

Table 1 The bird species observed in and around Shivkhola and Latpanchar, part of Mahananda Wildlife Sanctuary, situated in the district of Darjeeling district of West Bengal, India. Their respective taxonomic positions (Family), Dietary guild [Car. – carnivore, Omn. – omnivore (= more than two feeding guild), Herb. – herbivore, Nect. – nectarivore, Gran. – granivore, Ins – insectivore, Frug. – frugivore], Foraging strata (GR – ground feeder, BF – bark feeder, CF – canopy feeder, AF – aquatic feeder, ASF – aerial surface feeder), Habitat strata (BC - broadleaf conifer, OF - Open forest, RB - river bed) dispersal status (R – resident, WV – winter visitor, SV – summer visitor, AM - altitude migrant), IUCN status (VU –Vulnerable, NT – Near-Threatened); and global population trend (Dec. – declining, Inc. – increasing, Stable – stable, and Unknown) was mentioned in the table

Family of Birds	Sl. No.	Common and Scientific Names	Dietary Guild	Foraging Strata	Habitat Strata	Dispersal status	Global trend	Shivkhola	Latpanchar
No Passeriformes (= Non-Passerines)									
Phasianidae	1	Indian Peafowl (<i>Pavo cristatus</i>)	Omn	GF	OF, BC	R	Stable	*	
Columbidae	2	Spotted Dove (<i>Spilopelia chinensis</i>)	Gran	GF	OF	R	Inc.	*	
	3	Ashy Woodpigeon (<i>Columba pulchricollis</i>)	Frug	CF	BC	AM	Dec.		*
Cuculidae	4	Emerald Dove (<i>Chalcophaps indica</i>)	Frug, Gran	GF, CF	BC	R	Dec.		*
	5	Green-billed Malkoha (<i>Phaenicophaeus strictis</i>)	Ins	GF, CF	OF	R	Stable	*	
	6	House Swift (<i>Apus nipalensis</i>)	Ins	ASF	OF	R	Inc.	*	
Apodidae	7	Himalayan Swiftlet (<i>Collocalia brevirostris</i>)	Ins	ASF	OF	R	Stable		*
	8	Red-wattled Lapwing (<i>Vanellus indicus</i>)	Ins, Gran	GF, AF	RB	R	Unknown	*	
Phalacrocoracidae	9	Little Cormorant (<i>Phalacrocorax niger</i>)	Pis	AF	RB	R	Unknown	*	
Ardeidae	10	Cattle Egret (<i>Bubulcus ibis</i>)	Ins	GF	OF, RB	R	Inc.	*	
Accipitridae	11	Himalayan Griffon (<i>Gyps himalayensis</i>) NT	Scv	GF	OF	R	Stable		*
	12	Crested Serpent Eagle (<i>Spilornis cheela</i>)	Car	GF, CF	OF, BC	R	Stable	*	*
	13	Black Eagle (<i>Ictinaetus malayensis</i>)	Car	CF	BC	R	Dec.		*
	14	Mountain Hawk-eagle (<i>Nisaetus nipalensis</i>)	Car	GF,CF,ASF	BC	R	Dec.		*
Strigidae	15	Asian Barred Owlet (<i>Glaucidium cuculoides</i>)	Ins, Car	ASF, GF	OF	R	Inc.	*	
Bucerotidae	16	Rufous-necked Hornbill (<i>Aceros nipalensis</i>) VU	Frug	CF	BC	AM	Dec.		*
	17	Great Hornbill (<i>Buceros bicornis</i>) VU	Omn	CF	OF	R	Dec.	*	
Alcedinidae	18	Crested Kingfisher (<i>Megaceryle lugubris</i>)	Pis	AF	RB	R	Dec.	*	

Meropidae	19	Blue-bearded Bee-eater (Nyctyornis athertoni)	Ins	ASF	BC	R	Stable		*
Megalaimidae	20	Great Barbet (Megalaima virens)	Frug	CF	OF, BC	AM	Dec.		*
	21	Blue-throated Barbet (Megalaima asiatica)	Frug	CF	OF, BC	R	Stable	*	*
Picidae	22	Greater Yellownape (Picus flavinucha)	Ins	BF, CF	OF	R	Dec.	*	
	23	Lesser Yellownape (Picus chlorolophus)	Ins	BF, CF	BC	R	Stable		*
	24	Grey-headed Woodpecker (Picus canus)	Omn	BF, CF	BC	R	Inc.		*
	25	Gray-capped Pygmy Woodpecker (Dendrocopos canicapillus)	Omn	BF, CF	OF, BC	R	Stable	*	*
Passeriformes (=Passerines)									
Eurylaimidae	26	Long-tailed Broadbill (Psarisomus dalhousiae)	Ins	CF	BC	R	Dec.	*	
Vangidae	27	Common Woodshrike (Tephrodornis pondicerianus)	Ins	ASF, BF	GF, BC	R	Stable		*
	28	Large Woodshrike (Tephrodornis virgatus)	Ins	ASF, BF	GF, OF	R	Stable	*	*
Campephagidae	29	Scarlet Minivet (Pericrocotus flammeus)	Ins	CF	OF, BC	R	Dec.	*	*
	30	Black-winged Cuckoo shrike (Coracina melaschistos)	Ins	CF	BC	AM	Dec.		*
Laniidae	31	Long-tailed Shrike (Lanius schach)	Ins	ASF	OF	R	Unknown	*	
	32	Brown Shrike (Lanius cristatus)	Ins	ASF	BC	WV	Dec.	*	
	33	Gray-backed Shrike (Lanius tephronotus)	Ins	ASF	BC	AM	Stable	*	*
Vireonidae	34	Blyth's Shrike-babbler (Pteruthius aeralatus)	Ins, Frug	CF	BC	AM	Dec.		*
Oriolidae	35	Maroon Oriole (Oriolus traillii)	Omn	CF	BC	R	Stable		*
Dicruridae	36	Black Drongo (Dicrurus macrocercus)	Ins	ASF	OF	R	Unknown		*
	37	Bronzed Drongo (Dicrurus aeneus)	Ins	ASF	OF	R	Unknown		*
	38	Greater Racket-tailed Drongo (Dicrurus paradiseus)	Ins	ASF	OF	R	Dec.	*	
	39	Ashy Drongo (Dicrurus leucophaeus)	Ins	ASF	BC, OF	AM	Unknown	*	*
	40	Hair-crested Drongo (Dicrurus hottentottus)	Ins	ASF	BC, OF	R	Unknown	*	

Corvidae	41	Large-billed Crow (<i>Corvus macrorhynchos</i>)	Scv	GF, CF	OF	R	Stable	*	*
	42	Gray Treepie (<i>Dendrocitta formosae</i>)	Omn	CF	BC, OF	R	Dec.	*	*
	43	Common Green Magpie (<i>Cissa chinensis</i>)	Ins, Car	GF,CF	OF, BC	R	Dec.	*	
Stenostiridae	44	Grey-headed Canary-flycatcher (<i>Culicicapa ceylonensis</i>)	Ins	CF	BC	AM	Stable		*
Paridae	45	Sultan Tit (<i>Melanochlora sultanea</i>)	Ins	CF	BC	R	Dec.		*
	46	Green-backed Tit (<i>Parus monticolus</i>)	Ins	CF	BC	R	Stable		*
	47	Black-lored Tit (<i>Parus xanthogenys</i>)	Ins	CF	BC	R	Stable		*
Pycnonotidae	48	Red-vented Bulbul (<i>Pycnonotus cafer</i>)	Omn	CF	OF	R	Inc.	*	*
	49	Striated Bulbul (<i>Pycnonotus striatus</i>)	Ins, Frug	CF	BC	AM	Stable		*
	50	White-throated Bulbul (<i>Alophoixus flaveolus</i>)	Ins, Frug	CF	BC	R	Stable		*
	51	Himalayan Bulbul (<i>Pycnonotus leucogenys</i>)	Omn	CF	OF	R	Inc.	*	
	52	Black Bulbul (<i>Hypsipetes leucocephalus</i>)	Omn	CF	OF, BC	R	Stable		*
	53	Black-crested Bulbul (<i>Pycnonotus flaviventris</i>)	Ins, Frug	CF	OF	R	Dec.	*	
Hirundinidae	54	Barn Swallow (<i>Hirundo rustica</i>)	Ins	ASF	OF	R	Dec.		*
Phylloscopidae	55	Blyth's Leaf-warbler (<i>Phylloscopus reguloides</i>)	Ins	CF	BC	AM	Stable		*
	56	Hume's Leaf-warbler (<i>Phylloscopus humei</i>)	Ins	CF	BC	WV	Stable		*
	57	Ashy-throated Warbler (<i>Phylloscopus maculipennis</i>)	Ins	CF	BC	R	Stable		*
	58	Greenish Warbler (<i>Phylloscopus trochiloides</i>)	Ins	CF	BC	WV	Inc.		*
	59	Grey-hooded Warbler (<i>Phylloscopus xanthoschistos</i>)	Ins	CF	BC	R	Stable		*
Cisticolidae	60	Common Tailor Bird (<i>Orthotomus sutorius</i>)	Ins	CF	OF	R	Stable	*	*
Timaliidae	61	White-browed Scimitar-babbler (<i>Pomatorhinus schisticeps</i>)	Ins	CF, GF	BC	R	Dec.		*
Leiothrichidae	62	Red-tailed Minla (<i>Minla ignotincta</i>)	Ins	CF	BC	R	Dec.		*
	63	Blue-winged Siva (<i>Siva cyanouroptera</i>)	Ins	CF	BC	R	Dec.		*
	64	Rufous Sibia (<i>Heterophasiaca pistrata</i>)	Ins, Frug	CF	BC	R	Unknown		*
Zosteropidae	65	Oriental White-eye (<i>Zosterops palpebrosus</i>)	Ins	CF	BC	R	Dec.		*

	66	Whiskered Yuhina (<i>Yuhina flavicollis</i>)	Ins	CF	BC	AM	Unknow n	*	*
	67	Black-chinned Yuhina (<i>Yuhina nigrimenta</i>)	Ins	CF	BC	R	Dec.	*	*
Sittidae	68	Chestnut-bellied Nuthatch (<i>Sitta cinnamoventris</i>)	Ins, Gran	BF, CF	BC,OF	R	Unknow n	*	*
	69	Velvet-fronted Nuthatch (<i>Sitta frontalis</i>)	Ins	BF, CF	BC	R	Dec.	*	*
Sturnidae	70	Chestnut-tailed Starling (<i>Sturnia malabarica</i>)	Ins	CF	OF	R	Unknow n	*	*
	71	Common Myna (<i>Acridotheres tristis</i>)	Omn	GF, CF	OF	R	Inc.	*	*
	72	Common Hill Myna (<i>Gracula religiosa</i>)	Omn	CF	OF	R	Dec.	*	*
Turdidae	73	Black-throated Thrush (<i>Turdus atrogularis</i>)	Omn	GF	BC, OF	WV	Unknow n	*	*
	74	Grey-winged Blackbird (<i>Turdus boulboul</i>)	Ins	CF,GF	BC	R	Dec.	*	*
Muscicapidae	75	Verditer Flycatcher (<i>Eumyias thalassinus</i>)	Ins	CF	OF	SV	Stable	*	*
	76	Taiga Flycatcher (<i>Ficedula albicilla</i>)	Ins	CF	OF	WV	Stable	*	*
	77	Little Pied Flycatcher (<i>Ficedula westermanni</i>)	Ins	CF	BC	R	Dec.	*	*
	78	Rufous-gorgeted Flycatcher (<i>Ficedula strophciata</i>)	Ins	CF	BC	R	Stable	*	*
	79	Blue-whistling Thrush (<i>Myophonus caeruleus</i>)	Ins	CF, GF	OF, BC	RB, R	Unknow n	*	*
	80	Blue Rock-thrush (<i>Monticola solitarius</i>)	Ins	GF	OF	WV	Stable	*	*
	81	Himalayan Bluetail (<i>Tarsiger rufilatus</i>)	Ins	CF, GF	BC	AM	Stable	*	*
	82	Rufous-bellied Niltava (<i>Niltava sundara</i>)	Ins	CF	BC	AM	Stable	*	*
	83	White-capped Water-Redstart (<i>Chaimarrornis leucocephalus</i>)	Ins	AF	RB	R	Stable	*	*
	84	Hodgson's Redstart (<i>Phoenicurus hodgsoni</i>)	Ins	AF	RB	WV	Stable	*	*
	85	Plumbeous Water-Redstart (<i>Rhyacornis fuliginosa</i>)	Ins	AF	RB	R	Stable	*	*
	86	Blue-fronted Redstart (<i>Phoenicurus frontalis</i>)	Ins	CF	BC	AM	Stable	*	*
Chloropseidae	87	Golden-fronted Leafbird (<i>Chloropsis aurifrons</i>)	Omn	CF	BC	R	Stable	*	*
	88	Orange-bellied Leafbird (<i>Chloropsis hardwickii</i>)	Omn	CF	BC	R	Dec.	*	*

Nectariniidae	89	Purple Sunbird (<i>Cinnyris asiaticus</i>)	Nec	CF	BC	R	Stable		*
	90	Crimson Sunbird (<i>Aethopyga siparaja</i>)	Nec	CF	BC	AM	Stable	*	*
	91	Black-throated Sunbird (<i>Aethopyga saturata</i>)	Nec	CF	BC	AM	Stable		*
	92	Mrs.Gould's Sunbird (<i>Aethopyga gouldiae</i>)	Nec	CF	BC	AM	Stable		*
	93	Streaked Spiderhunter (<i>Arachnothera magna</i>)	Ins,Nec	CF	BC	AM	Stable	*	
Passeridae	94	Russet Sparrow (<i>Passer rutilans</i>)	Gran	GF	BC	R	Stable		*
	95	Eurasian Tree Sparrow (<i>Passer montanus</i>)	Gran	GF	BC	R	Dec.		*
Motacillidae	96	Olive-backed Pipit (<i>Anthus hodgsoni</i>)	Ins	GF, CF	OF	WV	Stable	*	
Fringillidae	97	Common Rosefinch (<i>Carpodacus erythrinus</i>)	Omn	CF	BC	WV	Dec.		*
	98	Scarlet Finch (<i>Haematospiza sipahi</i>)	Frug, Gran	CF	BC	R	Stable		*

ns that influence distribution pattern of bird community