



The Passerine Predicament: 2012

Robert Webster
The Toledo Zoo

PACCT

- **P**ASSERIFORMES
- **A**PODIFORMES
- **C**APRIMULGIFORMES
- **C**OLIIFORMES
- **T**ROGONIFORMES









Most-numerous Passerines in North American Isis Institutions

December, 1984

- 1) **Bali Mynah – 411**
- 2) Zebra Finch – 110
- 3) **Red-billed Leiothrix -108**
- 4) Gouldian Finch – 92
- 5) Superb Starling – 83
- 6) **Red-crested Cardinal – 76**
- 7) Fairy Bluebird – 58
- 8) Emerald Starling -49
- 9) Red Bishop – 45
- 10) Common Shama Thrush – 41
- 10) White-crested Laughing Thrush – 41



Most-numerous Passerines 12-84 cont.

- 12) Red-billed Blue Magpie – 39
- 13) Black-rumped Waxbill – 37
- 14) Hill Mynah - 36
- 15) Wattled Starling - 33
- 16) Red-vented Bulbul – 32
 - Crimson Seedcracker – 32
 - Black-winged Starling – 32
- 19) Oriental White-eye – 31
- 20) Andean Cock-of-the-Rock - 30
 - Golden Tanager - 30



Most-numerous Passerines in North American Isis Institutions

December, 1996

- 1) Bali Mynah – 242
- 2) Red Bishop – 228
- 3) Red-billed Leiothrix -183
- 4) Superb Starling – 158
- 5) Orange-cheeked Waxbill – 136
- 6) Fairy Bluebird – 117
- 7) Blue-grey Tanager – 108
- 8) **Orange-breasted Avadavat – 98**
- Gouldian Finch – 98
- 10) Silver-eared Mesia – 97
- Golden-breasted Starling -97



Most-numerous Passerines 12-96 cont.

- 12) Silver-beaked Tanager – 85
- 13) Emerald Starling – 84
- 14) Red-crested Cardinal – 82
- 15) Taveta Golden Weaver – 79
- 16) Turquoise Tanager – 77
- 17) Red-legged Honeycreeper – 76
- 18) White-headed Buffalo Weaver – 75
- 19) White-crested Laughing Thrush – 73
- Long-tailed Finch – 93



Most-numerous Passerines in North American ISIS Institutions

December, 2006

- 1) Zebra Finch – 310
- 2) Gouldian Finch – 282
- 3) Taveta Golden Weaver – 256
- 4) Bali Mynah – 200
- 5) Red Bishop – 179
- 6) Red-billed Leiothrix – 152
- Emerald Starling - 152
- Superb Starling – 152
- 9) Saffron Finch – 142
- Gold-breasted Starling - 142



Most-numerous Passerines

December, 2006 cont.

- 11) Oriental White-eye – 138
- 12) Blue-grey Tanager – 114
- 13) Silver-beaked Tanager – 112
- 14) Fairy Bluebird – 105
- 15) Metallic Starling – 100
- Grosbeak Starling – 100
- 17) Violet-backed Starling – 95
- 18) Long-tailed Finch – 94
- 19) Orange-cheeked Waxbill – 84
- 20) Double-barred Finch - 79

36 species in most-numerous list
from 12-96 are not in same list for
12-06



Including...

- Sudan Golden Sparrow
- European Goldfinch
- Yellow-billed Cardinal
- Red-billed Fire Finch
- Blue Jay
- Red-faced Liocichla
- Iiwi
- Green Magpie
- Lesser Bird of Paradise
- Sulawesi Mynah

Most-numerous Passerines

January 1, 2012



MOST-NUMEROUS PASSERINES IN NORTH AMERICAN ISIS INSTITUTIONS

1-12 rank	Species	1-12 population	# hatched last 12 months	1-11 pop	1-07 pop
1	Taveta Golden Weaver	754	154	567	256
2	Zebra Finch	227	11	258	310
3	*Superb Starling	197	22	181	152
4	Gouldian Finch	193	15	154	282
5	Saffron Finch	177	13	152	140
6	Metallic Starling	154	17	123	100
7	Bali Mynah	150	6	181	200
8	*Long-tailed Finch	132	9	120	88
9	*Red-capped Cardinal	124	4	139	73
10	Blue-Grey Tanager	117	15	109	113
11	*Gold-breasted Starling	116	11	117	138
	Grosbeak Starling	116	9	112	100
13	*Red Bishop	110	2	108	177
	Emerald Starling	110	-	111	152
15	White-headed Buffalo Weaver	105	16	81	56
16	*White-cheeked Bulbul	95	18	65	-

* - indicates species is represented by more than one taxa

MOST-NUMEROUS PASSERINES IN NORTH AMERICAN ISIS INSTITUTIONS

1-12 rank	Species	1-12 population	# hatched last 12 months	1-11 pop	1-07 pop
	Javan Sparrow	95	-	119	74
18	*Violet-backed Starling	85	-	100	83
19	*Red-billed Leiothrix	82	13	73	149
	Sociable Weaver	82	-	48	39
21	White-crested Laughing Thrush	78	4	73	78
22	*Common Shama Thrush	75	11	64	68
	*Collared Finch-billed Bulbul	75	16	77	44
24	Star Finch	74	17	31	47
25	Red-crested Cardinal	72	4	71	60
26	*Crested Oropendola	70	2	71	69
27	*Fairy Bluebird	68	2	86	99
28	Red-vented Bulbul	67	9	62	13
29	*Turquoise Tanager	64	7	58	78
30	Double-barred Finch	63	5	57	79
31	Blue-faced Honeyeater	58	4	49	49
	Paradise Tanager	58	-	61	38
33	Silver-beaked Tanager	56	8	63	112
34	Azure-winged Magpie	55	6	44	40

* - indicates species is represented by more than one taxa

MOST-NUMEROUS PASSERINES IN NORTH AMERICAN ISIS INSTITUTIONS

1-12 rank	Species	1-12 population	# hatched last 12 months	1-11 Pop	1-07 Pop
35	Golden White-eye	51	7	35	-
	*Raven	51	-	59	48
37	*Golden-headed Manakin	50	2	50	29
	Common Crow	50	-	54	51
39	*Andean Cock-of-the-Rock	49	9	26	22
	Red-legged Honeycreeper	49	-	52	57
	White-breasted Wood-Swallow	49	6	40	38
	*Raggiana Bird of Paradise	49	-	40	37
43	White-vented Bulbul (<i>P. barbatus</i>)	48	2	40	27
	Plush-crested Jay	48	1	45	40
45	Magpie Shrike	47	14	28	12
	Snowy-headed Robin-Chat	47	3	49	57
	Cutthroat Finch	47	7	27	13
48	Loggerhead Shrike	46	-	40	20
	Magpie Robin	46	1	41	43
50	Blue-capped Cordon-Bleu	43	6	40	68

* - indicates species is represented by more than one taxa

MOST-NUMEROUS PASSERINES IN NORTH AMERICAN ISIS INSTITUTIONS

1-12 rank	Species	1-12 population	# hatched last 12 months	1-11 pop	1-07 pop
51	*American Robin	42	3	38	38
	*Saipan/Bridled White-eye	42	-	45	-
	White-necked Raven	42	3	40	29
54	*Hooded Pitta	39	1	40	35
	Troupial	39	3	35	31
	Common Waxbill	39	-	61	25
	Pied Crow	39	-	34	20
58	Cedar Waxwing	38	6	26	32
59	Black-throated Laughing Thrush	36	4	36	30
	Oriental White-eye	36	-	35	138
	*Northern Cardinal	36	-	36	47
62	Yellow-rumped Cacique	35	1	36	33
63	Oriole Warbler	33	3	31	24
	Black-throated Finch	33	7	32	29
65	*Blue-crowned Laughing Thrush	32	-	34	37
	Sunda Parrot Finch	32	-	42	43

* - indicates species is represented by more than one taxa

MOST-NUMEROUS PASSERINES IN NORTH AMERICAN ISIS INSTITUTIONS

1-12 rank	Species	1-12 population	# hatched last 12 months	1-11 pop	1-07 pop
67	*Silver-eared Mesia	31	-	32	45
	*Purple Honeycreeper	31	-	32	18
	Black-headed Weaver	31	-	31	37
70	Eastern Bluebird	30	-	31	39
	*Bananaquit	30	-	27	-
72	Spangled Cotinga	29	-	35	28
	*Orange-cheeked Waxbill	29	-	35	84
74	*Blue Magpie	28	5	26	27
75	*Southern Masked Weaver	27	1	28	25
	*Superb Bird of Paradise	27	-	25	21
	*Magpie Jay	27	-	28	26
78	Japanese White-eye	26	-	31	49
	Blue Dacnis	26	-	32	36
80	*Melodious Laughing Thrush	25	-	19	11
	Pompadour Cotinga	25	-	24	-
	* Bay-headed Tanager	25	2	28	25
	Yellow-fronted Canary	25	6	12	28
	Golden-crested Mynah	25	3	26	31

* - indicates species is represented by more than one taxa

MOST-NUMEROUS PASSERINES IN NORTH AMERICAN ISIS INSTITUTIONS

1-12 rank	Species	1-12 population	# hatched last 12 months	1-11 pop	1-07 pop
85	American Goldfinch	24	-	22	-
	Java Munia	24	-	24	12
87	Wattled Starling	23	-	28	42
	Lesser Bird of Paradise	23	2	21	20
89	*Opal-rumped Tanager	22	-	22	19
	Green Oropendola	22	4	20	21
	Lavender Waxbill	22	-	17	22
92	Common Catbird	21	-	19	29
	*Yellow-hooded Blackbird	21	5	17	31
	Broad-tailed Paradise Whydah	21	-	17	-
95	Lesser Green Broadbill	20	-	16	28
	Yellow-bellied Grosbeak	20	-	25	32
	Black-faced Dacnis	20	-	21	-
	*Blue-necked Tanager	20	-	19	37
99	Magpie Mannikin	19	-	25	-
	Red Fody	19	-	21	25
	Baglafecht Weaver	19	-	31	63
	Chestnut Weaver	19	-	21	
	Rose-colored Starling	19	-	21	19

* - indicates species is represented by more than one taxa

To make the most-numerous list...

- In December 1984, a species needed 9 individuals
- In December 1996, a species needed 18 individuals
- In December 2006, a species needed 21 individuals
- In December 2011, a species needed 19 individuals
- Passerine populations growing/stabilizing
...but still highly prone to fluctuations

Families represented in 100* Most-numerous Passerines

103 species for 1-12

- 1) Tanagers & New World Finches -17 species
- 2) Estrildids/Waxbills – 15 species
- 3) Babblers/Thrushes – 12 (highest rank - #19)
- 4) Weavers/Whydahs – 10
Starlings/Mynahs – 10 (7 in top 20)
- 6) Corvids – 8 (highest rank -#34)

Families represented in 100 Most-numerous Passerines

7) Icterids - 5

8) Bulbuls; White-eyes – 4

10) Cotingas; Birds of Paradise - 3

12) Shrikes; Fringillid Finches– 2

14) Broadbills; Pittas; Manakins; Leafbirds;
Thrashers; Waxwings; Honeyeaters;;
Woodswallows – 1 species each

21 families represented

Families represented in 100* Most-numerous Passerines

97 species in 12-84

- 1) Tanagers & New World Finches -19 species
Estrildids/Waxbills – 19 species
- 3) Starlings/Mynahs – 17
- 4) Babblers/Thrushes – 9
- 5) Magpies/Jays/Crows – 7
- 6) Weavers/Whydahs – 6

Families represented in 100 Most-numerous Passerines

7) Leafbirds; Icterids – 3

9) Cotingas; Bulbuls; White-eyes - 2

12) Pittas; New World Flycatchers;
Waxwings; Sunbirds; Honeyeaters; New
World Warblers; Fringellid Finches; Old
World Orioles – 1 species each

19 families represented

Zoogeographic Regions represented among most- numerous passerines 1-12

- African – 28 (8 of top 20)
- Eurasian – 27 (1 of top 10 + 4 more in top 20)
- South American – 27 (3 of top 10 / top 20 total)
- Australian incl New Guinea – 12 (4 of top 10 / top 20 total)
- North American – 9 (highest-ranking: 35)
- * 103 species total

Zoogeographic Regions represented among most- numerous passerines 12-84

- African – 30
- Eurasian – 27 (6 of top 12)
- South American - 24
- Australian - 8
- North American -8 (highest ranking: 37)
- * only 97 species total

Most numerous Aves in AZA collections 1-2012

- 1) Budgerigar - 5766
- 2) American Flamingo – 1716
- 3) Chilean Flamingo – 1638
- 4) Red Jungle Fowl – 1432
- 5) Common Peafowl – 1240
- 6) Rainbow Lorikeet – 933
- 7) Cockatiel – 830
- 8) Taveta Golden Weaver – 754
- 9) African Penguin – 700
- 10) Scarlet Ibis – 661

12 species of Passerine in top 100 Aves

- 8) Taweta Golden Weaver
- 46) Zebra Finch
- 55) Superb Starling
- 56) Gouldian Finch
- 63) Saffron Finch
- 73) Metallic Starling
- 74) Bali Mynah
- 82) Long-tailed Finch
- 88) Red-capped Cardinal
- 93) Blue-grey Tanager
- 94) Gold-breasted Starling
- 94) Grosbeak Starling



Avian Species Present in North American ISIS Institutions 1-1-2010

TOTAL

Non-passerines – 914

Passerines – 422

Total represented by 1-5 individuals

Non-passerines – 290

Passerines - 215

Passerines found in most North American ISIS institutions (2010)

- 1) Bali Mynah - 57 (all AVES rank: 33)
- 2) Blue-grey Tanager – 41 (58)
Superb Starling – 41 (58)
- 4) Fairy Bluebird – 39 (70)
- 5) Common Crow – 37 (77)
- 6) Gold-breasted Starling - 35 (80)
- 7) Taveta Golden Weaver – 34 (83)
- 8) Raven – 32 (90)
- 9) White-crested Laughing Thrush – 27 (115)
Red-capped Cardinal - 27 (115)



Existing in 1993:

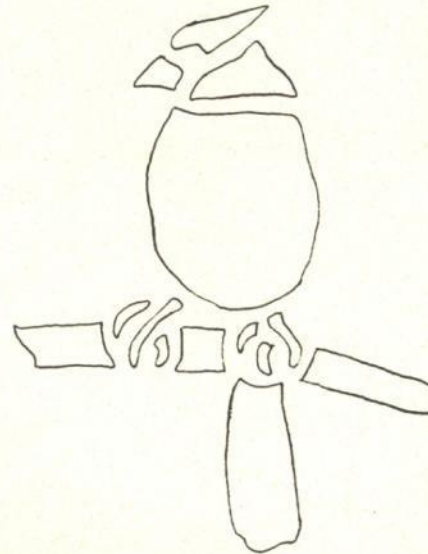
- * Bali Mynah SSP

- * Passerine TAG (1992)

“Species have come and gone in North American aviculture that, more than likely, will never appear again. This can probably be attributed to the philosophy that passerines are interchangeable ever-obtainable flight-cage filler.”

THE PASSERINE PREDICAMENT:

The Status of Passeriformes in North
American Zoos
1993



Robert Webster
San Antonio Zoo

Problems for Passerines...
nothing to sing about





SPACE!



- With ~10,000 species of bird, cannot manage them all.
- Space is a premium at every zoo. Which species are more important for AZA?
- What do we want collections to be in the future?

Importation

- “No” birds from Australia in decades (by Australian law)
- “No” birds from Asia (since outbreak of H5N1)
- Limited imports from certain South American and African nations
- EAZA zoos cut off ALL IMPORTS in 2006...and zoo bird populations already declining

Nutrition & Health



Longevity varies



Busy walkthroughs



Compatibility



Too aggressive?



Too small?





Breeding strategies



So many species in need of management...



Where the Wild Birds Are...



...a look at the
wild-caught and
captive-bred
components of
our passerine
collections

Robert Webster
The Toledo Zoo
(March 2007)



MOST-NUMEROUS PASSERINES IN NORTH AMERICAN ISIS INSTITUTIONS

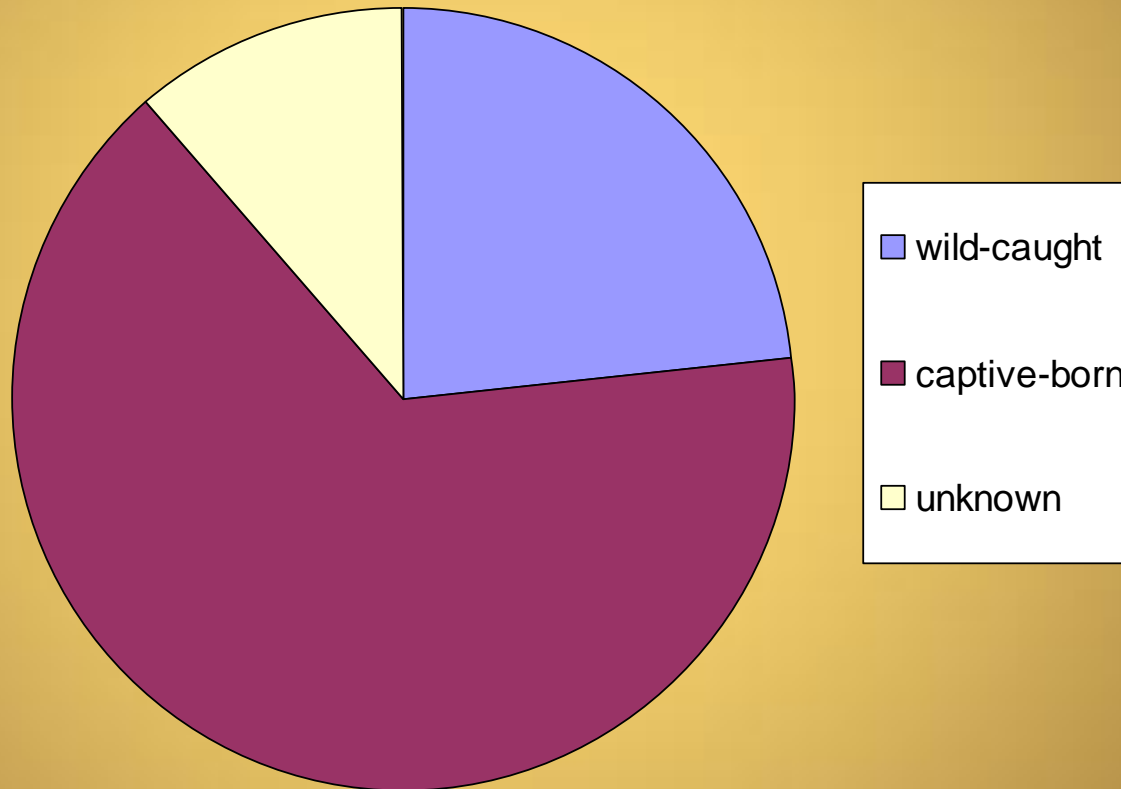
12-06 rank	Species	3-07 population	# captive- born	# wild caught	# unknown
1	Zebra Finch	310	310		
2	Gouldian Finch	282	282		
3	Taveta Golden Weaver	257	237	20	
4	Bali Mynah	200	200		
5	*Red Bishop	176	150	13	13
6	*Red-billed Leiothrix	151	78	46	27
6	*Superb Starling	153	128	11	14
6	Emerald Starling	152	114	37	1
9	*Saffron Finch	134	73	37	24
9	*Gold-breasted Starling	139	73	61	5
11	Oriental White-eye	138	10	6	122
12	*Blue-grey Tanager	120	80	32	8
13	*Silver-beaked Tanager	108	42	32	34
14	*Fairy Bluebird	106	67	36	3
15	Metallic Starling	99	93	6	
15	Grosbeak Starling	98	91	6	1

* - indicates species is represented by more than one taxa

Out of 6032 birds on Most-numerous Passerines 12-06 list...

- 3922 are captive-born
- 65%
- 1415 are wild-caught
- 23%
- 695 are “unknown”
- 12%

Origin of Passerine individuals on most-numerous list 12-06





Avian Scientific Advisory Group

Keys to Avian Sustainability

- Ability of Avian managers to preserve both genetic and demographic diversity for the future.
- Reduce dependency on imports to sustain populations; use imports as a means to augment genetics and demography.
- Cooperative collection planning at both institutional and regional levels.

Species Survival Plans



Breed according to
recommendations



Off-exhibit breeding







Off-exhibit - holding



Right birds for right exhibits...

“A Life in Miniature”



Placing chicks in Howdy cages



Pulling chicks for *hand-weaning*

- In large exhibits &/or walkthroughs, where parents can keep chicks safe *on nest* but not necessarily post-fledge (due to cage-mates, water features, visitors), we have pulled to hand-wean.



Develop hand-rearing skills



Interactive walkthroughs

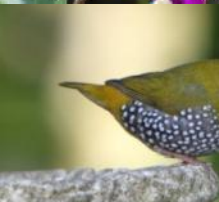


Assemble those that remain &
attempt to rebuild



Reduce # of species
Increase # of specimens













Don't give up...



Rewards



Breeding breakthroughs



Science!

Maturation of
Coloration of the
Young Male
Lesser Green
Broadbill
(*Calyptomena
viridis*)



Kaitlin C. Studer
Defiance College / Toledo Zoo

Ex situ conservation





In situ conservation



Enrichment for the birds



Enrichment for the visitor...



Regional Passerine Workshops



Efforts to solve
the big problems
of little birds

Robert Webster
Curator of Birds
The Toledo Zoo

Sedgwick County, Toledo, Atlanta, AAZK, Denver...

- ~200 people have attended so far!
- Most professionally fulfilling project I have been involved with



Passerine problem-solving...



Many thanks to ...

- * our hosts, the Denver Zoo
- * the Toledo Zoo Bird Department for all their hard work (and many of their photos)

