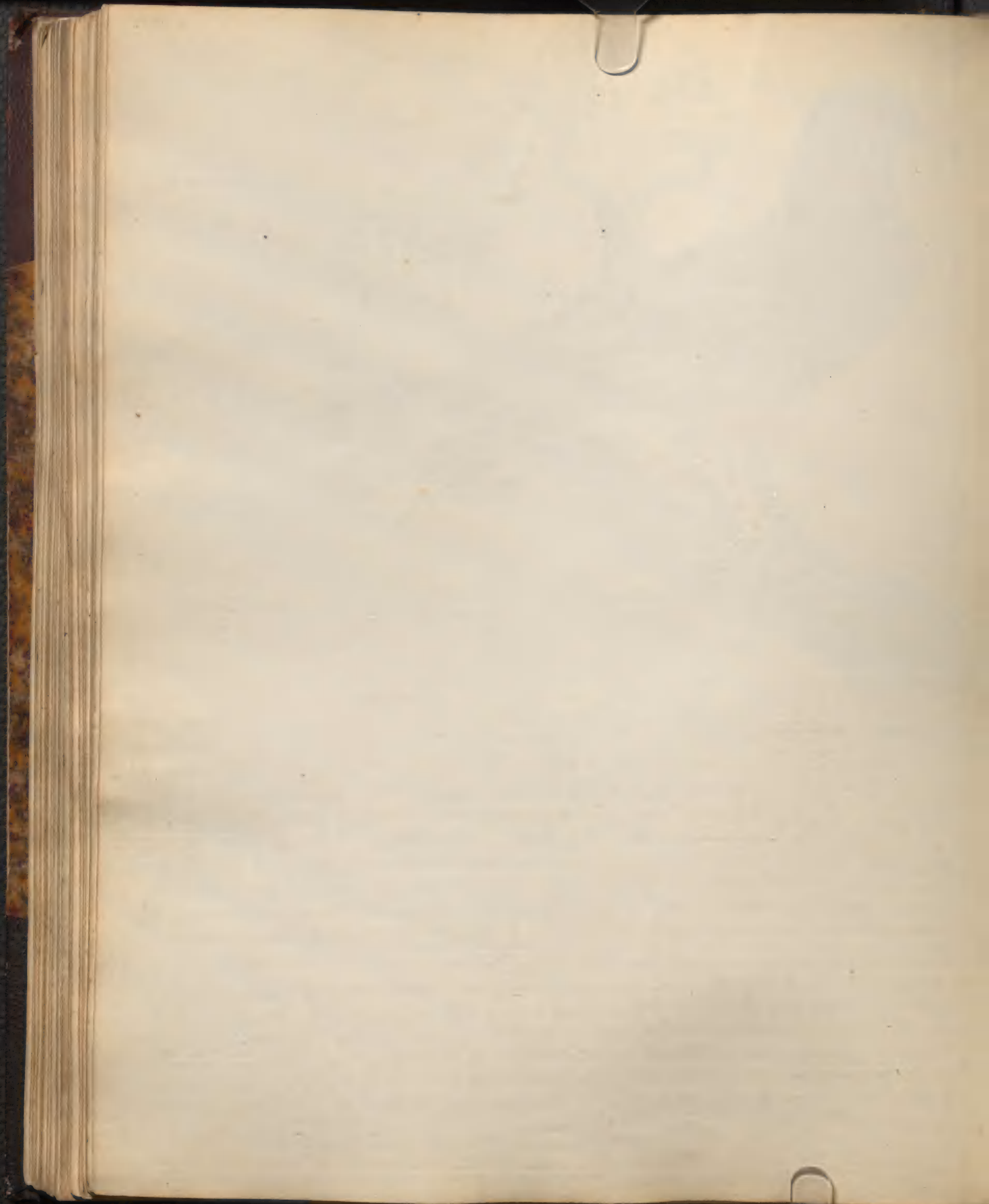
Saw a great many flying up & down a steep bank of the river, in which they had holes.





* Aug^o. 13th. 1828. Full-sized.
Päoree.

Length $5\frac{1}{2}$ - 5 - $\frac{3}{4}$ - $15\frac{3}{4}$ - inches. Tongue, short, narrow, thin, & horny at the end. The black on the sides of neck is formed by the feathers there being grey at the roots, black in the middle & reddish brown at the end which is squareish.  The black appears more than it is or more, at times; and at times it is almost hidden, as the feathers in inner wing, coverts dull blue. sides of body under wing do, but lighter. Tail 12 - breast light pink. Belly & vent white with a slight pinkish cream-colored tinge. under tail coverts pure white, long. Toes 1. 2. 3. 4 joints, divided to their origin. This is a smaller & slimmer bird than those in Pl 39 & 40. Found with them in fields near villages; and at Päoree remains all the year, which the others do not. These breed at various times from middle of March to Sept, so probably have more than one brood in the year. builds in small thick bushes. This one was moulting when shot, apparently almost done. Its cry is some thing like  yoo yoo yoo yoo yoo yoo. The Hill people fancy it says Yeh dyah keeä tö huron



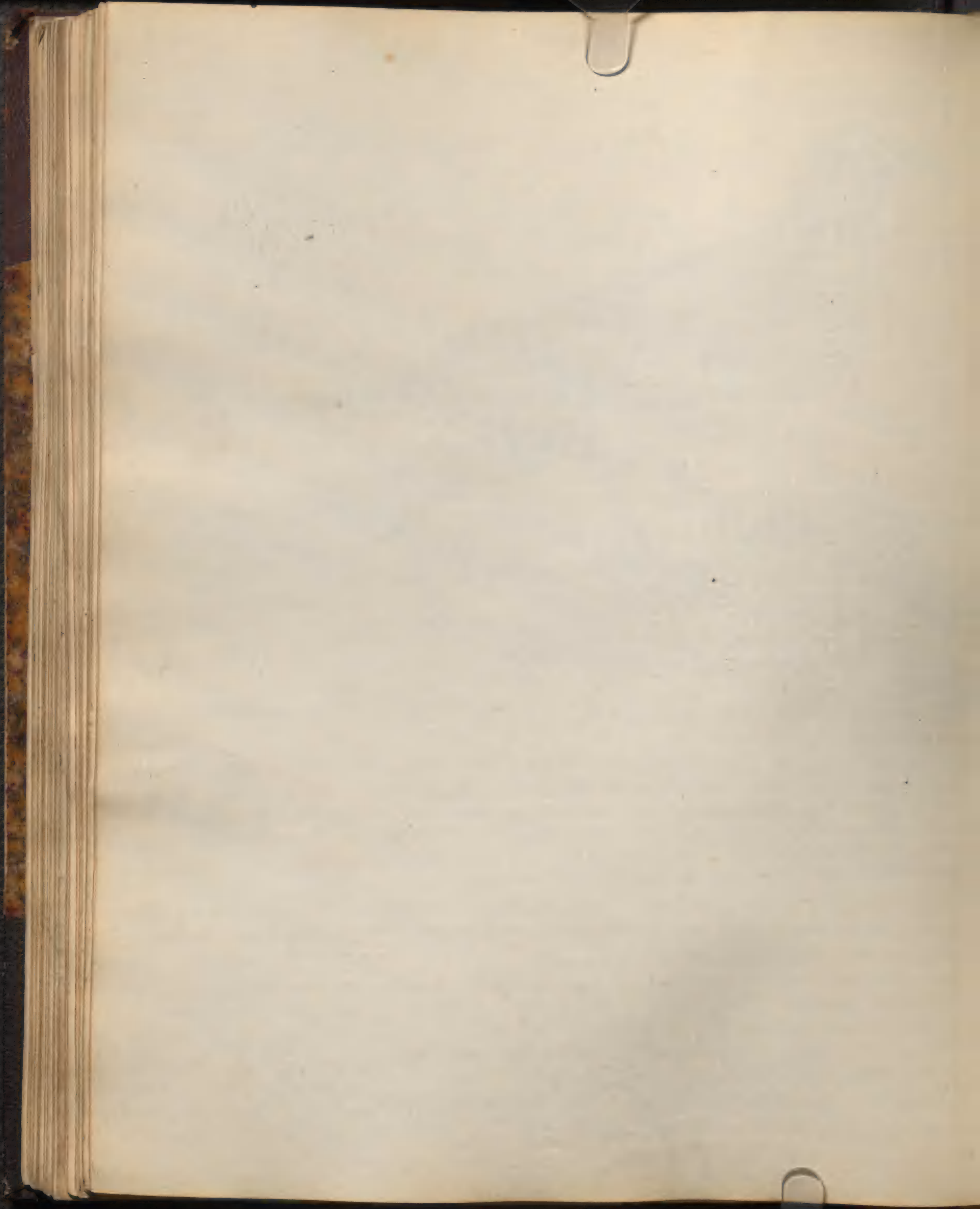


† July 10th 1828. Faone.
well done. 3/4 size.

Length 7 - 5 1/2 - 7 1/2 - 21 - inches. Back same as upper part of wing, & tail coverts; with in some lights a slaty tinge. Sides of body under the wing, like the thighs. Tail 12. rounded. The 2 middle olive-greenish brown. The others are blackish slate color, with a tinge of greenish brown, on the root half, dirty white on the end half, with a tinge of greenish brown on outer edge, except the outer feather, whose edge is bluish white. Underneath, all the feathers are black on root half, light bluish white on end half. Toes 1, 2, 3 & 4 joints divided to their origin.

This found all over Hindostan & Surkhwall, called Pundook or Panduk in the former. Goojee or Goojostee (from its cry) in latter, where however it is only seen during the summer months. Builds in trees lays two white eggs. nest of

These differ much in size and color, probably according to age. I suspect them to be two years, if not more before they are complete. Those of 1 year are much duller in the colors. In different birds, blue, pink or greenish brown predominate on the head neck, breast, in some one color, in some the other. The back too is in some more green (olive), in others more brown than in this. In some the under tail coverts are more of a greenish brown than blue. In some the black collar is larger & darker than in others, and the white about it is in some wanting. In some the greater quills are more brown than black, with light edging.



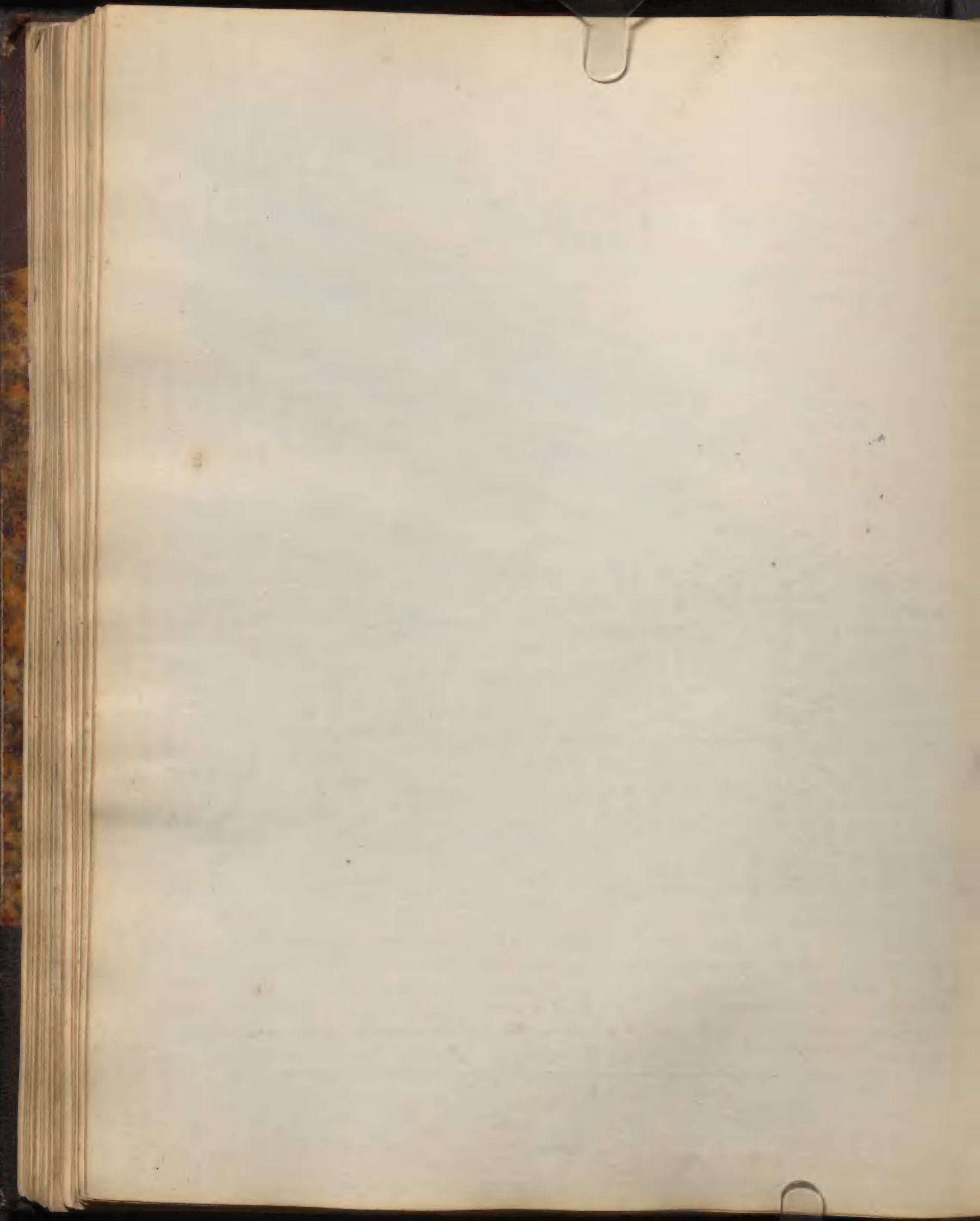


+ June 26th 1828. Paoee.

Full size. correctly drawn.

Length $6\frac{1}{2}$ - $5\frac{5}{8}$ - $3\frac{1}{4}$ - $17\frac{1}{2}$ - inches. Bill black. Nostrils in the middle, in a slight hollow. Of the inner wing-coverts the smaller are blue, the larger blackish blue. Vent pure white. Under tail coverts the same with the very tips light brown. Toes 1, 2, 3, 4 joints, divided to origin. Tail 12.

When young it is dull greenish brown above, with a little rufous edging. No black & white on neck. It is a dumpy bird, does not fly near so quick as the two preceding, often making a sort of hover spreading its tail. In its usual sitting posture, its head is sunk into its shoulder, called *Miepooreea* Goojee. (*Miepooree* a small white grain, from the dots on the neck) and *Poorlee* (from its cry, which is like *pooro*, *pooro*).



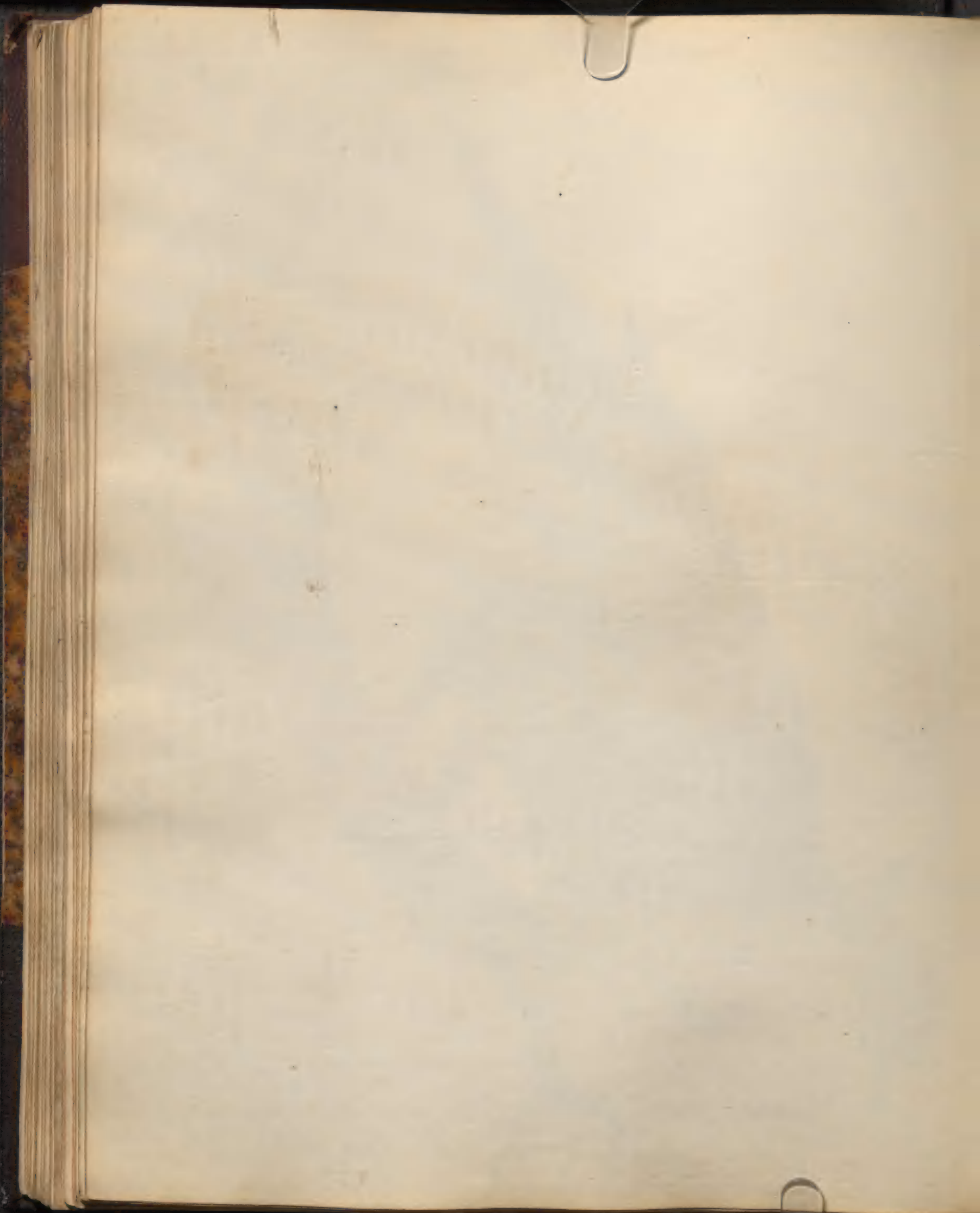
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See additional notes
on page 62



* July 25, 1828. Full size, correct.
Pacore. Drawn from one in a cage.

Length $8\frac{3}{4}$ - 5 - $\frac{1}{2}$ - 20 - inches. The pompadour of the throat extends across upper part of back. Tail 12. Under side of tail & wing lead-color. Side of body under wing do. but lighter. The blue dashes on throat & wing are very irregular. Some of the feathers under tail coverts have a dull blue dash down the shaft. Toes 1. 2. 3. & joints divided to origin. Found all over Suohwall. Called Elanda. also Hokla. but several go by the latter name. Much prized by natives for its voice, which is a pleasant mellow whistling. Belly between the thighs almost white. The one in the corner shows their usual way of sitting. I have shot them larger. Length as follows. 9 - $5\frac{1}{2}$ - $9\frac{1}{2}$ - 21 - inches.





+ July 28th 1828. Páoree.
very correct. Full size.

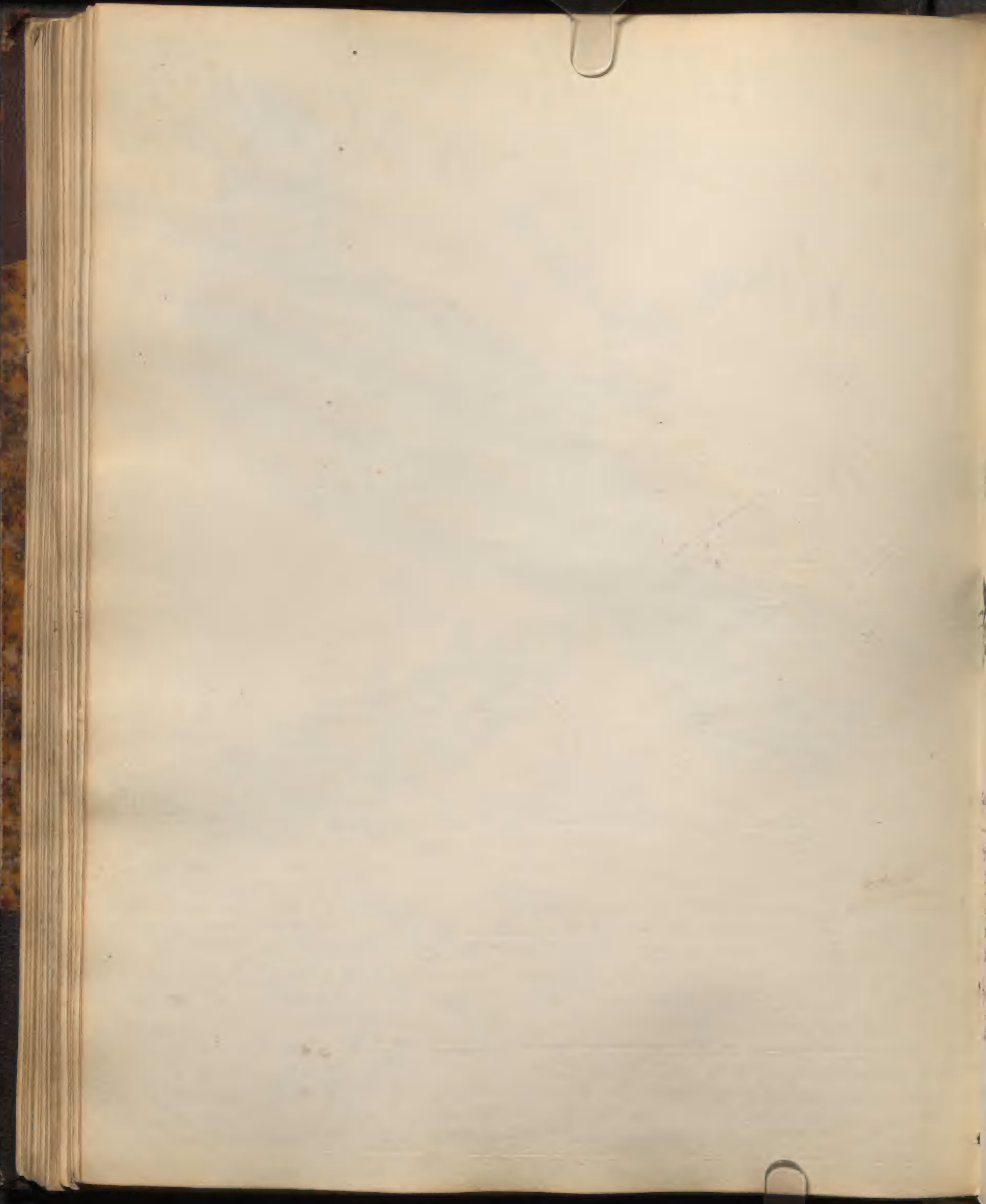
Length $7\frac{1}{2}$ - 5 - 1 - $21\frac{1}{8}$ - inches. Under wing-coverts, and sides of body under the wings, light blueish lead-color. Breast light yellowish pink, growing lighter lower down, vent almost white, tail-coverts pure white. Claws much sharper than common in pigeons. Tail 12 feathers.

Found in Sushwall, in summer on high cool ridges, in winter in the valleys. Called *Burn Gooce* (wood dove) from its being rarely found except in forests, while those in Pl 39 & 40 are rarely seen away from villages. Called near Páoree *Gundoula Gooce*.

Shot on in Octr 1827 on *tookundu Debe* largest, as follows. Length $8\frac{1}{4}$ - $5\frac{1}{2}$ - 1 - 22 - inches.

NB. In its ordinary position the wings hide the back.

Augt 25. Shot one apparently of this year. It had no light brown edging to the feathers on the *trump*. The edging to those of the back & wings, was lighter. Sides light whitish pink. Head, neck, throat & upper part of breast entirely brownish, greenish, ash color. Outer tail feathers blackish brown, without the blue hue. Otherwise the same.





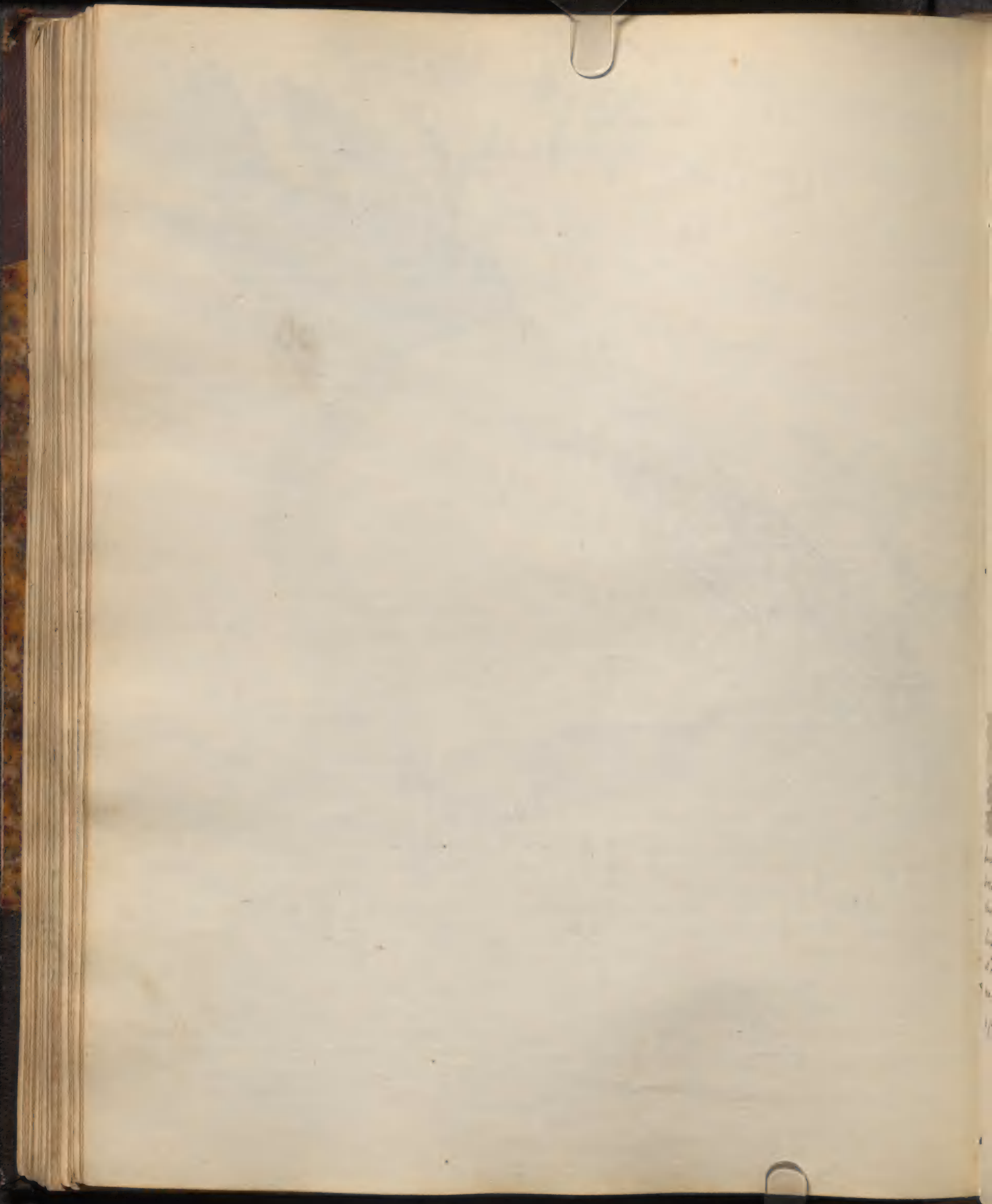
+ Fig 2.

Fig 1. June 28. 1828. Paoree
Full size, very correct. +

Fig 1. Length $3\frac{1}{2}$ - 2 - $\frac{11}{16}$ - $8\frac{3}{4}$ - inches. Vent & under tail coverts white. The roots of some of the inner quills are white on both webs but not on shaft; this however does not appear. The white seen, is on the coverts. Tail 12. Toes 1. 2. 3. 4 joints. Middle & outer joined to 1st joint. Belly dark blackish slate-color. Called Chetra. builds in holes in stone walls. nest of mud lined with hair. lays 2 to 5 eggs, pure white. It is common in most parts of Java wall. seen all the year. Tongue flat, thin, fleshy; at very tip horny & divided.

Fig 2. Paoree. Sept 11. 1828.
Full size, well done.

Length $3\frac{1}{4}$ - 2 - inches. This is the female. inner wing coverts like breast.

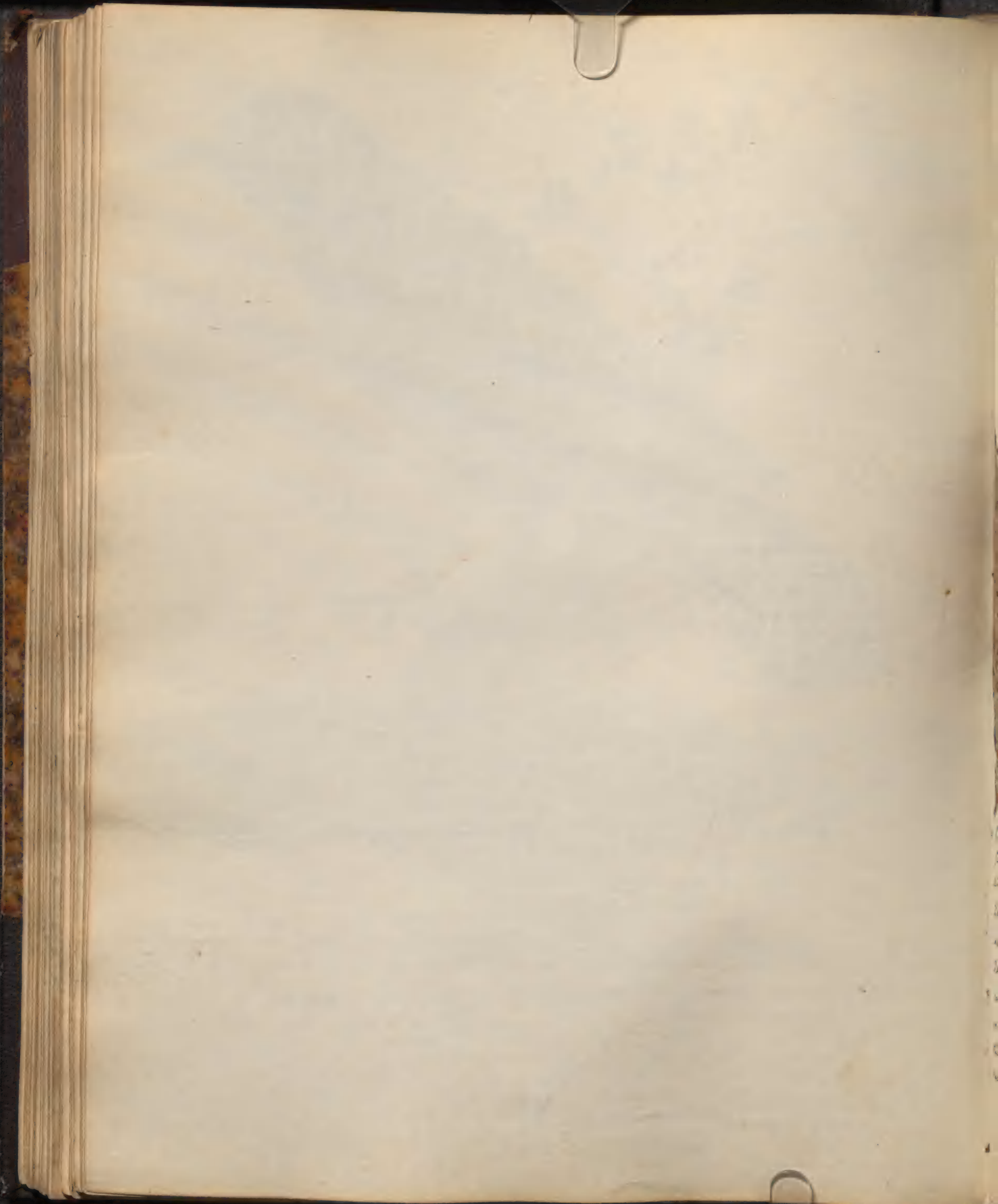




+ June 10. 1828 Killed at Pokree.
 correct, except that the head and neck,
 should have been a very little shimmer.

Full size.

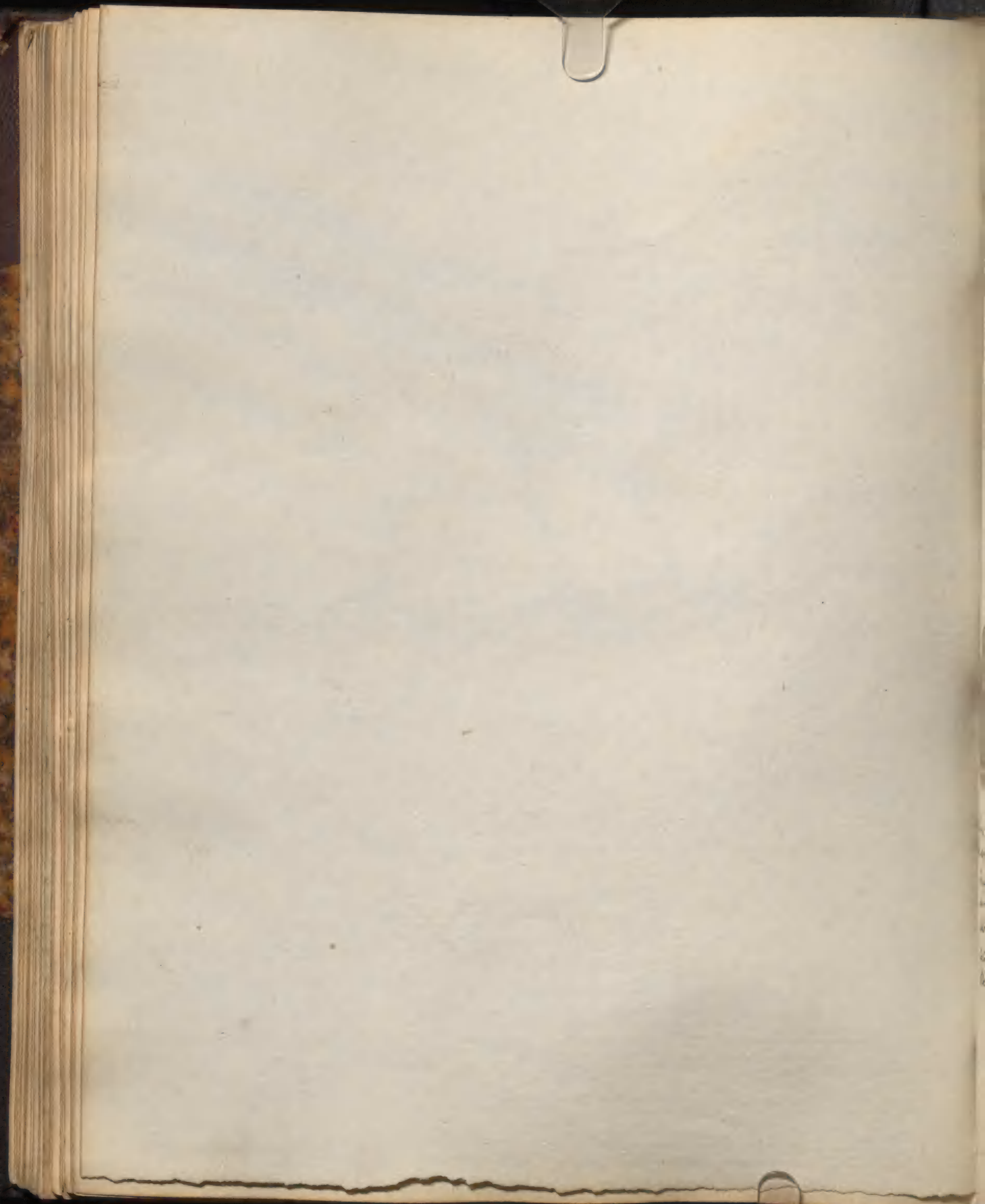
Length $5\frac{1}{4}$ - $4\frac{1}{8}$ - $1\frac{1}{4}$ - 15 - inches. Tongue flat, very thin, not broad, bristled.
 at the end ^{has the hooked joint} Inner webs of the outer quills full black, gaining a blue tinge as they
 near the body. Inner webs of tail darker than the outer. Tail 12 - Toes 1, 2, 3,
 4 joints. Middle & outer joined to 1st joint. Bill has a scarcely perceptible notch.





1828. June 9th correct, except that the legs & feet are a little too dark. they should have been more of the color of the claws. Full size. +
killed near Pokree.

Length 6 $\frac{1}{4}$ - 5 - 1 $\frac{3}{16}$ - 12 $\frac{3}{8}$ - inches. Tongue thin horny, flat, divided at the end. Inner web of quills black. 20 of tail black with a greenish tinge. Tail 12. Toes 1, 2, 3, 4 joints. Middle & outer joined to 1st joint. Wings small in proportion to its size. Very common in Kuumoun. Male & female said to be alike, except that the feathers at the back of the head of the male are a little elongated. if so this must be the female. Found in shady ravines; builds in hollows in the sides of ravines. nest of small sticks & fine grass. Lays four eggs sky-blue.



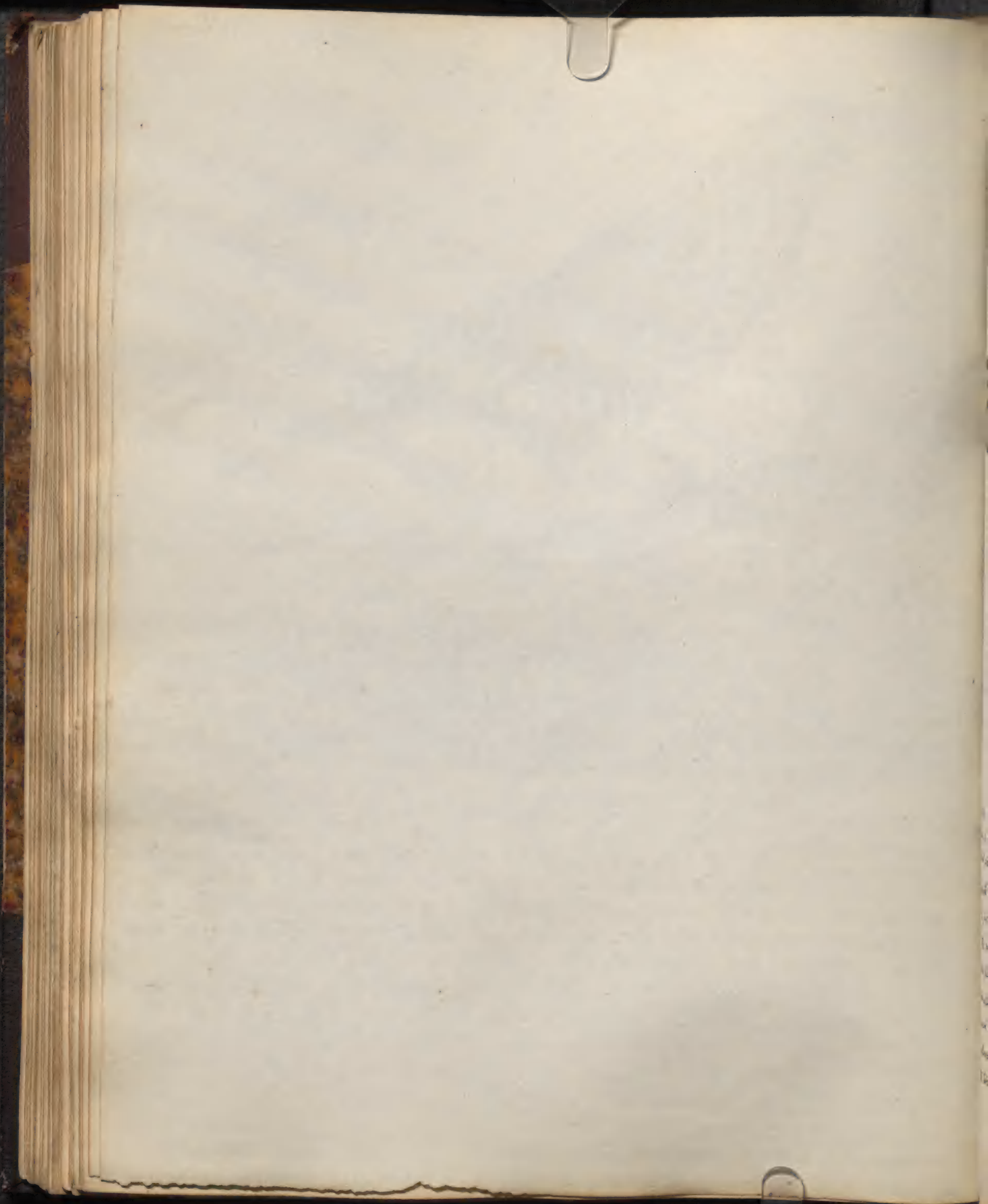


328. June 5th. Very correct.

Or like the Russian Hawk 118 - P. 25

3/4 size. Killed at Pokree.

Length $6\frac{5}{8}$ - $4\frac{3}{4}$ - Bill $1\frac{1}{8}$ - Broad 18 - inches. Tongue flat, thin, not very broad, divided at the end, & has the hooked joint. Tail 12 - rounded. Upper tail coverts like the under. Toes 1, 2, 3, 4 joints. Middle joined to outer as far as 1st joint. called Säutze, builds in branches; nest of moss. lays 4 eggs. white ground, with blackish speckles. Seen all the year.





1828.

June 6th. full size. very correct
killed at Pokree (Nagpoor).

Length 6 - 3 - 1 - $15\frac{1}{8}$ - $1\frac{3}{8}$ - inches. The whole back is greenish, brownish, black, with a just perceptible yellow tinge & light brown shaft. The breast feathers are blueish black at the root (which does not appear) then light brown, with black ends.

The people assure me that this is the female of the preceding one. It is considerably smaller. Toes 1. 2. 3. 4 joints, middle joined to outer, nearly up the first joint. Tongue much the same, but a little narrower & thinner. The inside of mouth and nostril is yellowish horn color. Tail 12. slightly rounded, the two outer feathers being much shorter than the two second. The eye has a nictitating membrane from forwards.

Fig 1. The ~~Blue~~ Peacock.

Mohur by Natives.

Length ^{inch} $26\frac{1}{2}$ (prefring down the top-knot) $20\frac{1}{2}$ inch. i.e. the real tail which contains 20 feathers very ununiform. the outer webs like the wing coverts. the inner blackish brown. What is commonly called the tail is proper by the coverts, and in this, was $38\frac{1}{2}$ inches long. I have seen them 5 feet, i.e. the main body of them, ~~Some~~ of them even 6 feet. Bill $2\frac{1}{2}$ inch. Broad 53 inches. Shin joint 6 inches. Spur $\frac{3}{4}$ inch. Sides of the body blackish brown. Top-knot $2\frac{1}{2}$ inch long. Outer quills reddish-brown; middle ones fine black. inner like the wing coverts.



Common Peafowl (*Pavo cristatus*)

Fig 1. Jan'y 3^o. 1828.

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Fig 1.

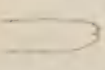
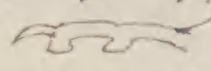
Length $5\frac{1}{2}$ - 3 - Bill $\frac{7}{8}$ - Broad $18\frac{7}{8}$ - inches. Drawn of the natural size.
The irides are a greenish glassy white-nefs. in color. All the body feathers, particularly those of the head, are of a soft velvety texture. Tongue soft fleshy.  This shape and has the hooked joint. Quills have a great deal of blackish brown on the inner web. The under side of wing has more light brownish cream-color about it. The inner wing coverts ragged, more like hair than feathers. Vent light brownish cream color. Under tail-coverts white, dashed with light-blackish brown. Back, rump & upper tail-coverts, like the breast but darker. Tail 10. Upper side like the under, but darker. Toes back has 1, outer & inner each 2, middle 3 joints. The outer can be turned backwards. At each joint is a fleshy projection underneath giving a side view of the toe like this  Toes scaly. claws not much hooked but sharp. From the tenderness of the toes, it appeared not a very old bird, although full-grown. Legs feathered to the toes.



Fig 1. Jan 11. 1828.

Fig 1.

Killed Near Icheree


Length $33\frac{1}{4}$ - $7\frac{1}{4}$ - Bill $6\frac{3}{8}$ - Broad 65 - inches. Perpendicular height, standing as drawn 35 inches. Belly & breast white, with a slight dash of cream-color. Between the thighs and on the vent are some dashes of blackish. Under tail-coverts pure white. At the top of the thigh joint on the outer side is a small patch of black. Quills dark blackish slate-color, all but hidden by the coverts when the wing is closed. Under side of wing light slate-color. Eye lids yellowish green, irides bright yellow. Outer and middle toe webbed together to the 1st joint. Middle toe $3\frac{3}{4}$ inches exclud of claw. Claws hooked and rather sharp. Tongue $\frac{2}{3}$ rd as long as bill.  This shape, round as it gets towards the point, soft fleshy. It flies in an awkward heavy way, carrying its head and legs like this. Length of breast hackles $7\frac{1}{4}$ inch. inner edge of shoulder white.

Fig 2.


Length $19\frac{1}{8}$ - $3\frac{1}{8}$ - Bill $3\frac{5}{8}$ - Broad $36\frac{1}{4}$ - inches. Per^o height as drawn $19\frac{3}{8}$ inch. Plumage entirely pure white. Eye & lids as Fig 1. Tongue $1\frac{1}{4}$ inch long flat, thin, fleshy & pointed. Flies like Fig 1. Nostrils covered with a membrane, which at first sight makes it appear as if it had none.



Fig 2. Jan'y 14. 1828.

Fig 1. Jan'y 14.

Fig 1.

Length $9\frac{1}{2}$ - $2\frac{3}{4}$ - Bill $2\frac{1}{2}$. Broad $19\frac{1}{2}$. Tongue thin, fleshy at root, horny at end, sharp, & somewhat gouge-shaped. $\frac{2}{3}$ rd the length of bill. Colors correct. on the back are some streaks and dashes of lighter brown. Quills light blackish slate color with a tinge of brown. Greater coverts the same but fringed with white. Under side of both, the same color but lighter, & no white fringe. Lesser inner wing coverts like the thigh & feathers behind. Tail 18 unequal. The four central broad. black for $\frac{2}{3}$ rd of length ends reddish brown. Others blackish brown, part light, part dark, and narrow. Back toe 1 inner 2. middle 3 outer 4 joints. The upper mandible $\frac{1}{8}$ inch longer than lower and has a sort of knob turning downwards. e.g.  Per^o. height as drawn $8\frac{5}{8}$ inches. Drawn half the natural size.



* June 17. 1828.

Fig 2.
Half size. from old book.

Fig 2. Length 10 - 3 - $2\frac{3}{10}$ - $2\frac{4}{10}$ - Whole leg 5 - Middle toe $1\frac{4}{10}$ - inches. Tongue half as long as bill, slender, sharp, & slightly divided at end. Nostrils perisporous. Under mandible compressed at the edges. Inner wing coverts white speckled with light gray. Rump & upper coverts & tail white. Except the very ends of latter which are speckled slightly. Shaft of outer quill white; of the others black. Middle & outer toes webbed together to the first joint. Found in Hindostan. This killed at Pooree Sept. 1827.

of bones on the inner web near the centre of the feathers.

Fig 1.

Length $6\frac{3}{8} - 3$ - Tail $2\frac{1}{4}$ - Broad $2\frac{1}{8}$. The inner web of the wings have the white bars
much broader. Tail 12 colored like the quills. inner wing coverts white with a little
tinge of ash. Toes the back has 1 each 2. middle 3 joints.
The color can be turned backwards the natural size.



+ Thore S. Nov. 1828.
Full size, correct.

Length $3\frac{1}{8}$ - $2\frac{5}{8}$ - $\frac{1}{2}$ - $2\frac{3}{4}$ - inches.

The black extends down the centre of the breast & belly, narrow on former; Broad on latter. inner wing-coverts white. The edge of the inner web of almost every quill is whitish. Tail 12. The outer white with a little black on inner web, near the root. The 2^d the same, with the black extending farther up. The third as above. that & the 4th & 5th have the inner web all black. Feet 1. 2. 3. 4. joints. Middle joined to inner, half-way, to outer, wholly up the 1st joint.
This appeared a full grown bird, & I suspect is the female of Fig 1. Pl. 19.

+ Fig 2. Thore Nov. 26.
Full size.

Fig 2. Length 4 - $1\frac{5}{8}$ - $\frac{7}{8}$ - $1\frac{1}{4}$ - inches. Inner wing-coverts saffron color, some of the larger ones black. inner white. Vent white with edges of feathers saffron color. Tongue bristled. Middle & outer toe joined to 1st joint. Back toe & claw much the largest; inner front very small. Tail 12. Found in Greenland.

June 6. Shot one of lighter color, especially the under parts, no white on side of head. Vent same as belly. Legs brown. Perhaps a female.
Shot one like 1st. except tail, of which the two middle were blue, others black with blue ends. See spot of white on the inner webs near the centre of the feathers.

Fig 1. Length $2\frac{7}{8}$ - $1\frac{7}{8}$ - $\frac{1}{2}$ - $6\frac{1}{4}$ - inches. Bill like a warblers. Tongue flat, thin, horny, & fringed at the end. Nostrils in a hollow, covered with a membrane. eyelids carunculated, & a beautiful silky white. Inner wing coverts whitish yellow. Inner web of quills black. Tail 12. inner webs blackish. Toes 1. 2. 3. 4 joints. Middle joined to the inner half-way, to outer wholly up the 1st joint. Common in most parts of New Jersey.



Fig 1. Jan 19th 1828.
+ full size. pretty well.



length $2\frac{3}{4}$ - 2 - $\frac{5}{8}$ - $6\frac{1}{8}$ - inches. ^{feet} Nostrils covered with a membrane. previous
Tongue flat thin, horny, bristled at end. Inner wing coverts like throat.
Tail 12. The right side ones drawn regularly, all but the 5th, which is like the middle ones, only a very
little shorter. Feet 1. 2. 3. 4. Middle joined to outer to 1st joint. Called Pfitkoonse. saw it flitting about
small bushes singing a little. Female said to be the same.
* Pivree Sept 22nd 1828. full size. correctly done.

Fig 1.

Called by the Soorkus Lat Loosum.

Length $6\frac{1}{2}$ - $2\frac{1}{2}$ - Bill $\frac{3}{4}$ - Broad $1\frac{1}{2}$. Perpendicular height as drawn $5\frac{1}{2}$ inches. Drawn two-thirds the natural size. Killed near Shansou Choki. Colors correct. Inner web of quills marked like the outer, but lighter color. Underside of quills marked the same but still lighter. Inner wing coverts white with dashes of light reddish brown, & light bluish gray. Vent white, under tail coverts like the thighs but the bars lighter. Toes 1, 1, 2, 1 joints respectively. The outer toe can turn backwards. Tail 12 rounded.

This is altogether very well done, except the place of the eye; it should have been $\frac{1}{8}$ of an inch higher up.

Nostrils situated in a rising knob on each side like Pl 52 Fig 1.

Legs feathered to the toes, and even they have some straggling white hairs on them too difficult to draw. The white of the breast extends in a very narrow streak down the belly to the vent, only visible in a full front view.

Lays 2 eggs. pure white. male & female alike.



+ Sept. 23. 1828.

July 26th 1828.

Shot one near Pigeon. It was a little larger than this. The quills were more of a brownish yellow than reddish brown striped. The white on the breast was rather less than on this, whilst more of the belly was white. Of the 5 outer tail feathers on each side, the bars of white on each web, are opposite to each other, on the two middle feathers they are not.

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Chumoorä Garree Octo 11. 1828.

Three fourths size.

Length $9\frac{7}{8}$ - $2\frac{3}{4}$ - $2\frac{1}{4}$ - 21 - inches. Post. height. $3\frac{1}{4}$. Tongue fleshy, flat at top, round at bottom half as long as the bill.

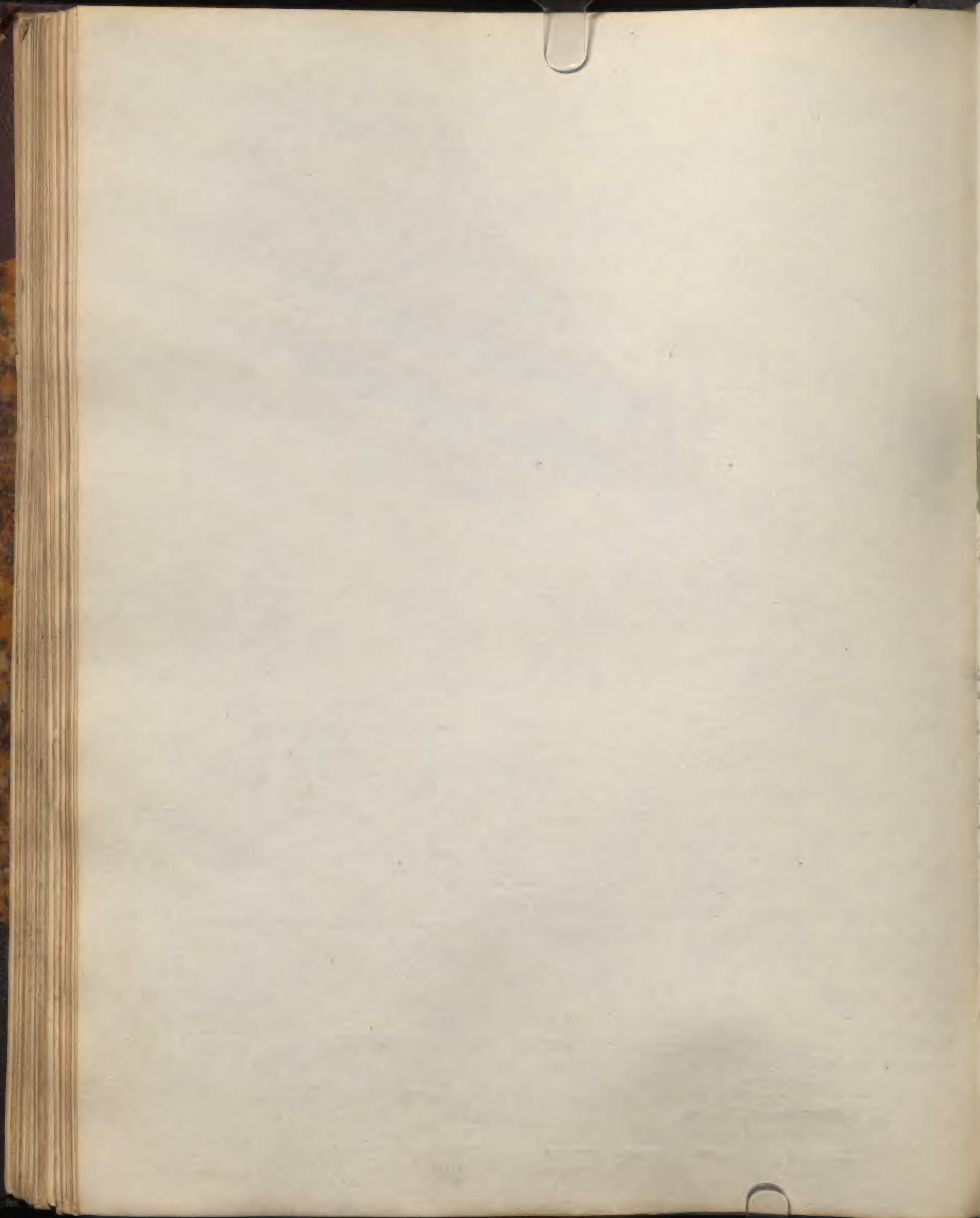
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* Sharpe. 20 Oct. 1828.
Full sized.

Length. 6 - 3/4 - 7/10 - 22 - inches. Per. height 6 3/4. Not tils in a cere. Tongue soft. gape broad. Tail 12.
Toes 1. 2. 3. 2 joints. the larger hind toe can be turned forwards. Inner wing coverts white with a tinge of cinereous. Inner webs of the quills have the white part much broader. Toes have some short white hair on them.

Very common in the Doon. often towards eve several seen together, making short flights and a loud screeching noise.





† Páree. Sept 11. 1828.
Well done. Full sized.

Length $5 - 2\frac{3}{4} - \frac{3}{4} - 11\frac{3}{4}$ - inches. Nostrils in a shallow hollow, & guarded by a low rim on the upper side. Tongue thin, flat, fleshy; just at tip horny & divided. Rump like back, with an olive-greenish tinge. Greater quills light brown, with whiteish outer edges. inner wing-coverts like belly, but lighter. upper tail-coverts like rump. Toes 1. 2. 3. 4 joints. middle and outer joints to 1st joint. Tail

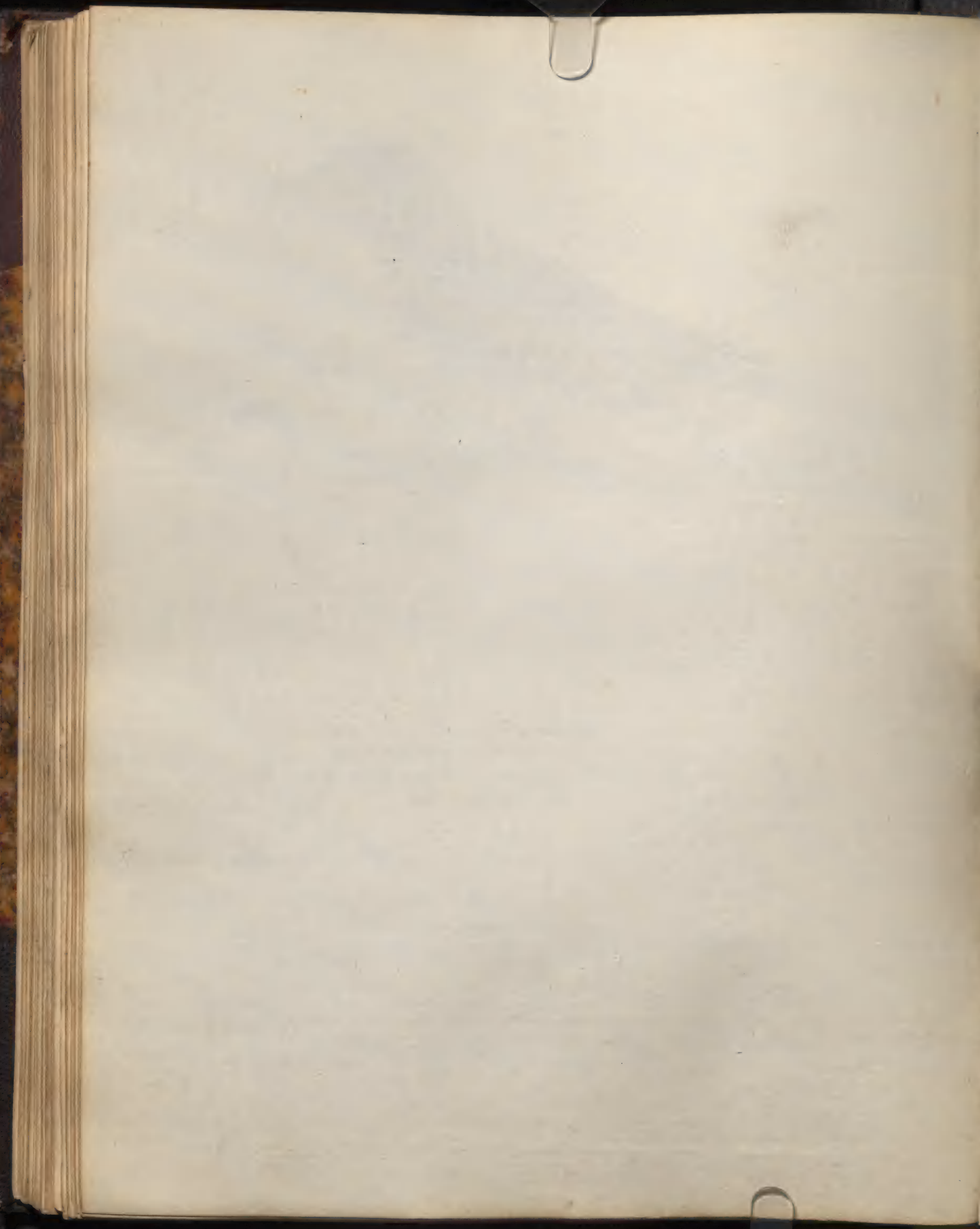
This has the motions of the lark - runs on the ground. sings as it flies, rising, & suddenly descending.

Male and female said to be alike. Found in freshwall in both cool & warm places, called Böverä.

Builds under a stone or rock. nest of grass. lays from 3 to 5 eggs. mottled pure white and dark brown.

The bird apparently almost done moulting.

Oct 5th. Shot one a little lighter color all over, without those little dark dashes on the head & throat. Probably a female - I observe these sometimes perch on trees.



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Copferornith (Xanthocephala leucacephala)

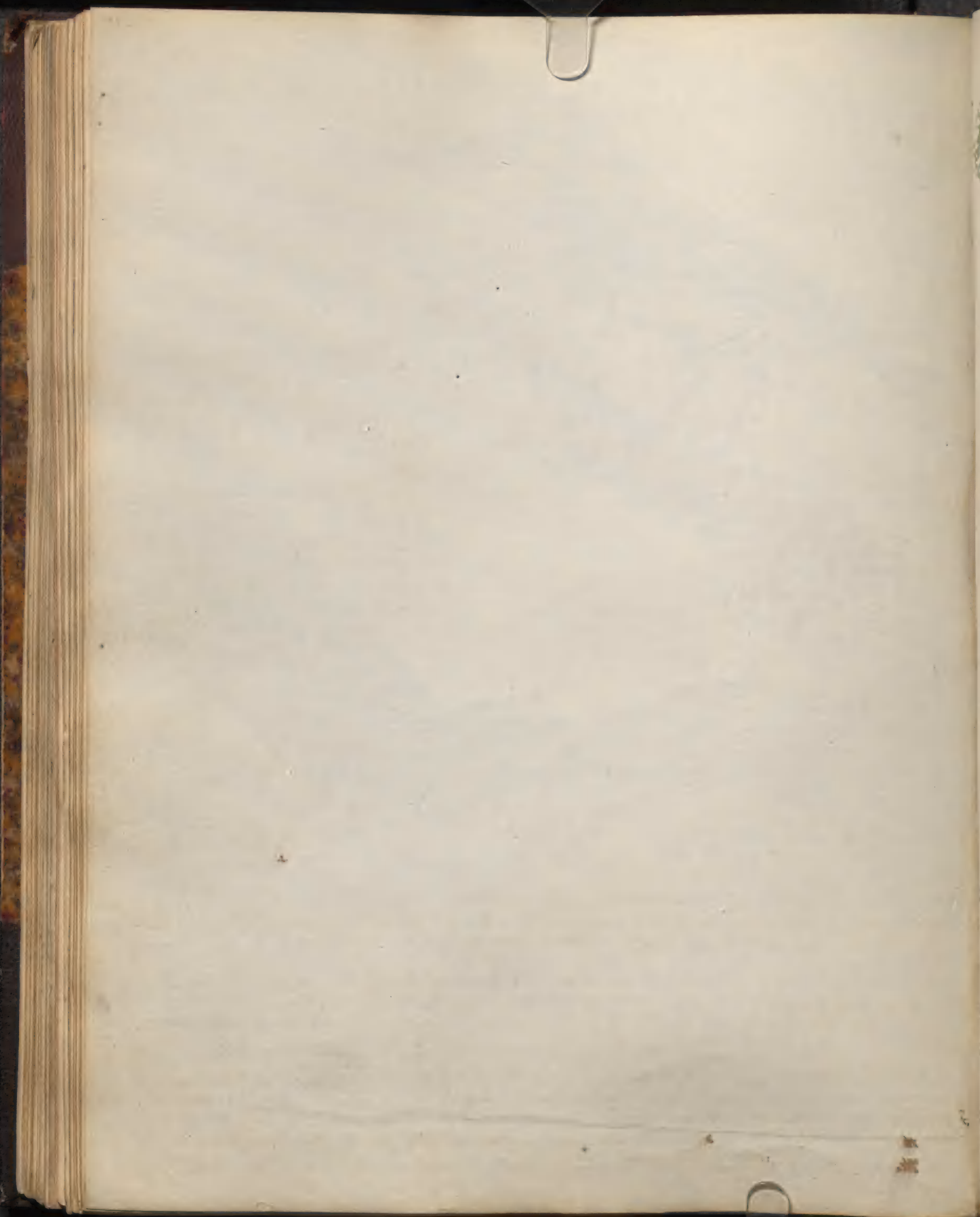


Fig 1. +
Shane. Nov. 3. 1828
Full size. correct.

Fig 2. Shane
3^d Nov. 1828.
Full size. correct.

Fig 1.
Length $3\frac{3}{8}$ - 4 - $7\frac{1}{10}$ - $10\frac{1}{2}$ - inches. Bill like a flycatcher. Bristles on both mandibles. Tongue flat, thin, horny & divided. inner wing coverts mouse color & white mixed. border parts wholly pure white. Toes 1. 2. 3. 4 joints. Middle joined $\frac{1}{2}$ way up 1st joint to inner. to the 1st joint to outer. The motions of this are like that of Pl. 20
Fig 2.

Fig 2. Length $4\frac{1}{2}$. $1\frac{3}{8}$ - $9\frac{1}{10}$ - $10\frac{1}{2}$ - inches. Tongue small in proportion to the bill.  this shape. flat, horny, thin. Inner wing coverts, like belly, with light green. Tail 10 even. Toes 1. 2. 3. 4 joints. Two fore toes joined to the 1st joint. Eye-lid dull red. Inner webs of quills blackish brown. inner webs of tail a little darker than the outer. The belly feathers are green in the middle. Pale yellow at the tips & edges.



Fragment of text from the adjacent page, including words like "length", "dir.", "just", "1. The", "from", "length", "know", "Fig. 3.", "line", "from", "Kille".



Thence. 21. Nov. 1828
 + Full size - correct.

Length $4\frac{1}{8}$ - $2\frac{3}{8}$ - $5\frac{1}{8}$ - $10\frac{1}{2}$ - . Bill like a lark's. nostrils prominent. Inner wing covert cream color. Tail 12. The outer has the end half white. the 2^d has half an inch white. the 3^d just the tip. Toes 1. 2. 3. 4. joints. Middle joined to outer to 1st joint.

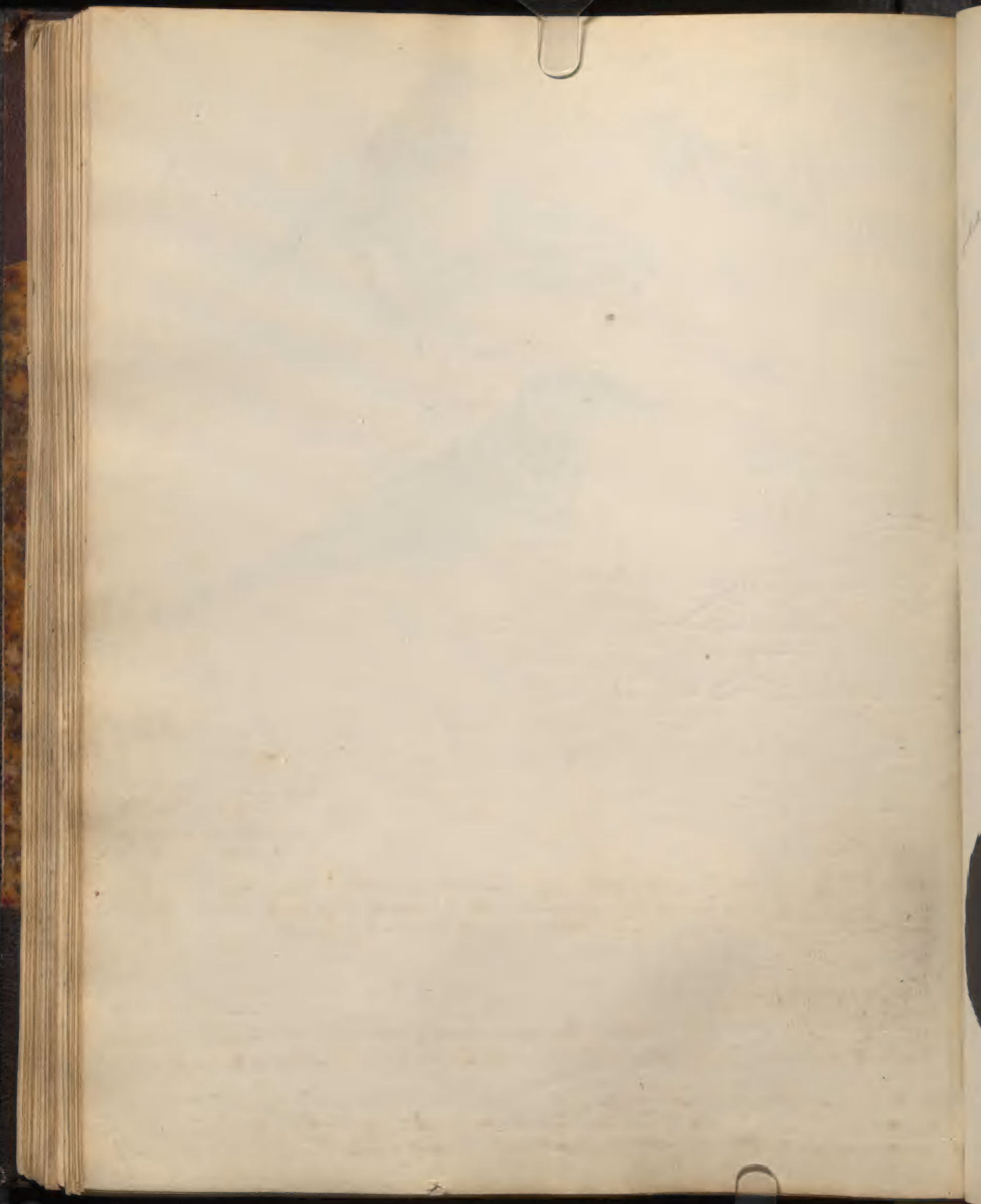
Fig 2. The greenish yellow one.

From old book copied. full size.

Length $2\frac{1}{4}$ - $1\frac{1}{4}$ - - $6\frac{1}{8}$ - inches. Inner wing covert yellow. Bill like a warbler. Middle & outer toe joined to 1st joint. Tail 12. Claws sharp & hooked. Killed near Kedarnath in June.

Fig 3. The blue one. Copied from old book. full size.

Length $2\frac{1}{2}$ - $1\frac{3}{4}$ - - $8\frac{1}{4}$ - inches. Tail 12. two middle black. the fifth white a fourth from their roots. the other eight white. at not half. Middle & outer toes joined to 1st joint. Killed near Kedarnath in June.

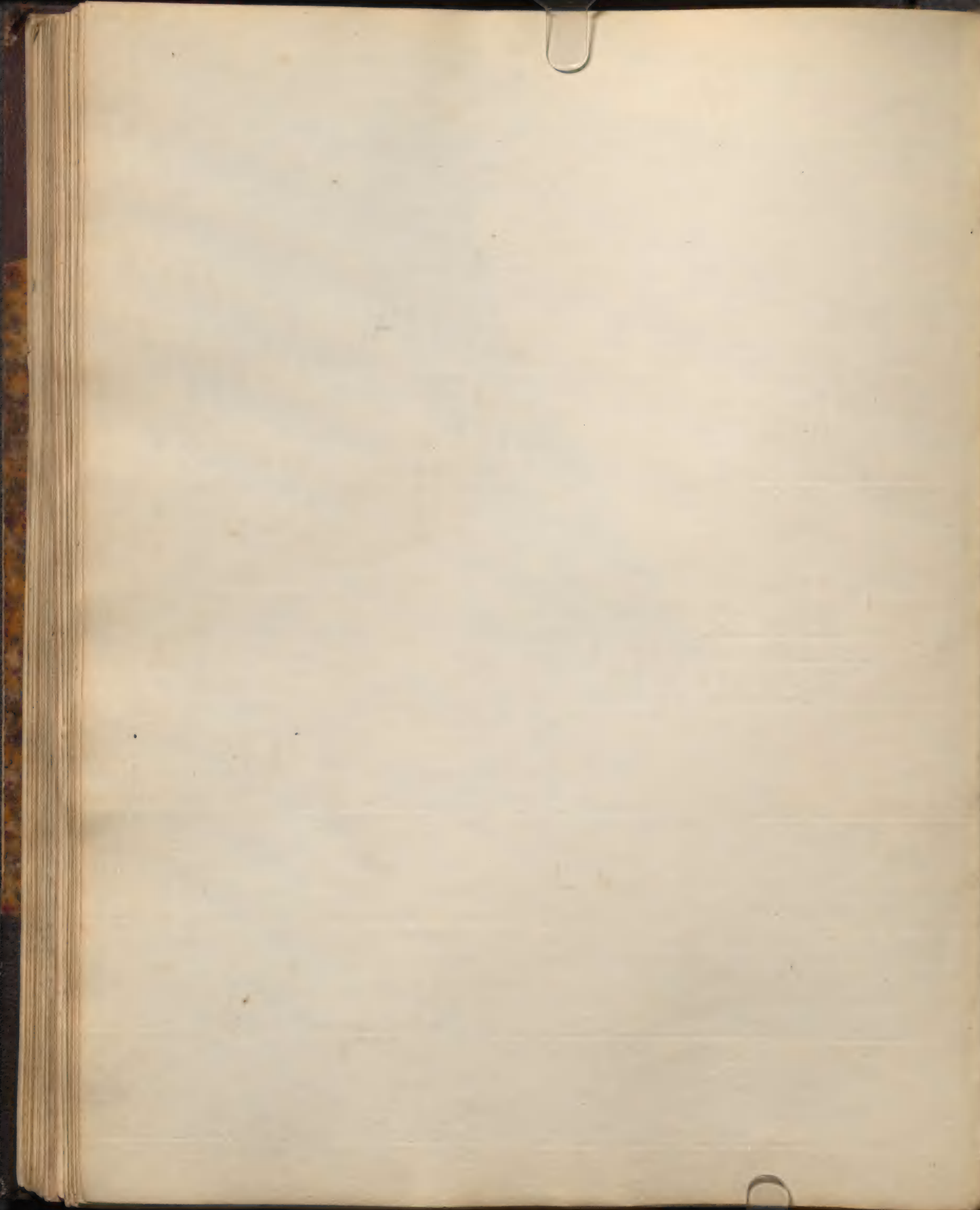




See notes for name on

Páome, Oct 2. 1845.
+ Full size. correct.

Length $7\frac{1}{8}$ - $6\frac{3}{16}$ - $1\frac{3}{8}$ - $18\frac{1}{2}$ - inches. Tongue flat, thin, fleshy. at the end horny & divided into several portions, each bristled
inner wing coverts light slate color. Tars 1. 2. 3. 4. Middle & outer joined to 1st joint. Found all over Perthwell on ridges not left than
5000 ft. Builds in trees.
Called Bun-Samra, or Bun-Charra.
See End of book.






Common Kingfisher
(*Alcedo atthis*).

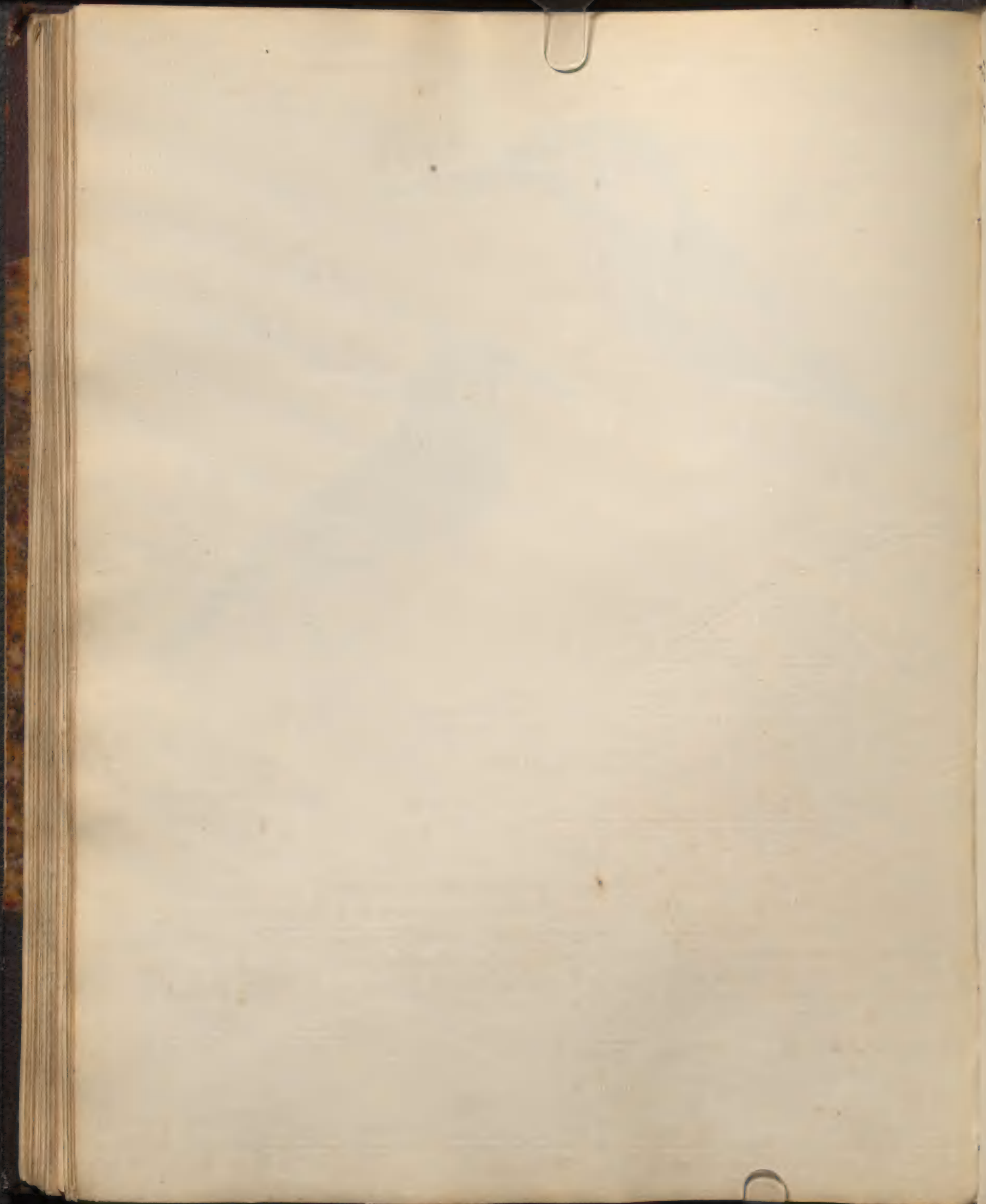


† N. 2. Meerut July 2. 1839
Full sized.

Omurghur July 22. 1839.
Full-sized. †



Length $4\frac{1}{8}$ - $1\frac{5}{8}$ - $\frac{5}{8}$ - $8\frac{1}{2}$ - inches. Nostrils in a sort of slightly raised knob. Tongue  this shape, sharp-pointed & horny at tip, root fleshy. Inner wing-coverts saffron-color. Tail 12 - Toes 1. 2. 3. 4 joints. Middle & outer joined to 1st joint. Called by Shurwallies Chetroo (a common name for several small birds). Common in Hindostan. Observed some lighter color all over, particularly about the head, and where this is yellow on sides of head; they were pale saffron-color. probably females.

N. 2. Length $5\frac{5}{8}$ - $1\frac{1}{2}$ - $1\frac{7}{8}$ - $9\frac{7}{8}$ - inches.

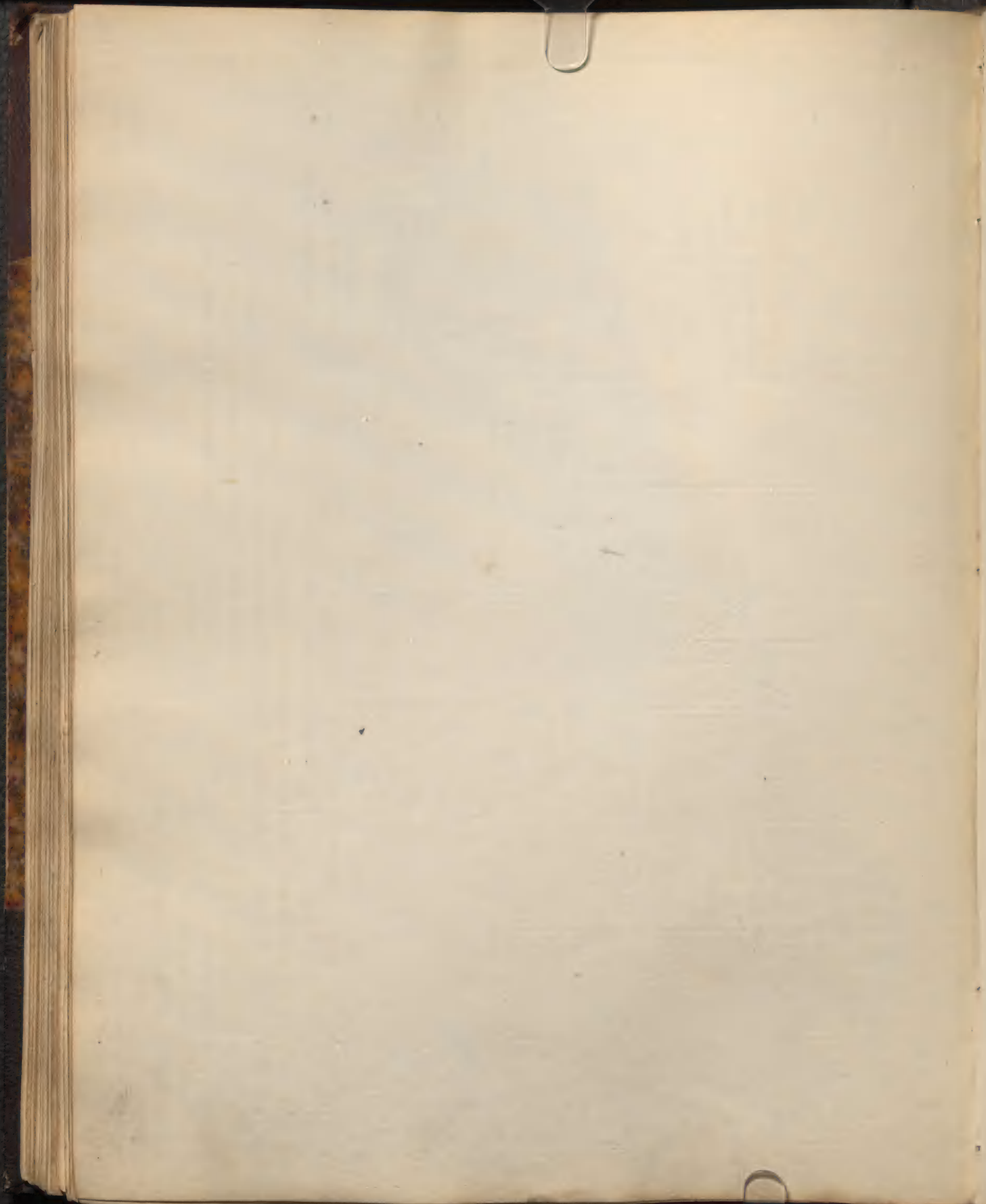




*Hence. Sept 10th 1828.
Fullsize. Correct.

Length $5\frac{1}{2}$ - $5\frac{3}{4}$ - $1\frac{1}{4}$ - 23 - inches. Breadth of gape $1\frac{1}{8}$ - inches. Narebits with a high rim all round  this shape. Tongue entire, narrow, flat, thin, fleshy. Whole plumage as you see. Sculls mottled except the ends. The belly, breast, & under tail-coverts in regular undulating band. Tail 10. wing. Tail 1, 2, 3, 3 joints. Middle membrane to both outer & inner, to the 1st joint. inner wing-coverts like belly. The eye is very  projecting beyond the side of head.

This as well as other Goat-suckers go in Swallow, by the name Gård. Ahina. Gård-konore. Lat konore.



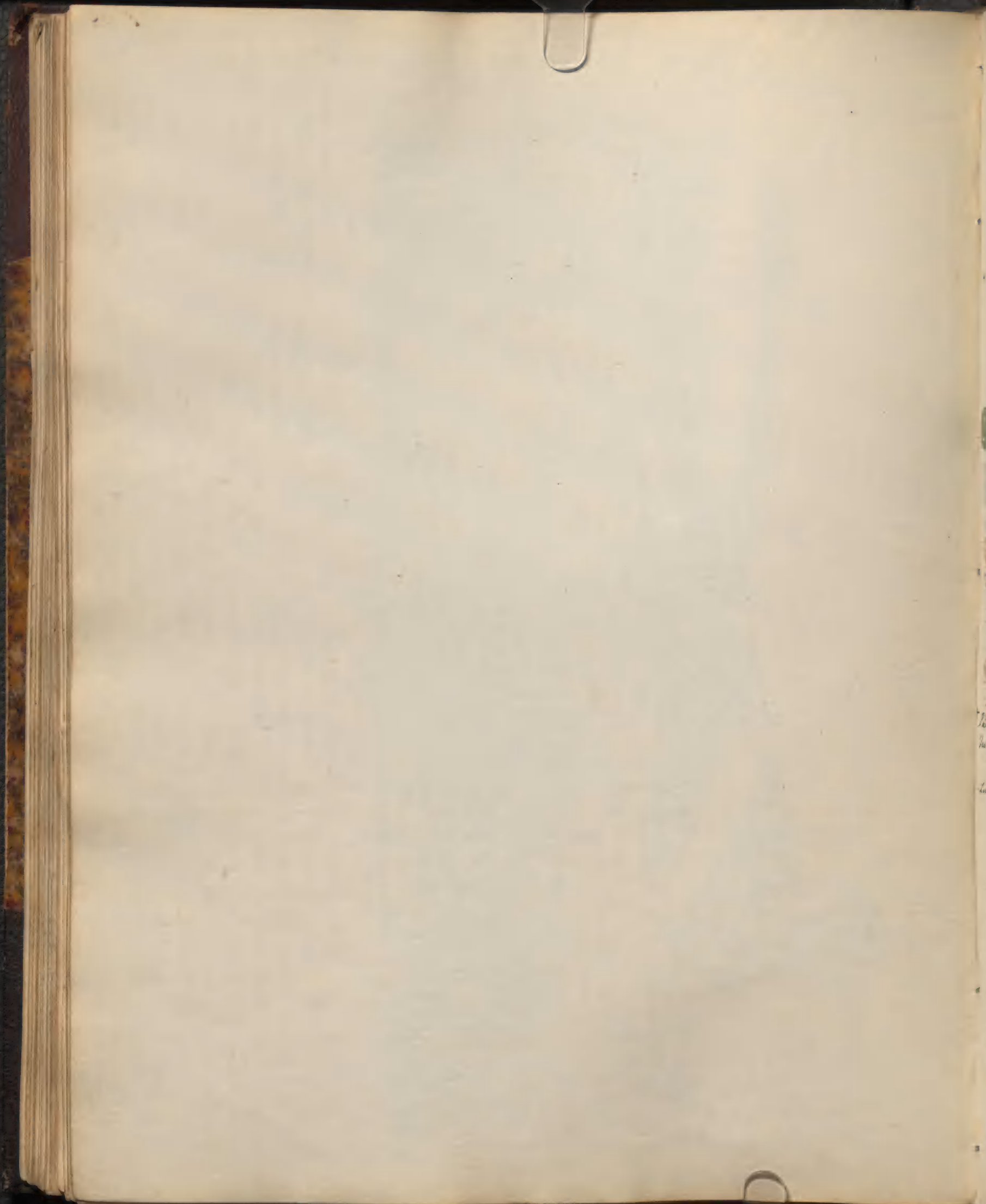


+ June 19th 1828. Killed at Wrokon.
Very correct. Full size.

Enicurus maculatus.

Length $4\frac{3}{4}$ - $5\frac{3}{4}$ - $7\frac{1}{8}$ - $13\frac{3}{4}$ inches. Through a dull looking bird on paper; the black in nature is a beautiful velvet, and the whole a glossy silky color, altogether it is one of the most beautiful birds I have seen. Bill compressed, the upper part rather sharp, has a notch. Nostrils perious, & covered with a membrane like the humming bird. Inner wing coverts, those near the body white, the others black. Sides of body just under shoulder black; the rest & all underneath white. Tail 12. The outer webs of the two outer on each side, are narrow at root, gradually diminishing, for two thirds the length; the remaining part having none. The two thirds are the same, but have no outer webs for 1 inch at the end. Toes 1, 2, 3, 4 joint. Middle & outer joined to 1st joint. The legs, feet, & claws, are a delicate light creamy flesh color. The smallness of the quills white at roots; this does not appear, the white bar across the wing, is composed of the larger outer coverts.

July 5th. Shot one in the upper half of the trees, was wholly blackish - brownish olive. with only two or 3 feathers near the shoulder tipped with white. Nostril & breast has ash-colored shafts. Lower part of breast & belly dirty white, with patches of light brown. in other respects the same. From the hardness of back & claws, it appeared full grown, so is probably the female.

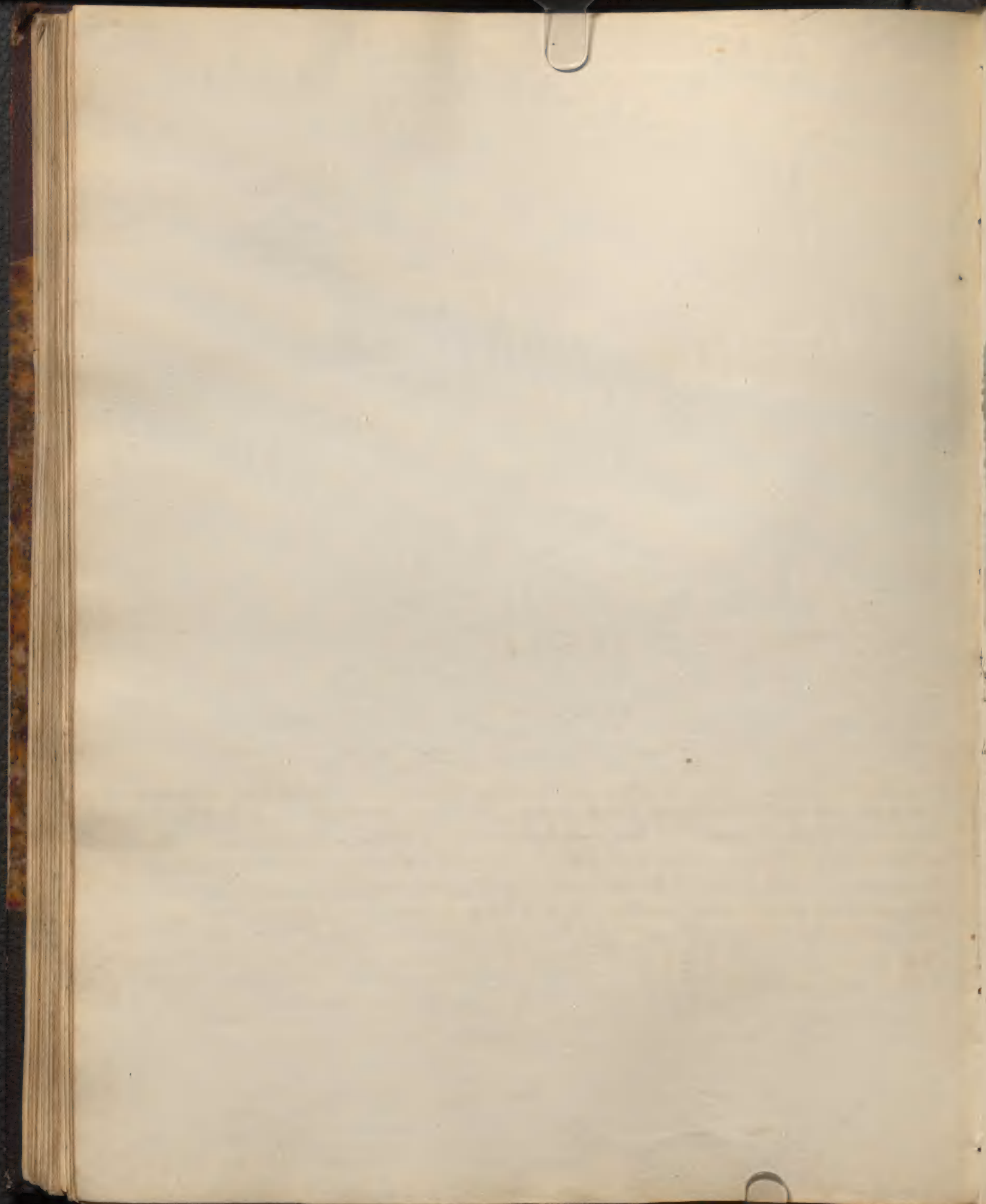




+ Piece 23 Sept. 1898.
Full size. correct.

Length. $4 - 3\frac{3}{4} - \frac{7}{4} - 2\frac{9}{10}$ - inches. Tongue horny, flat, & divided at the end. Nostrils
 perianous. The color of back extends to the rump. Inner wing coverts white. The smaller quills
 are white at the root. Tail 12. The right hand pair, 2^d, 3^d & 6th are drawn. The 4th &
 5th are like the 6th. Toes 1. 2. 3. 4 joints. middle & outer joined to 1st joint.
 The outer tail feather is all white except the root of shaft. next the same with part of the outer web
 blackish brown. the 3^d has more of the outer web blackish brown, & a little on the inner,
 6 middle black with brownish yellow edges.

These birds differ, in having the back more green, or blue: the under parts darker or lighter
 yellow. the quills & tail brownish black, or greenish - brownish. black. some have a tinge
 of yellow on the edge of the white tail-feathers.
 This bird had apparently almost done moulting.

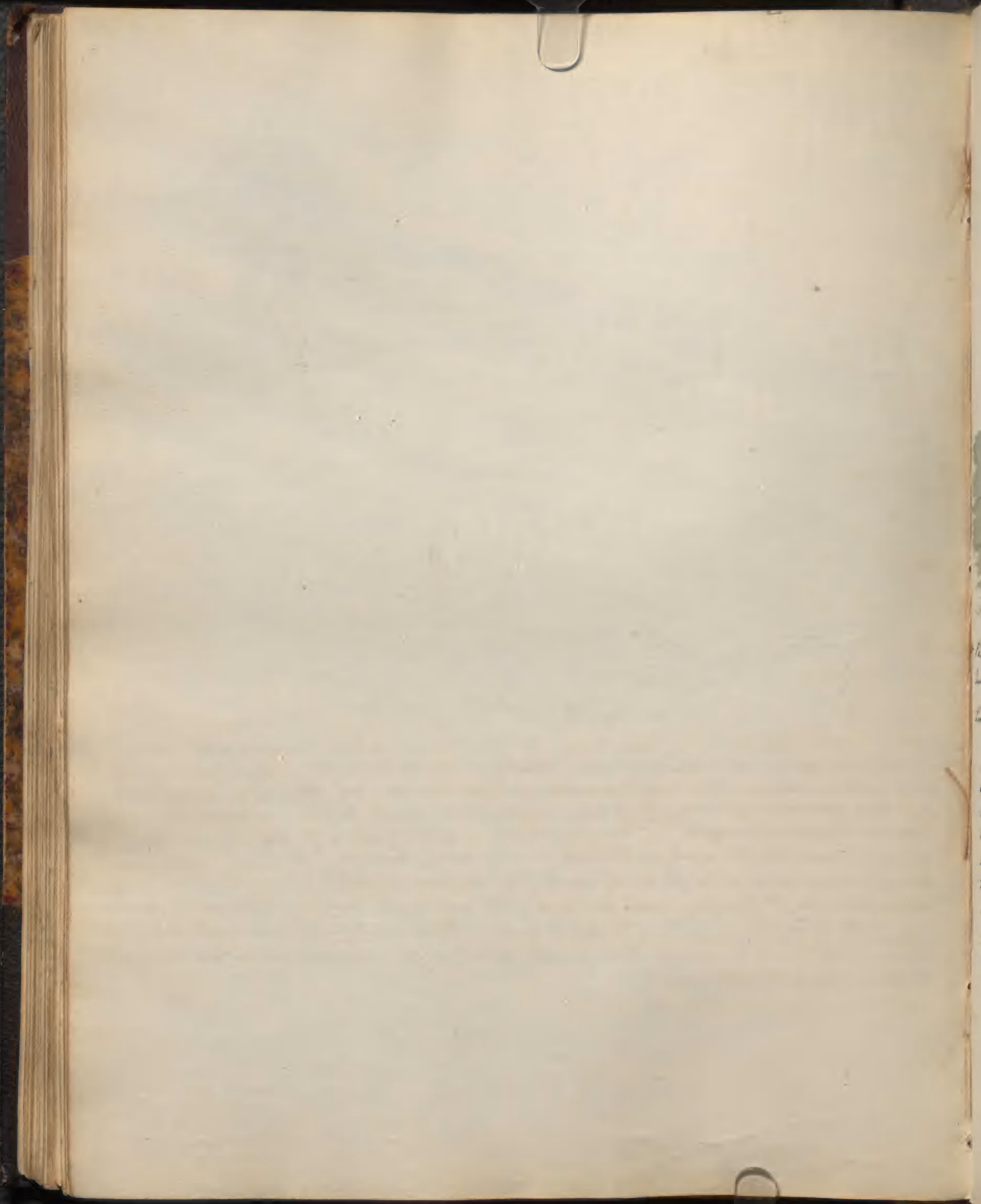


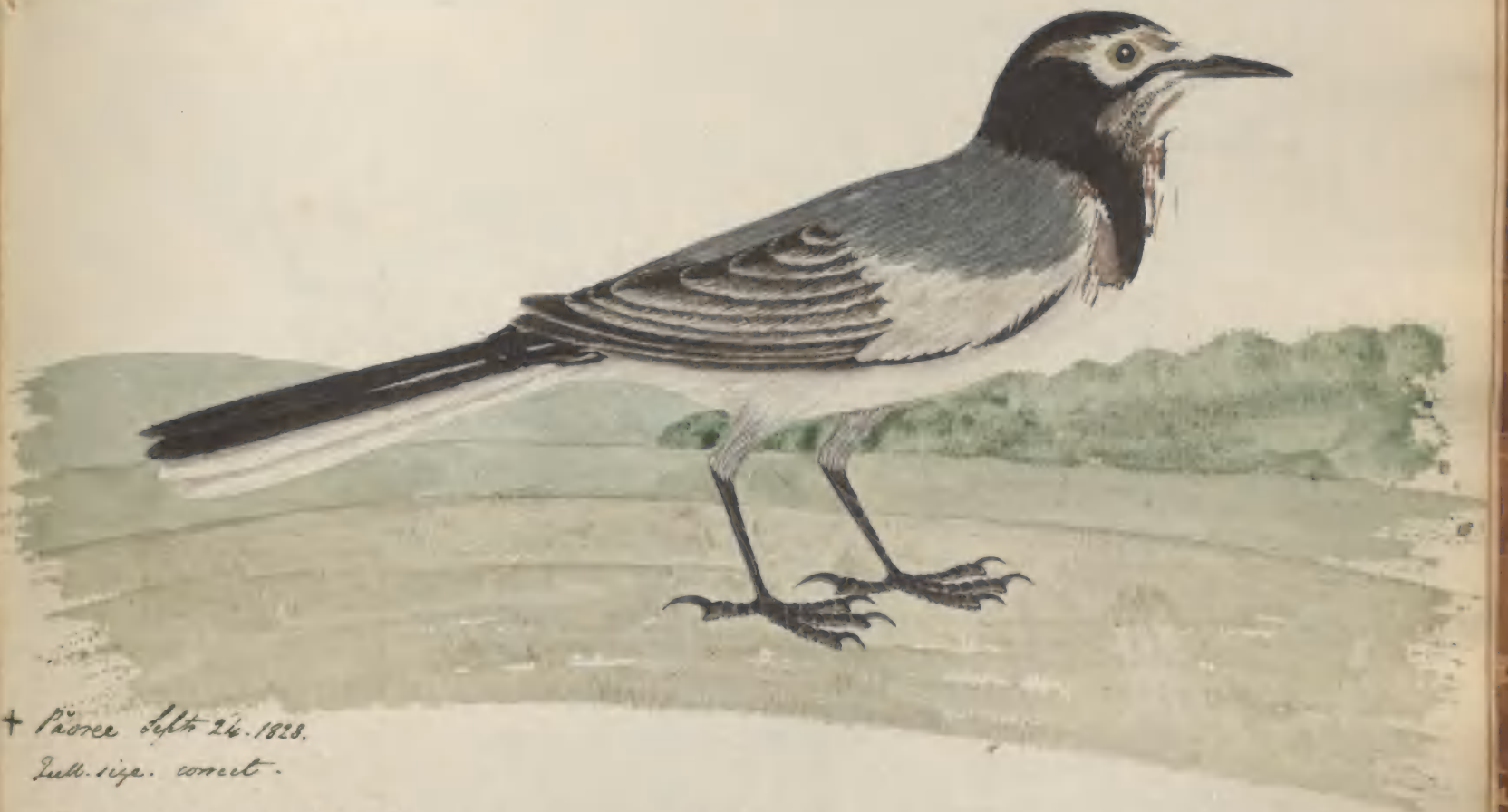


+ Fremont Oct 5th 1828
Full size, correct.

The Pied Wagtail . of Latham.

Length $4\frac{3}{4}$ - $4\frac{1}{4}$ - $3\frac{3}{4}$ - $12\frac{3}{4}$ - inches. Tongue thin, flat, narrow, at the end horny and bristled. Nostrils partially covered with a membrane. Bill has a very slight notch. Basal wing & quills black, with outer edge white. narrow on outer broad on inner quills. The quills have also the root half of the inner web white (wh does not appear.) except the three or four inner, & the two outer have only the edge of the inner web white. Sides blueish slate color. Upper tail coverts black; those at the sides edged with white on outer web. Tail 12. The outer white with the edge of inner web black for $\frac{3}{4}$ its length from the root, & a little black on outer web, close to the root. the 2nd the same with the black of the outer web, reaching beyond the coverts q. v. . the third black, with a little white on edge of outer web for $\frac{1}{3}$ from root. all rest black. Toes 1. 2. 3. 4. Middle joined to outer to 1st joint. The root half of all the white feathers is blackish slate. color.





+ Pooce Sept 26. 1828.

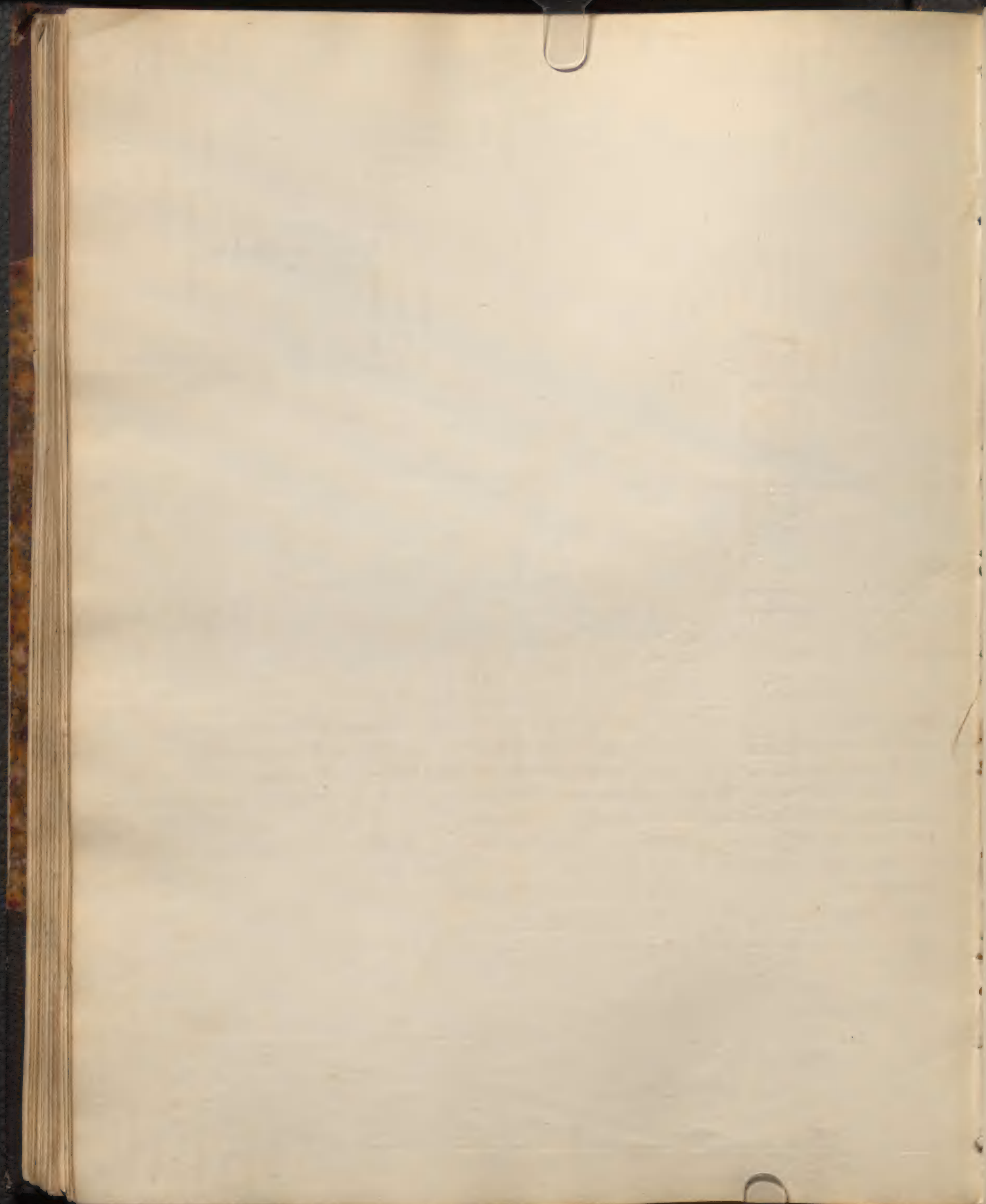
Sub. size. correct.

Length. $4\frac{3}{10}$ - $3\frac{3}{4}$ - $\frac{3}{4}$ - $11\frac{1}{10}$ - inches. Nostrils pervious. Tongue thin, very narrow, horny, and divided at the end. The quills are all blackish brown, with the outer edges white, or cream white, very narrow on the greater quills, broader on those towards the body. Tail 12. The outer white, with a little of the edge of the inner web, blackish; the next the same, with more black. These have close to the root a little black on shaft & outer web. all the rest are black, some of them have a narrow stripe of white on the outer web. In this only the two 3rd & 4th of the hind. 2nd & 3rd joints, middle and outer joined to 1st joint. inner wing coverts white, rump a little darker than the back. upper tail coverts black, some of them with white edges.

Called *Kanjun*. by the Punjabees *Chamehuree*.

This is only seen in the Hills during the six summer months.

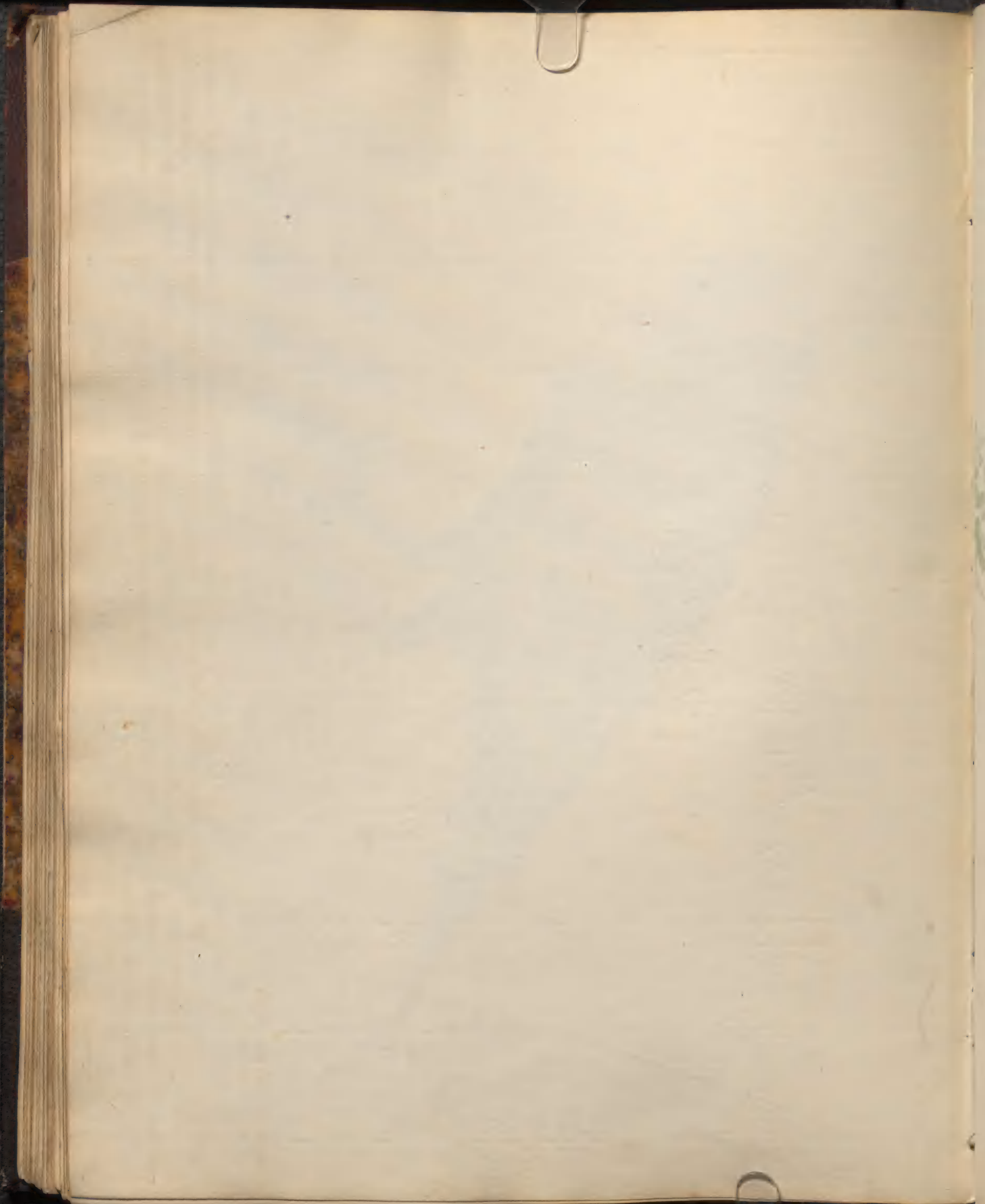
This bird had apparently just done moulting.





+ Muttwa Jan'y. 14. 1829.
Full size, correct.

Length $7\frac{5}{8}$ - $4\frac{1}{4}$ - $5\frac{1}{2}$ - 20 - inches. The grey space about the eye is covered with short down. 3 or 4 smaller quills $9\frac{1}{2}$ v. rest all blackish chocolate brown. the 6th to 11th are tipped with white. Outer wing coverts smaller like shoulder. greater like quill. Toes 1. 2. 3. 4. webbed together, but the web indented like this. Tail 16. very rounded except the 2 middle. Some of the larger under coverts are like the upper. Found all over Hindostan in plains. a shy-bird. much easier approached on horse-back than on foot.



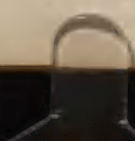


+ Amurpook. 24 June. 1839.
Full size. Correct.

Length $6\frac{1}{4}$ - $1 - 13\frac{1}{8}$ - inches. Tongue flat. thin. horny. Inner wing coverts white. The middle of the long quills are white; the white gradually nears the tips, and on the smallest quills the tips are white, forming a broad oblique bar when the wing is open. Tocs 1. 2. 3. 4 joints. middle joined to outer to the 1st joint. Tail 12. The 1st & 2^d white with black shaft. 3^d the same with a little black on edge of inner web. 4th black with 1 inch of tip white. 5th do with $\frac{1}{8}$ inch of tip white. 6th black. Common in most parts of Hindostan. never seen at in the Doon. Not held penonous.



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Descriptions and Additions to:

To Pl. 34. Fig 2. Length $3\frac{1}{2}$ - $1\frac{7}{8}$ - $\frac{1}{2}$ - $9\frac{5}{8}$ - inches. ^{& tongue.} Bill like a finch. nostrill close to the feathers. Hides brownish green. Inner wing-coverts yellow with dashes of grey. of outer wing-coverts smaller are yellow except those nearest the body: larger black with yellow tips. Quills have each a patch of yellow on the outer web in their centre. Rump yellow. Tail 12 slightly forked almost even. The two outer yellow. This is found in Hindostan & Gushwall called tootee or Huldeea Toottee. builds of fine grass in small bushes. Lays four eggs greyish white. I have seen them with the three outer tail-feathers yellow, and only two or three of the inner quills tipped with white. The females & young males, are dirty blackish green where this is black, & dirty greyish greenish yellow where this is yellow; nor are the hues between the colors so well defined, as they seem blending into one another.

Additions to the Descriptions.

To Pl. 61. Builds of grass, in trees. lays 2 eggs pure white. These differ much in the intensity & shade of the color. Some have more or less blue in the green of the back. in some the under parts are wholly, bright greenish yellow, and the dashes on the thighs, & the sides of the body under the wing are more green than dull blue - when young they are all over dull green, darker on upper parts, light ashy green on under. & the eye has the irides brown. at about 4 months old, the inner blue rim of the irides appears. this is shortly after followed by the outer red rim, and in about
Some have the pompadour only on the shoulder of the wing. male & female have voice alike, but latter has no pompadour, & generally the colors not so bright. (I had one which laid 3 eggs, in a cage by itself.)

To Pl. 60. Inner webs of tail, black slightly marked with blue. The outer tail feather blackish-brown on inner web with a very little blue near the root, white on outer web. These birds vary - I shot one with no white on the wing when the black & black stripe ends; but with the tips of the smaller half of the quills white, & the bastard wing wholly white - Shot another with white on the outer web of these the blue & black ends, only on the 11th 12th 13th & 14th quills. the bastard wing white with dashes of light brown. no white at tips of quills. - Shot another with the tip of every quill white, for about 1/2 an inch on the middle quills; for 3/8 inch on the greater & smaller. no white patch on the outer web of quills where the blue & black ends. but one on the inner web of the half greater quills at the same place. & small patches of white on a few of the outer quills above that. the white at the end of tail was 1 inch on outer feather, lessening to the middle one where it was 3/8 inch. the remaining part of the outer web of outer tail feather, black in the middle. slate color at root. In the undrawn, the inner web of quills except the 3 inner, is blackish, with a white spot on every one, close to the tip of the smaller, 2 inches from the tip of greater.

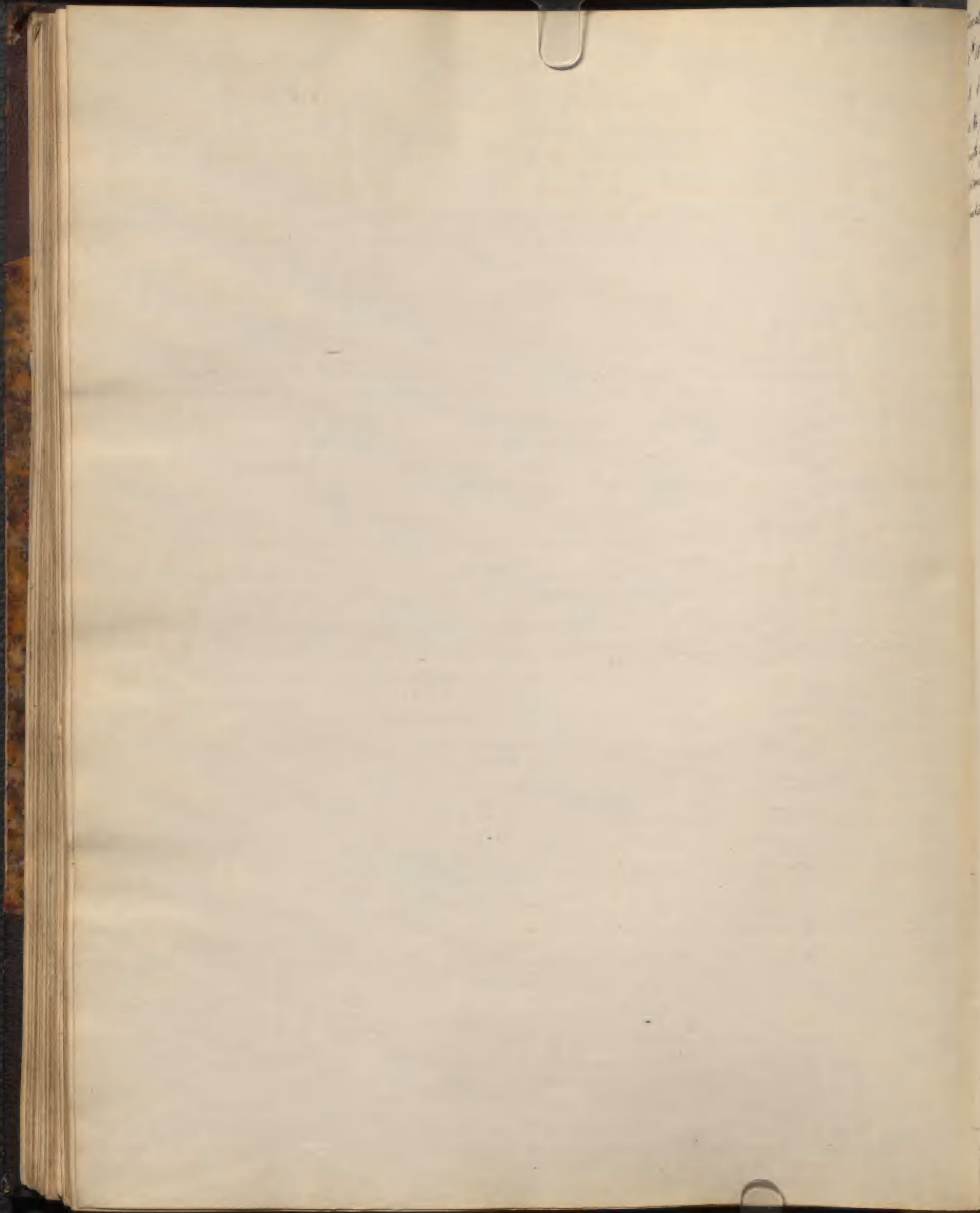
When the cow-boys find a nest, they set 20 or 30 nooses over it, & on the surrounding branches, as soon as one is caught it screeches, & brings a flock of them round, when several are caught they make a single screech, sometimes repeated, sometimes in pairs, sometimes seen in flock.

MS. to Pl. 26. The eye was injured, & the tail worn to a stump. but the outer feather appeared white on outer, grey on inner web; the 2nd. grey on outer, rufous on inner web. rest like upper tail coverts.



Varieties of tails to specimens of the Black-headed Oriole Pl. 22.

Additions to the Descriptions.



Additional Memorandums.

June 6th 1828 - From this date, for brevity's sake, the Length is noted in this way
"Length 6 - 3 - 1 - 15 - 2 - inch - and sometimes a sixth number will be added.
of these the first number means from point of bill to setting on of tail - the second,
the length of tail - the third, the length of bill - the fourth the breadth, the fifth
the distance between the end of wing when closed, & the tip of tail - the sixth, the
perpendicular height - but the two last will not always be noted.

Total 86 . to be finished at home 9.

