

Supplementary data

Assessment of Surrogate of Ecosystem Health Using Indicator Species and Mixed-Species Bird Flock

Appendix 1. List of species with each IV values in three different areas at BBSNP and its presences in joining mixed-species flock

Species	IV forest	IV agriculture	IV edge	Mixed flock
<i>Aceros undulatus</i>	1.39	0	2.78	0
<i>Aegithina viridissima</i>	0.44	0	22.37	1
<i>Alcedo atthis</i>	1.39	1.39	1.39	0
<i>Alcedo meninting</i>	1.39	0	5.56	0
<i>Amaurornis phoenicurus</i>	0	4.17	0	0
<i>Anthreptes malacensis</i>	0.39	28.97	12.21	0
<i>Anthreptes singalensis</i>	1.67	0	5	1
<i>Aplonis panayensis</i>	0	24.59	0.07	1
<i>Arachnotera robusta</i>	1.39	1.39	1.39	0
<i>Arachnotera flavigaster</i>	0	4.17	0	0
<i>Arachnotera longirostra</i>	46.26	1.36	14.56	1
<i>Argusianus argus</i>	15.63	0	2.08	0
<i>Aviceda jerdoni</i>	0	8.33	0	0
<i>Bubo sumatranus</i>	2.08	0	2.08	0
<i>Buceros rhinoceros</i>	9.38	1.04	0	0
<i>Cacomantis merulinus</i>	1.39	36.11	11.46	1
<i>Cacomantis sepulcralis</i>	0	2.08	2.08	0
<i>Calorhamphus fuliginosus</i>	0.42	0	11.25	0
<i>Calyptomena viridis</i>	4.17	0	0	0
<i>Celeus brachyurus</i>	0.46	13.89	1.85	1
<i>Centropus bengalensis</i>	0.18	0.36	21.74	0
<i>Centropus sinensis</i>	4.17	4.17	4.17	1
<i>Ceyx rufidorsa</i>	0	0	12.5	0
<i>Chalcophaps indica</i>	0.46	5.56	1.85	0
<i>Chloropsis cochichinensis</i>	8.33	0	0	0
<i>Chloropsis cyanopogon</i>	0	0	8.33	0
<i>Collocalia linchi</i>	1.01	8.11	28.15	0
<i>Copsychus saularis</i>	0	12.5	0	0
<i>Corvus enca</i>	1.79	0.6	1.79	0
<i>Corydon sumatranus</i>	19.74	0	0.88	1
<i>Cymbirhynchus macrorhynchos</i>	0	1.04	9.38	0
<i>Dicaeum agile</i>	1.39	1.39	1.39	0
<i>Dicaeum cruentatum</i>	0.64	13.46	15.38	1
<i>Dicaeum sanguinolentum</i>	0	4.17	0	0

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<i>Dicaeum trigonostigma</i>	0.42	50.72	29.62	1
<i>Dicaeum trochileum</i>	0	2.08	2.08	1
<i>Dicrurus aeneus</i>	10	0	0.83	0
<i>Dicrurus paradiseus</i>	7.94	0	20.63	1
<i>Dicrurus sumatranus</i>	8.33	0	0	0
<i>Dinopium javensis</i>	0	0.83	3.33	0
<i>Ducula aenea</i>	14.2	0.15	0.93	0
<i>Enicurus leschenaulti</i>	2.08	0	2.08	0
<i>Enicurus velatus</i>	4.17	0	0	0
<i>Eurylaimus javanicus</i>	12.5	0	0	0
<i>Eurylaimus ochromalus</i>	41.67	0.16	4.01	0
<i>Gallus gallus</i>	2.78	0	1.39	0
<i>Geopelia striata</i>	0	28.89	17.59	0
<i>Gracula religiosa</i>	8.58	15.32	23.1	0
<i>Halcyon cyanoventris</i>	0	0	4.17	0
<i>Halcyon smyrnensis</i>	0	18.33	11.25	0
<i>Harpactes duvaucelii</i>	4.17	0	0	0
<i>Hemicircus concretus</i>	0	1.39	2.78	1
<i>Hemiprocne longipennis</i>	0	11.67	5	0
<i>Hemipus hirundinaceus</i>	0	0	8.33	1
<i>Hirundo tahitica</i>	0	4.17	0	0
<i>Hypogramma hypogrammicum</i>	4.17	0	0	0
<i>Ictinaetus malayensis</i>	4.17	0.93	3.7	0
<i>Iole olivacea</i>	4.17	0	0	0
<i>Lalage nigra</i>	0	11.11	2.78	1
<i>Lanius tigrinus</i>	0	8.33	0	1
<i>Lonchura leucogastroides</i>	0	36.04	2.25	0
<i>Lonchura maja</i>	0	3.79	0.38	1
<i>Lonchura punctulata</i>	0	17.31	3.85	1
<i>Lonchura striata</i>	0	18.75	0.42	0
<i>Loriculus galgulus</i>	0	4.17	0	0
<i>Macronous gularis</i>	8.59	15.1	26.25	1
<i>Macronous ptilosus</i>	8.33	0	0	0
<i>Macropygia ruficeps</i>	3.33	0	5	0
<i>Macropygia uncal</i>	0	4.17	0	0
<i>Megalaima australis</i>	6.67	1.11	11.67	0
<i>Megalaima chrysopogon</i>	23.08	0	5.13	0
<i>Megalaima haemacephala</i>	1.04	1.04	4.17	0
<i>Megalaima mystacophanos</i>	30.17	6.54	15.88	1
<i>Meiglyptes tristis</i>	1.04	0	9.38	1

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<i>Meiglyptes tukki</i>	0.42	0.83	8.75	0
<i>Merops viridis</i>	0.17	6.94	13.02	1
<i>Microhierax fringillarius</i>	3.75	2.5	3.33	0
<i>Muscicapa dauurica</i>	0	0	12.5	1
<i>Nectarinia jugularis</i>	2.75	55.83	8.25	1
<i>Oriolus xanthonotus</i>	22.16	0	5.11	1
<i>Orthotomus ruficeps</i>	1.45	46.5	28.74	1
<i>Orthotomus sericeus</i>	1.34	18.15	8.87	1
<i>Orthotomus sutorius</i>	0	2.08	2.08	1
<i>Passer montanus</i>	0	4.17	0	0
<i>Pellorneum capistratum</i>	2.08	0	2.08	0
<i>Pericrocotus cinnamomeus</i>	1.04	0	3.13	1
<i>Pericrocotus flammeus</i>	3.33	0	2.5	1
<i>Phaenicophaeus chlorophaeus</i>	43.33	0	3.33	1
<i>Phaenicophaeus curvirostris</i>	0.46	0	14.81	1
<i>Phaenicophaeus diardi</i>	0	0	8.33	0
<i>Phaenicophaeus javanicus</i>	2.08	0	2.08	0
<i>Phaenicophaeus tristis</i>	2.08	0	2.08	0
<i>Philentoma pyropterus</i>	4.17	0	0	1
<i>Picoides moluccensis</i>	0	55.74	1.35	1
<i>Picus miniaceus</i>	0.52	0.52	15.63	0
<i>Picus puniceus</i>	17.31	0.64	15.38	1
<i>Pitta guajana</i>	20	0.28	6.67	1
<i>Pitta sordida</i>	2.08	0	2.08	0
<i>Platysmurus leucopterus</i>	12.21	0.19	39.24	1
<i>Ploceus philippinus</i>	0	4.17	0	0
<i>Prinia familiaris</i>	0.1	30.56	7.74	1
<i>Prinia flaviventris</i>	1.04	0	3.13	0
<i>Prionochilus percussus</i>	0	0	4.17	0
<i>Prionochilus maculatus</i>	5.56	0	1.39	1
<i>Psittinus cyanurus</i>	0	13.64	0.76	0
<i>Ptilinopus melanospila</i>	0	0	4.17	0
<i>Pycnonotus atriceps</i>	1.63	1.09	15.4	1
<i>Pycnonotus aurigaster</i>	0.13	65.92	17.28	1
<i>Pycnonotus brunneus</i>	4.97	3.08	38.35	1
<i>Pycnonotus erythrophthalmos</i>	1.79	0	7.14	0
<i>Pycnonotus goiavier</i>	0.6	40.86	36.7	1
<i>Pycnonotus melanicterus</i>	18.25	16.58	43.06	1
<i>Pycnonotus simplex</i>	0.79	4.17	14.29	1
<i>Reinwardtipicus validus</i>	0	0	8.33	0

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<i>Rhinoplax vigil</i>	10.42	0	0.69	0
<i>Spilornis cheela</i>	0	5.95	2.38	0
<i>Spizaetus alboniger</i>	0	4.17	0	0
<i>Stachyris erythroptera</i>	4.17	0	0	0
<i>Streptopelia bitorquata</i>	0	8.93	2.38	0
<i>Streptopelia chinensis</i>	0	28.26	21.92	1
<i>Surniculus lugubris</i>	0.6	13.1	20.09	1
<i>Theprodomis gularis</i>	4.17	0	0	0
<i>Todirhamphus chloris</i>	0.96	25.96	3.21	0
<i>Treron capellei</i>	5.54	0	4.64	0
<i>Treron vernans</i>	1.88	0	28.33	1
<i>Tricholestes criniger</i>	13.89	0	0.69	0
<i>Turnix suscitator</i>	0	4.17	0	0