SOME NOTES ON THE BIOLOGY OF SNAKES AND ON THEIR DISTRIBUTION IN TWO DISTRICTS OF WEST JAVA

by

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Introduction. — In the literature on the snakes of Java there has been but very slight reference to their geographical distribution. There have been suppositions and vague indications, and also ..... amazing rediscoveries! An article on the zoogeography of Java, published by Dr K. W. DAMMERMAN, contains a revised list of the reptiles of Java, compiled by Dr L. D. BRONGERSMA [1]). In the same periodical the late Dr F. KOPSTEIN published a short article on some places in the eastern Priangan where snakes had been caught [2]), in which paper he considers the altitude of the various localities a factor that, with a view to the exact determination of their geographical distribution, had thus far been sadly neglected. The few examples thus adduced, however, cannot give a true representation of the creatures actually inhabiting so extensive a territory as that of the eastern Priangan.

This investigation originally was undertaken for the purpose of obtaining more detailed information on the geographical distribution of this sub-order. By making notes with reference to all snakes caught in the course of several successive years it became in a measure possible to determine the relative proportions of the species. Throughout 1938 also the presence and the development of the eggs were included in this study, and an effort was made to delimit a possibly distinct breeding season.

The material was collected in two different districts of the Priangan Residency, and was presented to the "Rijksmuseum van Natuurlijke Historie" in Leiden.

Localities. — The altitudes of the two districts in point do not greatly differ, seeing that they average 700 and 900 metres above sea level, respectively, and that they can, except for a small part of the latter district, be included in what Dr E. C. JUL. MOHR refers to as 'the tropical hill lands'. In view of their relative situations, therefore, one would hardly expect to find any differences worth mentioning.

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[1]) "On the zoogeography of Java", Treubia XI, 1929.
[2]) "Reptilien des östlichen Preanger", Treubia XII, 1930.

The climates of these regions, however, are totally different, this being most noticeable in the months of the east monsoon. That of the first locality is one of the driest in West Java, whereas that of the other pertains to those regions that have the highest rainfall [1]).

This in the writer's opinion is the first and principal reason, including as a secondary factor also the difference in the number of hours of sunshine, why so marked a difference is to be found in the grouping of the various species. The vegetation, which obviously may be of much importance when comparing two places, is here of no essential value, seeing that in both cases the snakes were captured in the plantations. The boundaries, of course, must also be taken into account, these being for both plantations the small native villages with their usual agriculture and their tiny fish ponds.

Collecting. — All hands working on the estates cooperated in collecting, that is to say that any one having captured a snake and delivering it at my house would receive a small reward in cash. This was always the same amount for any snake irrespective of its size. All sorts of workers — weeders, pruners, pluckers — helped in capturing the snakes. The pluckers did not bring in many, as was to be anticipated in view of their having to pass rapidly from bush to bush, with but little opportunity for looking about. The number of people so cooperating was considerable, averaging in the first mentioned locality about 270 daily over a period of two years, and to 700 daily on the other estate. I do not mean to suggest that all these people were constantly hunting around: on the contrary, considerable difficulty was experienced in persuading them to catch any snakes at all. A native's aversion to snakes, generally speaking, is about the same as that felt by most Europeans. But if the reward is sufficiently large, some will always be willing to capture snakes, the remainder of the shift calling their attention to any reptile they happen to see, expecting, of course, to share in the forthcoming reward.

To prevent the hands catching such reptiles in their own surroundings after working hours, and trying to bring them in on the following day as if they had been caught within the precincts of the estate, which would greatly reduce the value of the statistics, the various gangs would be checked in the early morning, to make sure that no snakes had already been captured. This control, though always taking place unexpectedly, never produced any untoward result. With the exception of one single case, which,however, can have no pronounced influence, the material was collected within the boundaries of the two estates.

It is my experience, moreover, that a man, when alone, will not readily try to capture a snake he happens to see, but that he will be much more inclined to do so when in the company of others, as he is when at work in the gardens.

Statistics. — Only in the manner above described, or in some similar way, trustworthy data, it seems to me, can be obtained, whilst it is also necessary

[1]) Dr J. BOEREMA. "Verhandelingen", No. 14, Part II, and "Verhandelingen", No. 24, Part I, of the "Koninklijk Magnetisch en Meteorologisch Observatorium".

that this method be carried out over a prolonged period. In both districts the outcome clearly demonstrates that the material captured during the first months will not adequately represent the herpetofauna of such place. In the first locality a full year elapsed before the material was forthcoming regularly; in 1932 only twenty species were captured, as against twenty-eight in the following year, this being an increase of 40 %. Furthermore, in the first five months of 1935 only twenty-five species were found, whereas in 1938 not less than thirty-five species were collected in the other locality, this representing also an increase of 40 %, albeit over a longer period. At the same time the monthly totals very clearly indicate the progress made, and also that at the beginning of each new investigation, even in the same locality, the results are not trustworthy. In January 1938 thirteen species were captured, as against twenty-one in the corresponding month of the following year.

A long and uninterrupted investigation, therefore, is all-important if one is to be able definitely to assert that a certain species inhabits a certain district or otherwise. *Gongylosoma tricolor,* during five years of my residence in the second locality, was only captured once, namely in 1937, and is not included in this survey; *Bungarus candidus* likewise only once in four and a half years; also *Changulia virgulata* was brought in for the first time after more than four years.

The rediscovery of *Vipera russellii* [1]), in view of my experience as above described, was not surprising, nor was the fact that, ever since the late Dr F. KOPSTEIN, and also myself, began collecting this material on a large scale, the formerly little known and therefore rare *Xenodermus javanicus* was found fairly regularly in our material, which points in the same direction. It will therefore not be surprising if in future this species proves to be by no means so rare as was formerly supposed. Nor may the individual proportions of the results be accepted without some proviso, since it must be taken into account that a slow moving nocturnal snake can be caught in the daytime much more easily than can many other snakes that prefer the daylight. Every encounter with the former will result in almost certain capture, whereas the catching of the latter requires much deliberation and perseverance, whilst even then there is considerable likelihood that the reptile will escape.

THE TWO DISTRICTS.

I. NANDJOENG DJAJA.

Location. — The average altitude of the tea and rubber estate "Nandjoeng Djaja", situated in the country of Soemedang, is 700 metres above sea level, with only minor differences above and below this elevation. The territory is moderately undulating, consisting chiefly of broad and gently sloping hilly

[1]) HANS NEUHAUS. "Neunachweis von *Vipera russellii* auf Java. Treubia 15, 1935, p. 49.
Dr F. KOPSTEIN. "Herpetologische Notizen XII-XV". Treubia 15, 1936, p. 259.

ridges separated by shallow valleys. These may be regarded as being spurs of a mountain complex with a hardly definable top, the Goenoeng Tjalantjang, and are situated to the south of Darmaradja [1]).

Boundaries. — The estate in the main is bounded by l a d a n g (unirrigated native rice fields), with towards the southeast the deep ravine of the Tjimanoek River, one of whose tributaries forms the northern boundary of the estate. The region is almost entirely cultivated.

Vegetation. — The northern and eastern parts of the estate, about 240 ha, have not as yet been cleared, and consist of fairly recent secondary jungle interspersed with rattan and bamboo and with an occasional teak (*Tectona grandis*). About 250 ha has been cleared and is planted with tea and various shade trees. Along the roadside rubber trees (*Hevea brasiliensis*) are set out over a small area.

Climate. — The area has a very pronounced dry and wet season. During the west monsoon there is much and heavy rain; in the east monsoon, which as a rule starts early and is of long duration, there are often many consecutive weeks of continuous drought that causes all springs and wells on the estate to dry up. It has a large number of hours of sunshine daily, and a heavy east monsoon wind, known in this districts as k o e m b a ng, together with a markedly low humidity.

Average rainfall over 23 years.			Average sunshine over 7 years [2]).	
		West monsoon		
353 mm.	16 days	November	59 % = 4 - 43	hours
497 mm.	21 „	December	49 % = 3 - 55	„
501 mm.	22 „	January	48 % = 3 - 50	„
457 mm.	20 „	February	43 % = 3 - 26	„
522 mm.	21 „	March	48 % = 3 - 50	„
356 mm.	16 „	April	62 % = 4 - 58	„
261 mm.	13 „	May *)	58 % = 4 - 38	„
		East monsoon		
128 mm.	7 days	June	73 % = 5 - 50	hours
55 mm.	4 „	July	83 % = 6 - 38	„
44 mm.	2 „	August	86 % = 6 - 53	„
92 mm.	4 „	September	76 % — 6 - 05	„
168 mm.	10 „	October *)	63 % = 5 - 02	„

Total 3434 mm in 156 days of rain.

[1]) The geographical names are taken from the "Atlas van Tropisch Nederland", published by the "Koninklijk Aardrijkskundig Genootschap", 1938.

[2]) The hours of sunshine are from 8 a.m. to 4 p.m., which period is taken as representing 100 %.

*) Months in which the seasons are changing.

NANDJOENG DJAJA

1932

Species	Jan.	Febr.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Typhlops lineatus		1	1					2					4
Dendrelaphis pictus pictus ...		1	1					1					3
Natrix subminiata	1		2	1		2	1		1	1		2	11
Ptyas korros				1							1		2
Elaphe flavolineata			1						1	1			3
Elaphe radiata	1		1					1				1	4
Lycodon subcinctus	1	3	1	2		3					1		11
Gongylosoma baliodeira						1							1
Changulia multipunctata				1							1		2
Boiga multimaculata			2			2				2			6
Boiga drapiezii							1			1			2
Boiga nigriceps				1							1		2
Boiga jaspidea							1						1
Boiga cynodon	1		1		1							1	4
Ahaetulla prasina	1			1		1					1		4
Bungarus candidus										1			1
Naja naja sputatrix			1										1
Maticora intestinalis		1		1	1	1		1		1			6
Amblycephalus carinatus		3	3	1		3	12	2			1	1	26
Trimeresurus albolabris	2	1	2	2	1	3	1	1		1	2	1	17
Monthly total	7	10	16	11	3	16	16	8	2	8	8	6	111
Monthly rainfall in mm.	320	490	435	384	286	221	55	58	246	47	277	423	3242

Species	Jan.	Febr.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Typhlops braminus								1		1			2
Typhlops lineatus						1	1			1	1		4
Python reticulatus										1			1
Dendrelaphis pictus pictus	3	2		1	1								7
Dendrelaphis formosus formosus						1							1
Natrix piscator					1								1
Natrix trianguligera					1								1
Natrix subminiata	3	9	6	4	1	1		4					28
Natrix vittata	1											1	2
Ptyas korros					1	2							3
Elaphe flavolineata		1		1									2
Elaphe radiata		5	3							1			9
Gonyosoma oxycephala					1							1	2
Elapoides fuscus				1									1
Lycodon subcinctus	5	1	1									1	8
Oligodon bitorquatus								1					1
Gongylosoma baliodeira		1		1	1	2							5
Changulia multipunctata	1		1	1	2	1							6
Boiga multimaculata		3	2			1		1				1	8
Boiga nigriceps	1	1			1	1		1			2	1	8
Boiga jaspidea											2	1	3
Boiga cynodon	1		1		1	2	1			1			7
Psammodynastes pulverulentus		2	1		1								4
Ahaetulla prasina			1	1	1	4	1						8
Bungarus candidus							1						1
Naja naja sputatrix	2	2		1	1								6
Maticora intestinalis	1	1	2	1	1	1					2	1	10
Amblycephalus carinatus	6	20	4	10	11	5		2	2		8	6	74
Trimeresurus albolabris	1	15	4	2	2	2	3	4			3	1	37
Monthly total	25	63	26	24	28	24	7	14	2	5	18	14	250
Monthly rainfall in mm.	564	504	368	385	472	91	145	113	269	186	381	511	3989

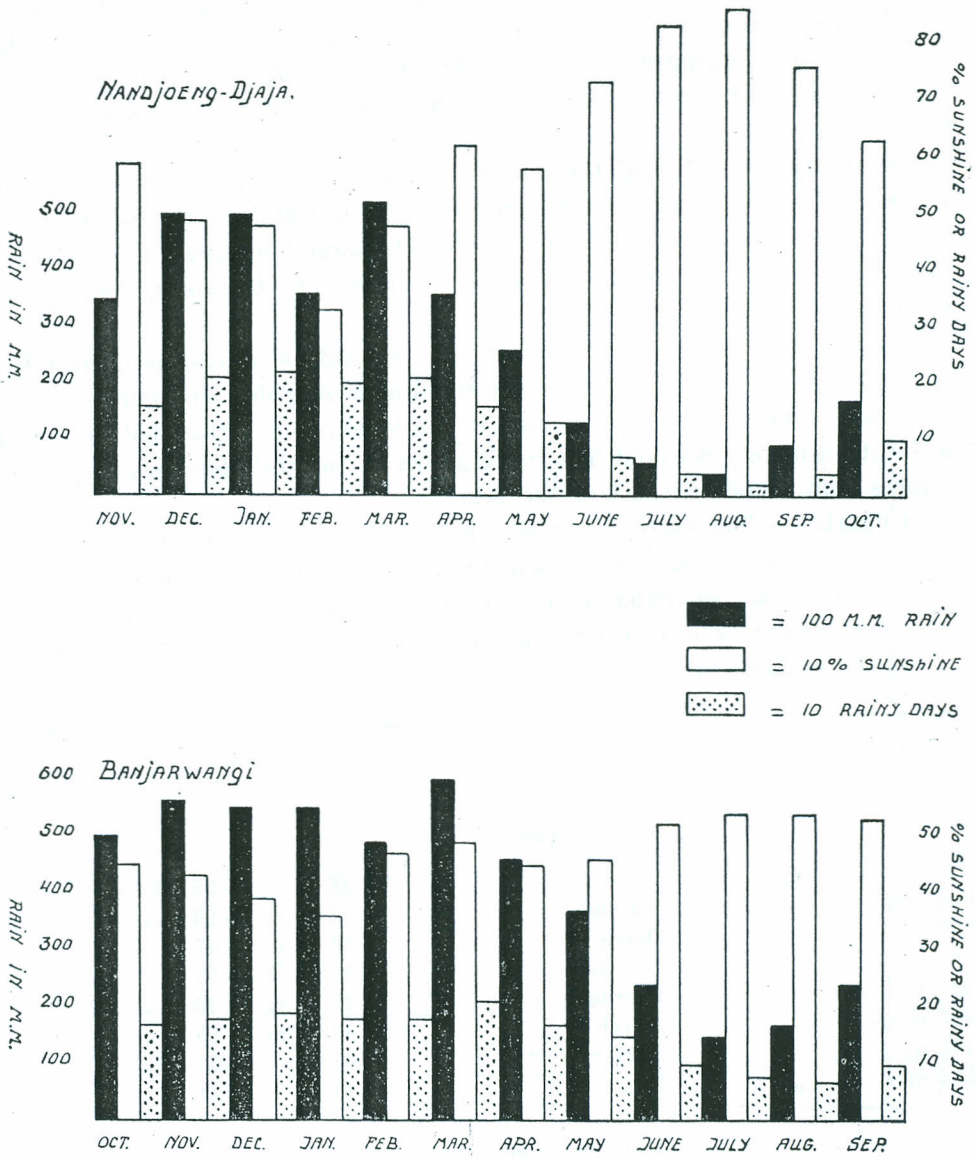

Fig. 1. Graphical table of the sunshine and rainfall on both localities.

II. BANDJARWANGI.

Location. — The average altitude of the tea and cinchona estate of "Bandjarwangi", situated to the southeast of Tjikadjang in the county of Garoet, is 900 metres above sea level, the maximum elevation being 1200 and

the minimum 850 metres. The environs are markedly undulating and pertain to the hilly districts of the Goenoeng Tjikoeraj, a volcano to the northwest.

Boundaries. — The estate forms part of an area that to the west, the south, and the east, is enclosed by two arms of a river; the source of the river to the northeast, the Tjikaengan, is several kilometres distant, on the slopes of the Tjikoeraj Mountain; whilst the other, the main tributary, has its source further to the northwest.

Vegetation. — Through the undulating character of the country numberless ravines have been formed, covering roughly 200 ha (30 % of the entire area), which are scattered over the entire estate. The largest of these are as yet in their original state and contain many species of *Quercus, Castanea, Podocarpus,* and *Ficus.*

Of the remainder roughly 390 ha are tea gardens, interspersed with the usual shade trees of a tea estate, and a small area on which cinchona is grown. There are many springs. The country in the vicinity, including that adjoining the estate, is mainly rice land. The rice is grown on 'sawahs', these being irrigated terraces kept inundated part of the year.

Climate. — The estate is situated in one of the rainiest districts of West Java and has a prolonged west monsoon with frequent and continuous rains. A fairly short and somewhat indefinite east monsoon prevails, with a barely sufficient amount of rain. On the average there is but little sunshine in the course of the day.

Average rainfall over 26 years.			Average sunshine over 4 years.
		West monsoon	
496 mm.	17 days	October	45 % = 3 - 36 hours
558 mm.	18 „	November	43 % = 3 - 26 „
547 mm.	19 „	December	39 % = 3 - 07 „
554 mm.	18 „	January	36 % = 2 - 53 „
490 mm.	18 „	February	47 % = 3 - 46 „
597 mm.	21 „	March	49 % = 3 - 55 „
461 mm.	17 „	April	45 % = 3 - 36 „
372 mm.	15 „	May	46 % = 3 - 41 „
		East monsoon	
236 mm.	10 days	June *)	52 % = 4 - 10 hours
148 mm.	8 „	July	54 % = 4 - 19 „
168 mm.	7 „	August	54 % = 4 - 19 „
239 mm.	10 „	September *)	53 % = 4 - 14 „

Total 4866 mm in 178 days of rain.

*) Months in which the seasons are changing.

BANDJARWANGI.

1935

Species	Jan.	Febr.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Typhlops lineatus			2		2	.	.	.	.	.	.	.	4
Python reticulatus		1				.	.	.	.	.	.	.	1
Xenodermus javanicus	1				2	.	.	.	.	.	.	.	3
Polyodontophis geminatus				1	1	.	.	.	.	.	.	.	2
Dendrelaphis formosus formosus					2	.	.	.	.	.	.	.	2
Natrix trianguligera		1				.	.	.	.	.	.	.	1
Natrix subminiata		1		6	5	.	.	.	.	.	.	.	12
Natrix chrysarcha	1		3	4	7	.	.	.	.	.	.	.	15
Ptyas korros					2	.	.	.	.	.	.	.	2
Elaphe flavolineata			2		1	.	.	.	.	.	.	.	3
Elaphe radiata					1	.	.	.	.	.	.	.	1
Lycodon subcinctus	1	1		2	2	.	.	.	.	.	.	.	6
Oligodon bitorquatus		1			4	.	.	.	.	.	.	.	5
Elapoides fuscus	3	6	1	12	26	.	.	.	.	.	.	.	48
Gongylosoma baliodeira	1	1		3	3	.	.	.	.	.	.	.	8
Changulia lumbricoidea		1	1		5	.	.	.	.	.	.	.	7
Changulia multipunctata	1	2		12	10	.	.	.	.	.	.	.	25
Boiga jaspidea					1	.	.	.	.	.	.	.	1
Ahaetulla prasina					3	.	.	.	.	.	.	.	3
Bungarus fasciatus	1		2	1	2	.	.	.	.	.	.	.	6
Maticora bivirgata				1		.	.	.	.	.	.	.	1
Maticora intestinalis		2	1	3	4	.	.	.	.	.	.	.	10
Haplopeltura boa		2	1			.	.	.	.	.	.	.	3
Amblycephalus carinatus		1	4	2	2	.	.	.	.	.	.	.	9
Trimeresurus albolabris	3			1	4	.	.	.	.	.	.	.	8
Monthly total	12	20	17	48	89								186
Monthly rainfall in mm.	399	414	351	469	143	63	5	42	41	423	425	332	3107

1938

Species	Jan.	Febr.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Typhlops lineatus			1		1	3	1	1		7	6	5	25
Python reticulatus			2			1	1						4
Xenodermus javanicus			1	2	7	7	2	5	4	7	5	11	51
Polyodontophis geminatus	1			1	2	1	4		3		1	2	15
Dendrelaphis pictus pictus				1		5	2	1		2	5		16
Dendrelaphis formosus formosus						2		1	1				4
Zaocys carinatus				1							1		2
Natrix trianguligera			9	4	15	25	9	11	6	20	21	14	134
Natrix subminiata	4	4	1	9	16	12	10	8	6	11	14	19	114
Natrix chrysarcha	5	2	6	4	17	29	27	25	25	19	34	11	204
Ptyas korros			1	1	5	2	2	1	1		8		21
Elaphe flavolineata	2	2		2	4	5	3	4	3	2	10	4	41
Elaphe radiata			1		1			1	2		2		7
Lycodon subcinctus			3	2	4	3		2	1	1	2	3	21
Oligodon bitorquatus			4		2	2			6	5	5	3	27
Elapoides fuscus	9	28	20	46	57	80	93	113	195	32	63	69	805
Gongylosoma baliodeira	7	3	5	3	4	10	19	8	20	13	9	9	110
Changulia lumbricoidea	2	2	3	3	6	13	19	20	14	9	5	7	103
Changulia virgulata									7	2	8	1	18
Changulia multipunctata	1	1	3	6	13	42	34	52	28	26	17	37	260
Boiga multimaculata						1			1				2
Boiga drapiezii			3	1		1	1	2				1	9
Boiga jaspidea			1		1			1		1			4
Psammodynastes pulverulentus			5	1	1	1	1	1	1	1		1	13
Ahaetulla prasina	1	1	5	2	3	6	8	3	2	8	10	15	64
Bungarus fasciatus	2	2				1	1	1	1	1		2	11
Bungarus candidus												1	1
Maticora bivirgata			2				1	3	1	1		1	9
Maticora intestinalis				5	2	4	5	3	3	3		3	28
Haplopeltura boa	1		4	1	4		3	5		1	1		20
Amblycephalus laevis					1		8	1	9	1	1	2	23
Amblycephalus carinatus	4	1	3	3	9	5	5	9	2	2	6	7	56
Trimeresurus puniceus			1		1	2	2	1					7
Trimeresurus albolabris	15	9	10	15	22	32	23	17	17	14	9	36	219
Monthly total	54	55	94	113	198	295	284	300	350	189	243	264	2448
Monthly rainfall in mm.	583	415	331	368	340	436	238	305	43	163	530	391	4143

Species	Jan.	Febr.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Typhlops lineatus	4	5	4	2	4	.	.	.	.	.	.	.	19
Python reticulatus													—
Xenodermus javanicus	12		2	2	5	.	.	.	.	.	.	.	21
Polyodontophis geminatus				2		.	.	.	.	.	.	.	2
Dendrelaphis pictus pictus	1		1		2	.	.	.	.	.	.	.	4
Dendrelaphis formosus formosus					1	.	.	.	.	.	.	.	1
Zaocys carinatus				1		.	.	.	.	.	.	.	1
Natrix trianguligera	1	2	3	2	6	.	.	.	.	.	.	.	14
Natrix subminiata	9	6	9	18	11	.	.	.	.	.	.	.	53
Natrix chrysarcha	10	12	21	18	11	.	.	.	.	.	.	.	72
Ptyas korros	3	2	2	4	2	.	.	.	.	.	.	.	13
Elaphe flavolineata	2	2	4	1	3	.	.	.	.	.	.	.	12
Elaphe radiata	1				1	.	.	.	.	.	.	.	2
Lycodon subcinctus	1	2	3	3	1	.	.	.	.	.	.	.	10
Oligodon bitorquatus	3	4	3	4	1	.	.	.	.	.	.	.	15
Elapoides fuscus	65	58	99	77	94	.	.	.	.	.	.	.	393
Gongylosoma baliodeira	4	11	6	11	4	.	.	.	.	.	.	.	36
Changulia lumbricoidea	3	3	8	5	4	.	.	.	.	.	.	.	23
Changulia virgulata			1			.	.	.	.	.	.	.	1
Changulia multipunctata	47	25	57	27	23	.	.	.	.	.	.	.	179
Boiga multimaculata													—
Boiga drapiezii													—
Boiga jaspidea	1				1								2
Psammodynastes pulverulentus	1	1	2	1	1	.	.	.	.	.	.	.	6
Ahaetulla prasina	6	6	6	2	1	.	.	.	.	.	.	.	21
Bungarus fasciatus	4		2	1	1	.	.	.	.	.	.	.	8
Bungarus candidus													—
Maticora bivirgata		1	2	3									6
Maticora intestinalis	1	1	3	4	2								11
Haplopeltura boa		1	1	2	12	.	.	.	.	.	.	.	16
Amblycephalus laevis		1	2			.	.	.	.	.	.	.	3
Amblycephalus carinatus	3	3	3	4	6	.	.	.	.	.	.	.	19
Trimeresurus puniceus			1	1		.	.	.	.	.	.	.	2
Trimeresurus albolabris	16	17	18	27	18	.	.	.	.	.	.	.	96
Monthly total	198	163	263	222	215								1061
Monthly rainfall in mm.	583	315	394	350	187	435	599	140	125	298	263	327	3890

To gain an insight into the numerical proportion of the species occurring in any one district and at the same time to be able to mutually compare the localities, I have endeavoured to find a method of assigning to each species a certain value and believe to have found a solution by multiplying the total number of snakes of one species, captured in the course of twelve consecutive months, by the number of months in which this species was obtained. In the case of NANDJOENG DJAJA the whole of 1933 was taken, and for BANDJARWANGI the period June 1938 to May 1939, inclusive.

For both localities the last twelve months of the experiment were used, seeing that these would most nearly indicate the actual representation. I doubt the likelihood of the regular capture over a fairly long period exercising any influence upon these results, nor is this evidenced by the monthly figures. In both localities, however, there were certain species that were not captured during exactly these twelve months; these have been placed at the end of the list and may be considered to be very rare in these areas.

Lists A and B have been arranged in accordance with the above mentioned formula with reference to the localities of BANDJARWANGI and of NANDJOENG DJAJA, respectively. To make the matter still more simple, the subject matter has been divided into 3 classes, these being:

Class I very common,
„ II common,
„ III fairly common,
„ IV not common,
„ V rare.

The sequence of the classes is not the same for each locality; nevertheless it gives a fairly accurate impression of the district in point.

If the first twelve items, as being the most important, are further studied, the position occupied by *Elapoides fuscus* in List A is at once noticeable. This exceptional fact gives it the right to be formed into a sub-class which has been called Ia here. The noticeable presence of this species I believe to be due to the climate of locality A where a constant rainfall coincides with a high relative humidity. Incidentally, in this connection, it will be noted that this species was found only once in locality B.

Also *Changulia multipunctata* predominates in List A, whilst in List B it occupies but a modest position, pertaining there to Class III. The supposition made with reference to *Elapoides fuscus* I believe to be applicable also to this species.

Attention, furthermore, must be called to the presence of three species of the genus *Natrix* in List A where *Natrix chrysarcha* markedly predominates, there being but one species thereof, namely *Natrix subminata,* in List B.

List A.

Class Ia	*Elapoides fuscus*	12456
„ I	*Changulia multipunctata*	4980
	Trimeresurus albolabris	2928
	Natrix chrysarcha	2904
„ II	*Natrix subminiata*	1596
	Gongylosoma baliodeira	1488
	Natrix trianguligera	1440
	Changulia lumbricoidea	1320
	Ahaetulla prasina	876
	Xenodermus javanicus	682
	Amblycephalus carinatus	660
	Elaphe flavolineata	516
„ III	*Typhlops lineatus*	462
	Oligodon bitorquatus	360
	Maticora intestinalis	352
	Ptyas korros	270
	Lycodon subcinctus	242
	Haplopeltura boa	208
	Amblycephalus laevis	200
	Dendrelaphis pictus	152
	Bungarus fasciatus	150
	Psammodynastes pulverulentus	132
	Maticora bivirgata	104
„ IV	*Changulia virgulata*	95
	Polyodontophis geminatus	78
	Trimeresurus puniceus	35
	Elaphe radiata	35
	Dendrelaphis formosus	20
	Boiga drapiezii	20
	Boiga jaspidea	16
„ V	*Boiga multimaculata*	4
	Python reticulatus	4
	Zaocys carinatus	4
	Bungarus candidus	1
	Gongylosoma tricolor	

List B.

Class I	*Amblycephalus carinatus*	740
„ II	*Trimeresurus albolabris*	370
	Natrix subminiata	196
„ III	*Maticora intestinalis*	80
	Boiga nigriceps	56
	Boiga cynodon	42
	Boiga multimaculata	40
	Ahaetulla prasina	40
	Lycodon subcinctus	32
	Changulia multipunctata	30
	Dendrelaphis pictus	28
	Elaphe radiata	27
„ IV	*Naja sputatrix*	24
	Gongylosoma baliodeira	20
	Typhlops lineatus	16
	Psammodynastes pulverulentus	12
	Boiga jaspidea	6
	Ptyas korros	6
„ V	*Gonyosoma oxycephalus*	4
	Elaphe flavolineata	4
	Natrix vittata	4
	Typhlops braminus	4
	Python reticulatus	1
	Dendrelaphis formosus	1
	Natrix piscator	1
	Natrix trianguligera	1
	Oligodon bitorquatus	1
	Elapoides fuscus	1
	Bungarus candidus	1
	Zaocys carinatus	
	Boiga drapiezii	

1 - 10	Class V	1 - 5
11 - 100	Class IV	6 - 25
101 - 250	Class III	26 - 100
251 - 1000	Class II	101 - 400
1001 - 5000	Class I	401 - .....
5001 -	Class Ia.	

That this latter species is fairly well represented in List A may perhaps be an indication that here one has to do with the zone where *Natrix subminiata* yields its place to *Natrix chrysarcha*. Prolonged observations in an area several hundred metres higher, and with a climate and vegetation corresponding to those in location A, were productive of very valuable data.

With a total of twelve in List B, it is noteworthy that not less than seven thereof are arboreal or semi-arboreal snakes. The green viper, *Trimeresurus albolabris*, has been included, although it is not perhaps so characteristic for this group as are, for instance, the species belonging to the genus *Boiga*. But in order to differentiate clearly between this species and the ground-viper, *Ancistrodon rhodostoma*, it has been added to this group.

Of these seven species *Amblycephalus carinatus* is decidedly the most numerous, not only showing the highest value at the top of the list, but also filling class I all by itself, which is remarkable, more especially since this snake lives exclusively on snails. Partly on this account, it is difficult to find a valid reason for its presence in such large numbers, but for the moment I prefer not to go more deeply into this matter.

The writer believes both lists to be of great importance and of considerable practical value because of the insight they afford with reference to those specimens that can be dangerous to mankind. It is, therefore, not exactly reassuring to arrive at the conclusion that *Trimeresurus albolabris* on both localities is a common, on Bandjarwangi indeed a very common, species to be met with. Probably no one would have anticipated, and it is one of the surprising things revealed by this investigation, that this is the case. Further investigation must settle the question as to whether this is due to the vegetation of these localities. It is conceivable, for example, that the characteristic vegetation of a tea estate would constitute a favourable factor for the breeding of this species. Nevertheless, the colouring and the indolent habits of this snake cause it to be little noticed, and it is therefore possible that it is equally common in the native plantations. However this may be, it is a fact that the Pasteur Institute in Bandoeng has much trouble in obtaining a regular supply and a sufficient number of *Trimeresurus albolabris*, whereas it has no such difficulty with reference to *Bungarus fasciatus* and *Naja sputatrix* [1]).

With reference to the green viper being a source of danger to man, it may here be stated that though several hundreds of people daily push their way through the tea bushes, as they do in picking the young tea leaves, they are hardly ever bitten by this snake.

Maticora intestinalis was caught fairly regularly on both localities. The natives readily recognize this snake, but it is doubtful if they know how poisonous it is. This might prove that this snake is of but little danger to man. Under normal conditions its small mouth prevents it from biting human beings.

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[1]) At regular intervals the virus is extracted from these snakes, to be used, for instance, in the production of anti-venine.

Maticora bivirgata also does not greatly interest the natives. To most of the inhabitants of BANDJARWANGI this species was quite unknown, and they had not the smallest notion of its extreme virulence.

In both localities *Bungarus candidus* is very rare. During five years it was not encountered even once at BANDJARWANGI, and I began to believe that it did not exist there at all, when at last one was brought in from one of the lowest gardens of the estate. Can this be an indication of this species really having its natural habitat in warmer regions, and that at higher altitudes it is replaced by *Bungarus fasciatus*? Its complete absence from List B and its presence in Class III of List A might point in this direction.

Finally the absence must be noted of *Trimeresurus puniceus* from List B, and that of *Naja sputatrix* from List A. With reasonable certainty this can be ascribed to the difference in altitude. *Trimeresurus puniceus* was obtained only in the higher parts of BANDJARWANGI, whilst it is practically certain that this species is a hill variety of *Trimeresurus albolabris*. Interesting is the fact that this investigation has clearly shown that the zone boundary may not be placed at an elevation below about 1000 metres. The opposite probably applies to *Naja sputatrix*, namely that one may not place the zone boundary at an elevation higher than 700 metres, which would explain this cobra's appearance in List B, in Class IV; indeed, it could almost have been included in Class III, whereas it is totally absent from List A.

In conclusion it is evident that both localities have twenty-four snakes in common, although their numerical representation varies considerably. This great proportional difference is to be ascribed mainly to the climatic differences between the two localities. Furthermore, List B comprises eleven species that are absent from List A, whilst inversely seven species do not occur in List A, but do appear in List B.

Here follows a summary of these species:

Absent from List B.	Absent from List A.
Changulia lumbricoidea	*Boiga nigriceps*
Changulia virgulata *)	*Boiga cynodon*
Xenodermus javanicus	*Naja sputatrix*
Haplopeltura boa	*Natrix vittata*
Amblycephalus laevis	*Natrix piscator*
Bungarus fasciatus	*Typhlops braminus*
Maticora bivirgata	*Gonyosoma oxycephala*
Natrix chrysarcha *)	
Polyodontophis geminatus	
Trimeresurus puniceus *)	
Gongylosoma tricolor	

The species marked *) are those whose absence can be ascribed to differences in altitude, seeing that, except for *Natrix chrysarcha*, they were all of them caught in the highest gardens of the BANDJARWANGI estate.

During the investigation of 1938 the oviducts of the females were examined

and the state of development of the eggs — when present — was divided into three classes: 'fully developed', where the eggs had reached their full growth and normal size, and where it was practically certain that they would be deposited within a week; 'early stage', where they were in their first stage of development and where the eggs were less than a quarter their normal size; and 'half developed', for eggs between these two stages of development. Unimpregnated eggs were placed in the 'zero' group.

The division into ages: juvenile, half grown, and full grown (pubescent), was determined from the data collected, the total length of each specimen determining its age. (As will be noticed upon examining the tables, a snake still grows considerably after having attained its adult stage. Full grown here does not mean, therefore, that the snake has reached its maximum length.)

With reference to those species having typical juvenile markings, which in some cases remain until they are half-grown, it was not very difficult to reach a decision, although these markings were still more or less visible also in the following stages of development. Also the development of genitalia of the male specimens aided us in forming a reasonably exact line of demarcation between the juvenile and the adult forms.

Finally, those species represented in adequate numbers made it possible for us to decide the probable stage of those snakes of whom but little material was available.

The principal indication of the age of the females was the state of their oviducts, from the development of which it could be judged whether they were ripe for propagation, and in this sense adult. Thus it was also possible to judge the likely length to be attained by males, taking into account that they always remain smaller than the females at the corresponding stage of development.

Of all the uninjured specimens measured, the relation in percentages of the length of the body to the total length was worked out. This made it possible in many instances to determine the juvenile specimens, and thereby the value of the data was greatly enhanced.

The results of these 17 months of work, in the course of which 3509 snakes were examined and measured, are listed in Supplement A to this article.

If from these detailed notes an abridged list of each species is made, then the results at first sight would leave a somewhat chaotic impression, and this would be enhanced by the inadequate data concerning various species with reference to which it was not possible to form a definite opinion, not even to a certain degree. My further study, therefore, was restricted to investigations of the six species best represented, namely *Elapoides fuscus, Gongylosoma baliodeira, Natrix chrysarcha, Natrix subminiata, Changulia multipunctata,* and *Changulia lumbricoidea.* Of these species the data are given over the last twelve months of the investigation only because, as already stated, the largest numbers were obtained within that period, and I believe these to approach most closely to what may be regarded as the norm. The appended lists comprise respectively 1038, 122, 241, 131, 413, and 109 snakes examined.

A graph of the number of gravid females obtained in the abovementioned period shows a curve as traced in fig. 2. It thus appears that for each species, more or less distinctly, there is a numerical increase in one month of each year.

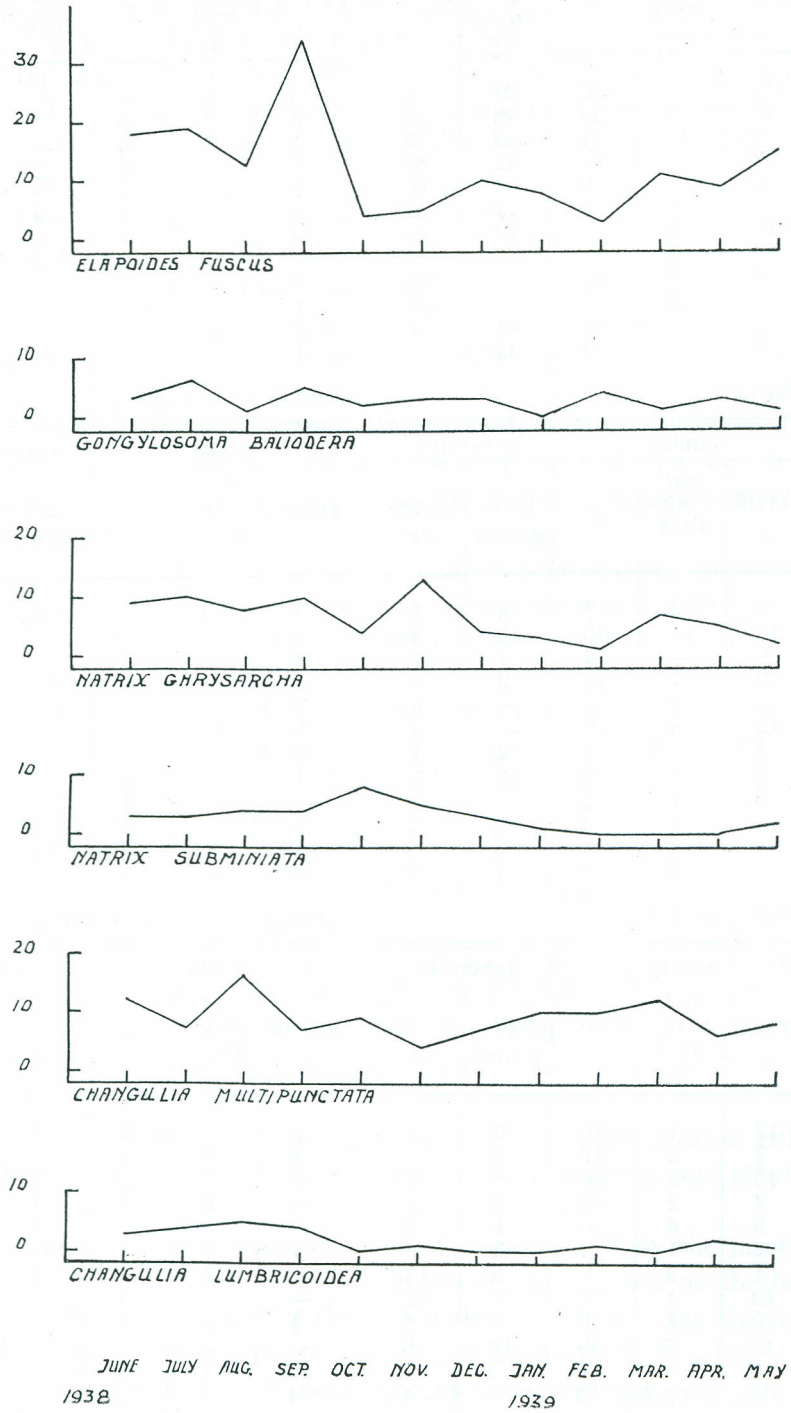


Fig. 2.

Elapoides fuscus.

	adults			juveniles	
	gravid ♀	not pregnant ♀	♂	half-grown	juvenile
June '38	18	4	26	21	11
July	19	8	33	23	10
August	13	14	31	23	29
Sept.	33	16	54	42	49
Oct.	4	4	9	4	11
Nov.	5	8	16	11	23
Dec.	10	9	8	12	30
Jan. '39	8	9	13	14	21
Febr.	3	3	13	11	28
March	11	8	27	19	34
April	9	6	14	24	24
May	15	5	19	25	30

Gongylosoma baliodeira.

	adults			juveniles	
	gravid ♀	not pregnant ♀	♂	half-grown	juvenile
June '38	3	1	6	—	—
July	6	2	5	1	5
August	1	2	4	—	1
Sept.	5	1	6	2	6
Oct.	2	—	4	2	5
Nov.	3	—	1	4	1
Dec.	3	—	1	3	2
Jan. '39	—	1	3	—	—
Febr.	4	1	3	2	1
March	1	—	3	—	2
April	3	2	4	1	1
May	1	—	2	—	1

Natrix chrysarcha.

	adults			juveniles	
	gravid ♀	not pregnant ♀	♂	half-grown	juvenile
June '38	9	2	13	4	1
July	10	—	10	3	4
August	8	—	14	1	2
Sept.	10	1	11	2	1
Oct.	4	2	7	—	6
Nov.	13	8	10	—	3
Dec.	4	—	4	2	1
Jan. '39	3	1	2	2	2
Febr.	1	1	2	1	7
March	7	—	4	3	7
April	5	2	4	2	5
May	2	3	2	1	3

Natrix subminiata.

	adults			juveniles	
	gravid ♀	not pregnant ♀	♂	half-grown	juvenile
June '38	3	—	5	4	—
July	3	3	3	1	—
August	4	—	4	—	—
Sept.	4	1	1	—	—
Oct.	8	—	1	2	—
Nov.	5	2	4	—	3
Dec.	3	—	7	5	4
Jan. '39	1	—	1	2	5
Febr.	—	—	1	—	5
March	—	—	1	8	—
April	—	2	3	10	3
May	2	—	4	4	1

Changulia multipunctata.

	adults			juveniles	
	gravid ♀	not pregnant ♀	♂	half-grown	juvenile
June '38	12	1	16	9	4
July	7	2	17	4	4
August	16	5	18	5	8
Sept.	7	2	14	3	2
Oct.	9	4	10	1	2
Nov.	4	1	4	3	5
Dec.	7	3	9	6	12
Jan. '39	10	1	16	8	12
Febr.	10	1	8	2	4
March	12	9	19	11	6
April	6	1	15	3	2
May	8	4	5	5	1

Changulia lumbricoidea.

	adults			juveniles	
	gravid ♀	not pregnant ♀	♂	half-grown	juvenile
June '38	2	—	5	4	1
July	4	2	4	4	5
August	5	3	3	7	2
Sept.	4	1	1	4	4
Oct.	—	2	—	3	4
Nov.	1	1	—	—	3
Dec.	—	2	1	1	3
Jan. '39	—	—	1	—	2
Febr.	1	1	1	—	—
March	—	—	3	4	1
April	2	—	2	1	—
May	1	1	2	—	—

Is it merely coincidence that this predominance parallels the number of specimens obtained? Or in other words, would it have been possible for the less noticeable cases to establish a more convincing result had more snakes been collected?

Elapoides fuscus definitely had the largest number of gravid females in September; in much lesser degree this was the case for *Gongylosoma baliodeira* in July; for *Natrix chrysarcha* certainly in November; for *Natrix subminiata*, although not quite so noticeably, in October; and for *Changulia multipunctata* and *Ch. lumbricoidea* in August, though in the former it was more definite than in the latter.

For these six species the period wherein the largest number of eggs was found in the oviducts ranged from the beginning of July to the end of November, whence it may be concluded that the 'season', if we may speak of any 'season', is not very pronounced. On the other hand it cannot be denied that annually there seems to be a time of increased propagation.

Consequently one may expect to find a larger number of young specimens during the following months. Graphs III to VIII, inclusive, indicate the total number of specimens obtained, showing the proportion of juveniles to adults. As anticipated, the results definitely indicate a higher propagatory tendency in a certain part of the year.

From these collected data a provisional conclusion may be arrived at, namely that at the beginning of the rainy season there is a definite tendency to propagate amongst the species observed, probably also prevailing in the other species.

This conclusion is not intended to be a positive one, but is merely provisional. A great deal of further systematic work will still have to be done in various and diverging localities before it can be definitely ascertained whether there really is such a 'season'.

To the tables on p. 349 - 350:

K. = F. KOPSTEIN (loc. cit. postea, p. 161). The figures represent the length of the specimens just out of the egg.

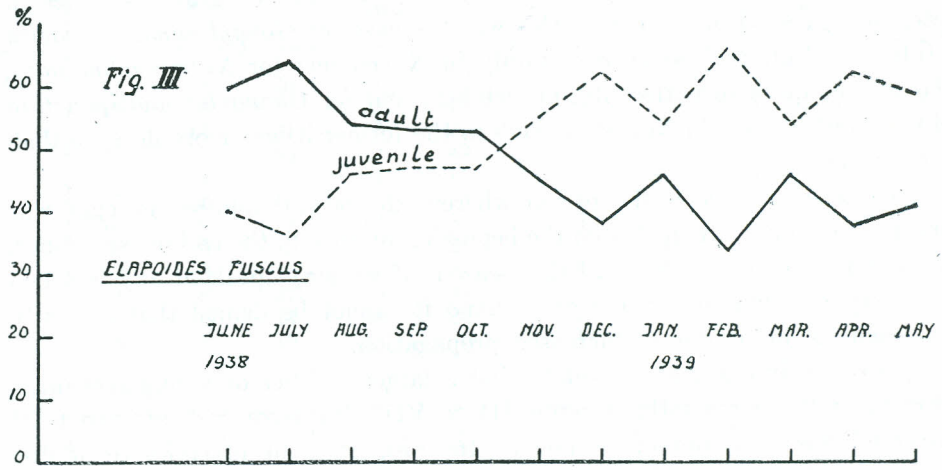
d. R. = N. DE ROOY (The Reptiles of the Indo-Australian Archipelago, Vol. II). The figures represent the maximum length assigned to each variety.

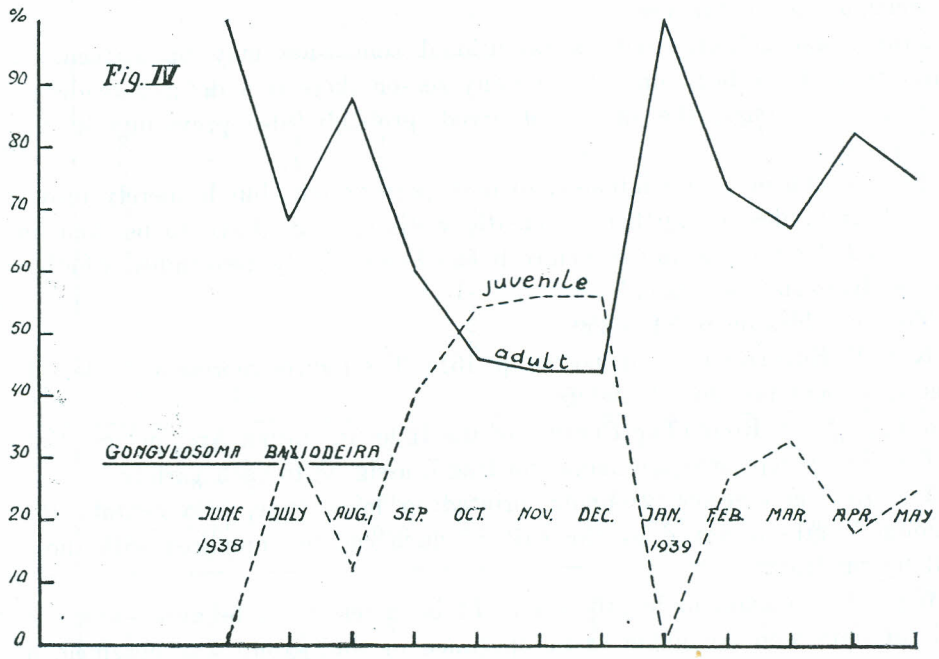
The first and second columns, printed in large type, also contain the maximum lengths observed by the writer, which can be compared with those found by DE ROOY.

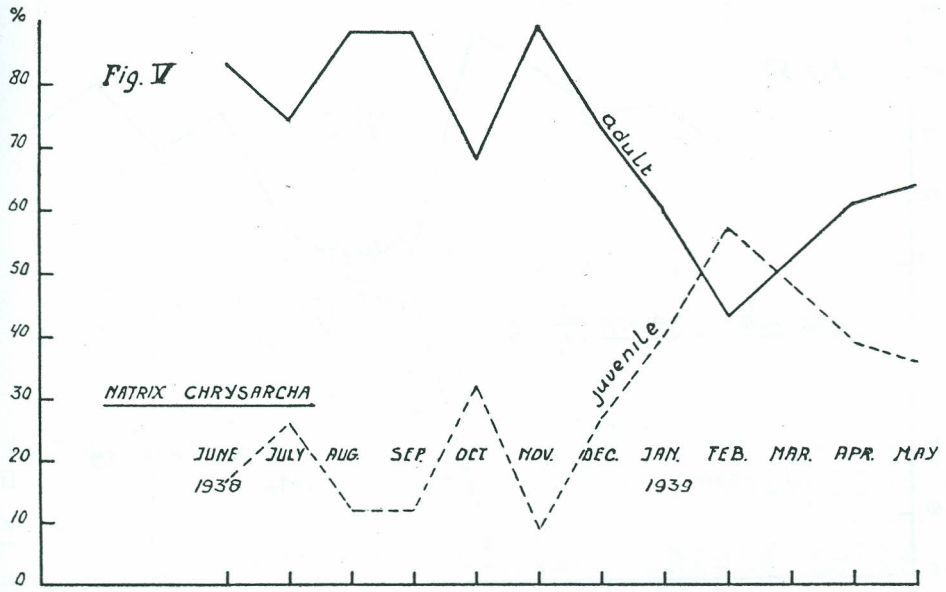
Where the maximum length could not be ascertained, because either no sufficient data were available or no specimen of that group was obtained, a question mark (?) has been added.

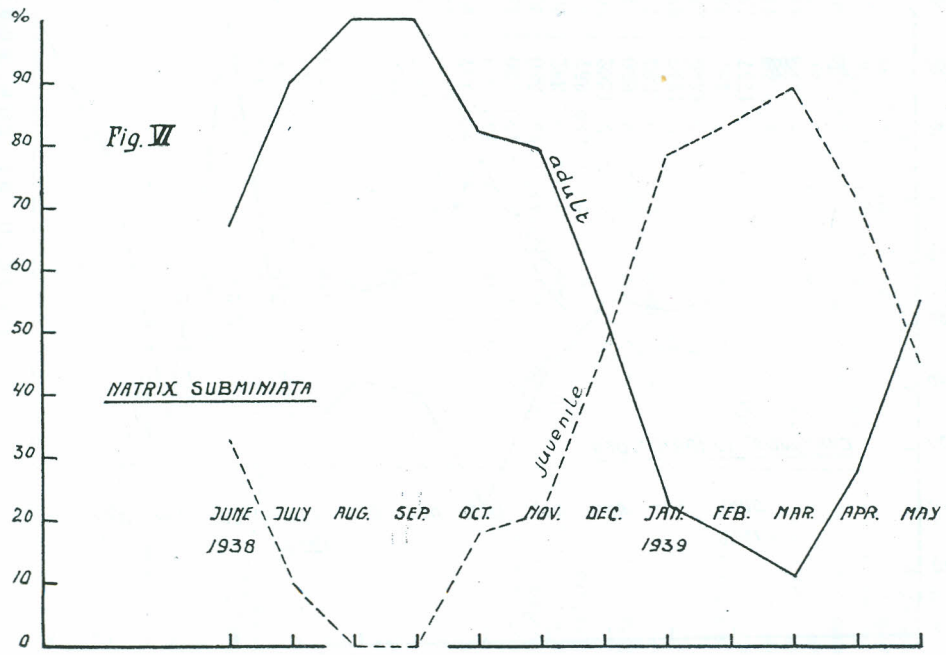
The minimum length of an adult female was decided by the presence of eggs, the probable minimum length of the males was assumed on the basis of these figures, taking into account that the males are smaller than the females.

The limit given for the young can perhaps be rectified; it is here merely assumed in order to create a division between what we know positively to be young snakes and snakes ripe for propagation.


%
60
50
40
30
20
10
0
Fig. III
adult
juvenile
ELAPOIDES FUSCUS
JUNE JULY AUG. SEP. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY
1938
1939


%
90
80
70
60
50
40
30
20
10
0
Fig. IV
juvenile
adult
GONGYLOSOMA BALIODEIRA
JUNE JULY AUG. SEP. OCT. NOV. DEC. JAN. FEB. MAR. APR. MAY
1938
1939


%
80
70
60
50
40
30
20
10
0
Fig. V
adult
juvenile
NATRIX CHRYSARCHA
JUNE
1938
JULY
AUG.
SEP.
OCT
NOV.
DEC.
JAN.
1939
FEB.
MAR.
APR.
MAY


%
90
80
70
60
50
40
30
20
10
0
Fig. VI
adult
juvenile
NATRIX SUBMINIATA
JUNE
1938
JULY
AUG.
SEP.
OCT.
NOV.
DEC.
JAN.
1939
FEB.
MAR.
APR.
MAY

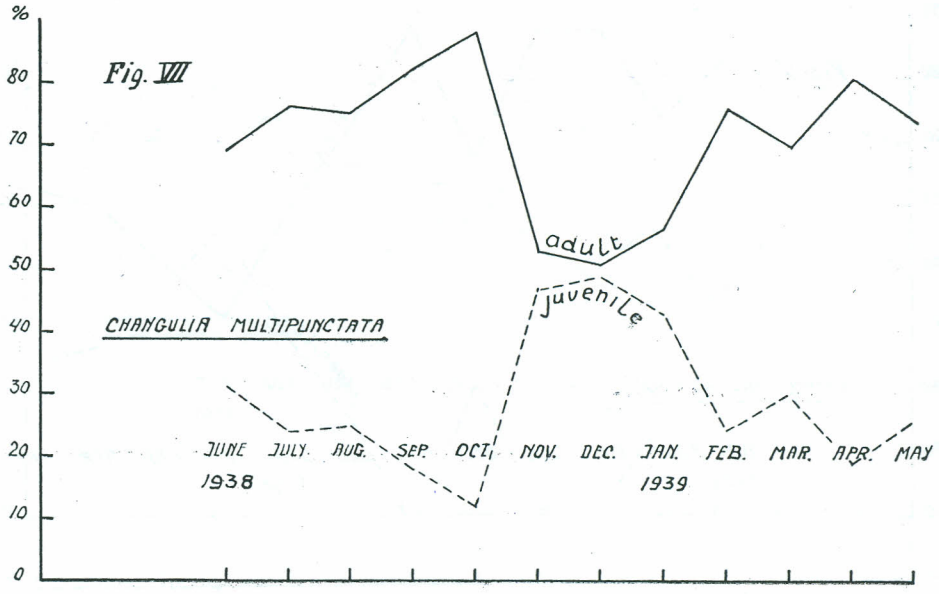


Fig. VII

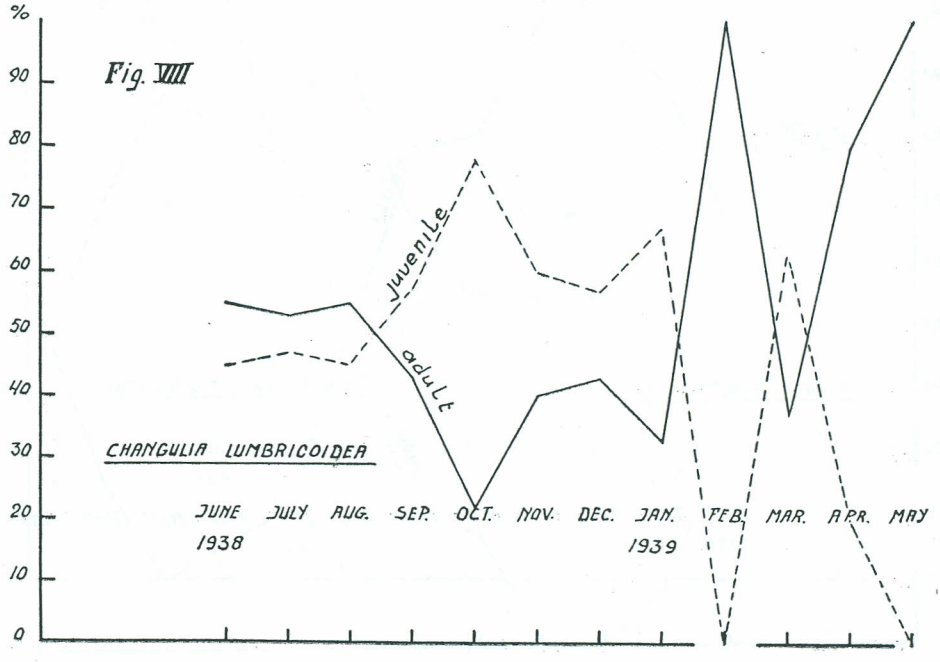


Fig. VIII

Length of the snakes in mm.

Species	limits of the adult lengths ♂	limits of the adult lengths ♀	limits of the half-grown lengths ♂	limits of the half-grown lengths ♀	juveniles	K.	d. R.
Xenodermus javanicus	501— 600, **611**	551— 650, **673**	351— 500	351— 550	216— 350	180—202	485
Polyodontophis geminatus	401— ? , **500**	401— ? , **505**	251— 400	251— 400	— 250		820
Dendrelaphis pictus	801—1200,**1290**	801—1400,**1454**	501— 800	501— 800	340— 500	202—303	1180
Dendrelaphis formosus	801— ? ,**1073**	801— ? ,**1330**	501— 800	501— 800	340— 500		1420
Zaocys carinatus	? — ? ,**2940**	? — ? ,**2320**	? — ?	? — ?	— 563		3000
Natrix trianguligera	601— 775, **843**	801—1000,**1038**	351— 600	351— 800	210— 350		1200
Natrix subminiata	471— 550, **580**	551— 650, **681**	351— 470	351— 550	180— 350	131—188	1060
Natrix chrysarcha	541— 700, **793**	551— 750, **820**	351— 540	351— 550	195— 350	148—220	766
Ptyas korros	1301— ? ,**1920**	1401— ? ,**1770**	701—1300	701—1400	355— 700	364—367	1780
Elaphe flavolineata	1301— ? ,**1580**	1401— ? ,**2910**	701—1300	701—1400	370— 700		1800
Elaphe radiata	1301— ? ,	1401— ? ,**1817**	701—1300	701—1400	416— 700		1610
Lycodon subcinctus	701— 800, **847**	701—1000,**1050**	526— 700	526— 700	249— 525	238—	1000
Oligodon bitorquatus	276— 400, **431**	276— 400, **417**	201— 275	201— 275	119— 200		370
Elapoides fuscus	401— 525, **551**	411— 550, **573**	301— 400	301— 410	154— 300		470
Gongylosoma baliodeira	301— 400, **420**	331— 400, **430**	251— 300	251— 330	133— 250		400
Changulia lumbricoidea	411— 475, **519**	441— 550, **580**	201— 410	201— 440	88— 200		420
Changulia virgulata	276— ? , **327**	276— ? , **382**	201— 275	201— 275	161— 200		440
Changulia multipunctata	201— 275, **289**	251— 350, **357**	166— 200	166— 250	97— 165	92—120	320
Boiga nigriceps	1001— ? ,**1453**	1101— ? ,**1262**	701—1000	701—1100	500— 700		1650
Boiga multimaculata	501— ? , **709**	501— ? , **650**	? — 500	? — 500		195—	750
Boiga drapiezii	1201— ? ,**1305**	1201— ? ,**1565**	701—1200	701—1200	475— 700		1524
Boiga jaspidea	901— ? ,	901— ? ,**1247**	601— 900	601— 900	397— 600	390—400	1400
Boiga cynodon	1201— ? ,**2265**	1201— ? ,**1585**	801—1200	801—1200	730— 800		2450
Psammodynastes pulverulentus	351— 425, **550**	401— ? , **481**	251— 350	251— 400	130— 250	148—178	625
Ahaetulla prasina	1201—1400,**1480**	1401—1700,**1757**	751—1200	751—1400	435— 750	490—	1790
Bungarus fasciatus	801— ? ,	801— ? ,**1050**	426— 800	426— 800	303— 425		1450
Bungarus candidus	801— ? ,	801— ? ,**1270**	426— 800	426— 800			1080
Maticora bivirgata	861— ? ,**1662**	861— ? ,	576— 860	576— 860	319— 575		1610
Maticora intestinalis	451— 650, **683**	451— 550, **580**	301— 450	301— 450	183— 300		580
Haplopeltura boa	601— 700, **788**	601— 750, **756**	401— 600	401— 600	328— 400	207—227	750
Amblycephalus laevis	301 - ? , **381**	301— ? , **390**	201— 300	201— 300	126— 200		545
Amblycephalus carinatus	526— 650, **690**	551— 675, **723**	301— 525	301— 550	211— 300	150—185	500
Trimeresurus albolabris	—	—	—	—	—	214—265	870
Trimeresurus puniceus	501— 580, **631**	501— 650, **691**	351— 500	351— 500	228— 350	180—	792

Sex proportions—Number of eggs—Ratio of body length.

Species	proportion ♂:♀ (1)	number of observ. (2)	(3)	proportion ♂:♀ (4)	number of eggs (5)	(6)	percentage of body length to actual length ♂ (7)	♀ (7)
Xenodermus javanicus	34:66	58	75	44:56	2 — 4	2 — 5	62	64 — 65
Polyodontophis geminatus	55:45	20				2 — 3	57 — 69	60 — 78
Dendrelaphis pictus	29:71	24	78	28,2:71,8	3 — 8	4 — 7	63 — 70	64 — 73
Dendrelaphis formosus		7			6 — 8	5 — 6	63 — 68	67 — 69
Zaocys carinatus	44:56	84	54	35,2:64,8	5 — 8	5 — 11	66 — 69	66 — 68
Natrix subminiata	**43:57**	**152**	53	32,1:67,9	5 — 11	6 — 13	74 — 76	76 — 78
Natrix chrysarcha	**41:59**	**250**	42	50:50	3 — 10	2 — 7	73 — 75	74 — 76
Ptyas korros	48:52	23	82	53,7:46,3	6 — 11	6 — 9	65 — 70	64 — 72
Elaphe flavolineata	35:65	17	18	38,9:67,1	5	2 — 9	78 — 79	78 — 83
Elaphe radiata		5	15	60:40	8 — 10	9	81	80 — 81
Lycodon subcinctus	25:75	16			5 — 7	10	80 — 81	81 — 82
Oligodon bitorquatus	51:49	43			3	3 — 4	81 — 85	85 — 87
Elapoides fuscus	**51:49**	**863**			2 — 4	1 — 7	72 — 73	74 — 75
Gongylosoma baliodeira	**48:52**	**136**			2 — 3	2 — 3	72 — 74	75 — 77
Changulia lumbricoidea	**45:55**	**101**				1 — 6	93 — 94	95 — 96
Changulia virgulata	63:37	16			3	2 — 3	87 — 88	90 — 93
Changulia multipunctata	**49:51**	**375**			2 — 4	1 — 4	91 — 92	95 — 96
Boiga nigriceps		4			3		75 — 76	76
Boiga multimaculata		7			4 — 5		79 — 81	80 — 81
Boiga drapiezii		10			4	6	75	73 — 77
Boiga jaspidea		11			6		73	73 — 76
Boiga cynodon		3					76 — 78	76
Psammodynastes pulverulentus	61:39	18			5 — 10	4 — 6	80 — 82	84 — 86
Ahaetulla prasina	53:47	91			4 — 8	5 — 10	63 — 65	64 — 66
Bungarus fasciatus	42:58	19			11		89 — 97	89 — 95
Bungarus candidus		3					87	88
Maticora bivirgata		6					89 — 90	91 — 92
Maticora intestinalis	48:52	38			2 — 3	2	94	95 — 96
Haplopeltura boa	37:63	65	28	25:75	5 — 8	2 — 5	65 — 66	68 — 69
Amblycephalus laevis	44:56	18				2 — 4	82 — 84	86 — 88
Amblycephalus carinatus	40:60	95	75	34,7:65,3	3 — 8	2 — 9	76 — 77	80 — 81
Trimeresurus albolabris					3 — 17	5 — 19		
Trimeresurus puniceus	39:61	18			12 — 33	10	83 — 84	85 — 87

To columns 1 - 2 of the above table:

To compare the author's figures with those of KOPSTEIN, the sex proportions of 15 or more observations were worked out, the outcome of more than a hundred observations being printed in bold type.

To columns 3 - 5:

For purposes of comparison the results published by the late Dr F. KOPSTEIN [1]) are also given.

[1]) F. KOPSTEIN, "Ein Beitrag zur Eierkunde und Fortpflanzung der Malaiischen Reptilien". Bull. Raffles Mus. No. 14, Sept. 1938, p. 145 and 148. "Ein Beitrag zur Morphologie, Biologie und Ökologie von *Xenodermus javanicus* Reinhardt". Ibid. No 14, Sept. 1938, p. 168 etc.

SUPPLEMENT A.

Detailed notes on the material.

1. In view of the large number of specimens often caught in one day, and the limited time at my disposal, it was not possible to do more than determine the sex and measure the length of the body and of the tail.

   Since it was not always possible to examine and prepare the snakes on the day they were captured, the exact date is not indicated, but only whether the specimen was taken in hand in the first or in the second half of the month. Care was taken, however, that at the end of each half month the material then available had been prepared.
2. The following signs have been used:

   F — full grown
   H — half grown
   O — fully developed eggs
   ½ — half developed egg
   . — eggs in early stage
   / — not pregnant.
3. The number of eggs is put within brackets.
4. The last figure in each list (males-females-juveniles) refers to the size of the body in proportion to the actual length, in percentages.

Natrix subminiata.

	No.	Males			No.	Females				No.	Juveniles	
1938		JAN. 1st half										
	17	390+135=525	F	74								
	18	398+137=535	F	74								
										19	JAN. 2nd half 250+84=334	75
		FEBR. 1st half										
	48	385+136=521	F	74								
	65	330+d.	H									
		2nd half				2nd half (FEBR.)						
	83	340+125=465	H	73	*84*	415+128=543	—	H	76			
										147	MARCH 2nd half 176+54=230	77
		APRIL 1st half				APRIL 1st half					APRIL 1st half	
	189	415+140=555	F	75	*190*	440+d.	—	F		*166*	235+80=315	75
										191	194+59=253	77
		2nd half				2nd half					2nd half	
	213	334+114=448	H	75	*267*	415+122=537	—	H	77	*214*	205+63=268	77
	235	400+143=543	F	74								
	238	395+130=525	F	75								
		MAY 1st half				MAY 1st half					MAY 1st half	
	311	386+d.	F		*268*	430+136=566	—	F	76	*312*	240+84=324	74
	352	375+137=512	F	73	*269*	455+131=586	(8)	½	78			
					309	450+137=587	—	F	77			
					310	440+132=572	—	F	77			
					351	485+d.	—	F				
					353	462+d.	(8)	½				

	No.	Males			No.	Females				No.	Juveniles	
1938		2nd half				2nd half					2nd half	
	366	398+135=533	F	75	*354*	472+140=612	(8)	1/2	77			
	367	405+d.	F		*368*	440+d.	(6)	1/2				
					430	364+d.	—	H				
					431	480+151=631	(9)	1/2	76			
		JUNE 1st half				JUNE 1st half					JUNE 1st half	
	482	388+146=534	F	73	*484*	357+113=470	—	H	76			
	483	394+130=524	F	75	*485*	385+d.	—	H				
	486	305+105=410	H	74	*545*	409+123=532	—	H	77			
	566	372+125=497	F	75								
		2nd half				2nd half					2nd half	
	567	385+d.	F		*635*	455+130=585	10	.	78			
	634	388+126=514	F	75	*636*	475+d.	10	1/2				
					680	438+d.	(7)	1/2				
		JULY 1st half				JULY 1st half					JULY 1st half	
					759	503+148=651	(8)	1/2	77			
					760	416+125=541	—	H	77			
					815	482+d.	(6)	1/2				
		2nd half				2nd half					2nd half	
	927	400+d.			*816*	493+141=634	—	/	78			
	928	370+125=495	F	75	*923*	385+104=489	—	H	79			
	929	365+116=481	F	76	*930*	453+132=585	—	/	78			
					931	455+139=594	(9)	1/2	77			
		AUGUST 1st half				AUGUST 1st half					AUGUST 1st half	
	1039	365+d.	F		*1040*	472+130=602	(9)	1/2	78			
	1093	372+125=497	F	75	*1092*	438+125=563	(7)	O	78			
		2nd half				2nd half					2nd half	
	1156	392+d.	F		*1157*	495+116=611	(6)	1/2	81			
	1195	360+129=489	F	74	*1266*	450+130=580	(6)	1/2	78			
		SEPT. 1st half				SEPT. 1st half					SEPT. 1st half	
					1283	462+138=600	—	F	77			
					1284	465+d.	(9)	O				
					1449	434+d.	(8)	.				
		2nd half				2nd half						
	1557	334+110=444	H	75	*1558*	470+137=607	10	.	77			
					1559	455+134=589	(8)	O	77			
		OCT. 1st half				OCT. 1st half					OCT. 1st half	
	1670	430+150=580	F	74	*1633*	275+ 86=361	—	H	76			
					1634	467+d.	—	F				
					1635	499+d.	—	F				
					1669	465+134=599	(7)	O	78			
		2nd half				2nd half					2nd half	
					1713	518+d.	12	O				
					1714	453+132=585	(7)	O	78			
					1715	450+135=585	(6)	1/2	77			
					1716	455+140=595	(8)	O	76			
					1717	465+d.	10	1/2				
					1753	279+ 92=371	—	H	75			
		NOV. 1st half				NOV. 1st half					NOV. 1st half	
	1872	428+143=571	F	75	*1873*	432+125=557	(7)	1/2	78	*1884*	153+40=193	79
	1882	402+d.	F		*1874*	506+140=646	13	1/2	78			
					1883	529+152=681	13	O	78			
					1939	500+141=641	(9)	1/2	78			
		2nd half				2nd half					2nd half	
	2004	420+d.	F		*1940*	451+130=581	(9)	.	78	*1990*	233+66=299	78
	2005	386+d.	F		*1941*	480+138=618	—	/	78	*2006*	204+61=265	77
					2003	459+141=600	—	/	77			

	No.	Males			No.	Females				No.	Juveniles	
1938		DEC. 1st half				DEC. 1st half					DEC. 1st half	
	2024	360+d.	F		*2026*	453+135=588	10	½	77			
	2025	364+126=490	F	74	*2027*	346+105=451	—	H	77			
	2130	273+ 80=353	H	77	*2129*	355+112=467	—	H	76			
	2131	400+d.	F									
	2132	393+132=525	F	75								
	2133	372+d.	F									
		2nd half				2nd half					2nd half	
	2191	395+d.	F		*2134*	482+141=623	13	O	77	*2187*	240+79=319	75
	2219	395+133=528	F	75	*2192*	322+100=422	–	H	76	*2188*	171+51=222	77
					2193	410+122=532	–	H	77	*2189*	243+73=316	77
					2194	480+d.	(7)	½		*2190*	256+85=341	75
1939		JAN. 1st half				JAN. 1st half					JAN. 1st half	
	2383	385+129=514	F	75	*2258*	462+d.	10	½		*2336*	242+70=312	77
					2281	413+134=547	–	H	76	*2337*	196+62=258	76
					2335	286+ 83=369	–	H	78			
		2nd half				2nd half					2nd half	
										2338	145+45=190	76
										2339	139+41=180	77
										2340	144+41=185	78
		FEBR. 1st half				FEBR. 1st half					FEBR. 1st half	
	2477	352+125=477	F	74						*2478*	257+80=337	76
										2479	149+48=197	76
										2480	157+d.	
		2nd half				2nd half					2nd half	
										2534	115+33=148	78
										2570	133+48=181	73
		MARCH 1st half				MARCH 1st half					MARCH 1st half	
	2621	390+133=523	F	75	*2624*	355+ 97=452	—	H	79			
	2622	340+115=455	H	75								
	2623	335+105=440	H	76								
	2751	337+116=453	H	74								
		2nd half				2nd half					2nd half	
					2752	345+d.	—	H				
					2815	320+ 99=419	—	H	76			
					2826	366+115=481	—	H	76			
					2827	332+d.	—	H				
		APRIL 1st half				APRIL 1st half					APRIL 1st half	
	2879	391+135=526	F	74	*2889*	405+124=529	—	H	77	*2880*	126+38=164	77
	2888	404+125=529	F	76						*2881*	120+38=158	76
		2nd half				2nd half					2nd half	
	2985	323+108=431	H	75	*2926*	397+120=517	—	H	77	*3010*	183+55=238	77
	2986	335+118=453	H	74	*2927*	390+120=510	—	H	77			
	3004	365+117=482	F	76	*2987*	375+d.		H				
	3005	335+115=450	H	74	*2988*	430+132=562	—	F	77			
	3006	308+108=416	H	74	*3008*	447+d.	–	F				
	3007	335+d.	H		*3009*	385+116=501	—	H	77			
		MAY 1st half				MAY 1st half					MAY 1st half	
	3046	380+135=515	F	74	*3102*	416+131=547	–	H	76	*3047*	143+37=180	79
	3099	378+137=515	F	73								
	3100	358+120=478	F	75								
	3101	296+ 93=389	H	76								
		2nd half				2nd half					2nd half	
	3164	445+d.	F		*3221*	495+147=642	11	½	77			
	3165	314+ 92=406	H	75	*3222*	460+139=599	(9)	O	77			
					3223	409+123=532	—	H	77			

Natrix chrysarcha.

	No.	Males			No.	Females				No.	Juveniles	
1938		JAN. 1st half				JAN. 1st half					JAN. 1st half	
					16	360+115=475	—	H	76			
					15	476+155=631	(4)	O	75			
		2nd half				2nd half					2nd half	
	36	515+175=690	F	75	*35*	493+174=667	(4)	O	74			
		FEBR. 1st half				FEBR. 1st half					FEBR. 1st half	
					64	555+187=742	—	F	75			
		2nd half				2nd half					2nd half	
					82	550+180=730	(5)	.	75			
		MARCH 1st half				MARCH 1st half					MARCH 1st half	
	106	455+157=612	F	74	*92*	550+d.	(3)	1/2				
		2nd half				2nd half					2nd half	
	146	590+203=793	F	74	*143*	643+d.	(5)	.		*145*	155+d.	
					144	498+135=633	(4)	O	79			
		APRIL 1st half				APRIL 1st half					APRIL 1st half	
					192	425+137=562	(4)	.	76	*165*	165+48=213	77
		2nd half				2nd half					2nd half	
					212	420+143=563	–	F	75			
					236	447+145=592	–	F	76			
		MAY 1st half				MAY 1st half					MAY 1st half	
	266	500+d.	F		*330*	525+180=705	(4)	O	74			
	332	498+185=683	F	73	*331*	470+150=620	—	F	76			
	333	462+d.	F		*336*	540+186=726	(6)	O	74			
	334	563+d.	F		*338*	560+175=735	—	F	76			
	335	455+158=613	F	74								
	337	435+d.	F									
		2nd half				2nd half					2nd half	
	339	300+102=402	H	75	*401*	475+170=645	(4)	.	74	*399*	163+50=213	77
	400	485+d.	F		*402*	493+d.	(4)	.				
					428	455+149=604	—	F	75			
					429	485+d.	(4)	1/2				
		JUNE 1st half				JUNE 1st half					JUNE 1st half	
	494	465+168=633	F	73								
	495	460+175=635	F	72								
	496	396+147=543	F	73								
	535	498+178=676	F	74								
	536	353+122=475	H	74								
	578	327+113=440	H	74								
	579	510+d.	F									
	580	450+165=615	F	73								
		2nd half				2nd half					2nd half	
	581	488+175=663	F	74	*583*	433+d.	—	F		*653*	271+d.	
	582	447+165=612	F	73	*584*	394+127=521	—	H	76			
	593	480+178=658	F	73	*585*	545+185=730	—	F	74			
	654	470+177=647	F	73	*586*	440+145=585	(3)	O	75			
	684	485+175=660	F	73	*655*	534+182=716	(5)	.	75			
	685	480+162=642	F	75	*656*	540+190=730	(5)	.	74			
	686	457+162=619	F	74	*657*	480+d.	(3)	1/2				
					658	485+170=655	(3)	1/2	74			
					659	458+150=608	(4)	1/2	75			
					687	276+ 82=358	—	H	77			
					689	594+d.	(6)	.				
					690	495+165=660	(5)	.	75			
					691	464+d.	(3)	.				

	No.	Males			No.	Females				No.	Juveniles	
1938		July 1st half				July 1st half					July 1st half	
	764	536+178=714	F	76	*743*	452+d.	—	F		*818*	173+d.	
	765	272+ 80=352	H	77	*744*	487+170=657	(3)	.	74	*819*	173+55=228	76
	820	473+165=638	F	74	*745*	475+158=633	(4)	.	75	*823*	217+70=287	76
	821	538+d.	F		*746*	369+d.	—	H				
	822	504+182=686	F	73	*766*	520+175=695	(4)	.	75			
	824	502+175=677	F	74	*767*	437+d.	(3)	1/2				
	877	475+168=643	F	74	*768*	482+151=633	(5)	.	76			
	920	418+151=569	F	73								
		2nd half				2nd half					2nd half	
	971	410+157=567	F	72	*825*	508+175=683	(5)	.	74	*921*	267+82=349	77
	972	460+d.	F		*878*	520+d.	(4)	.				
	974	340+106=446	H	76	*922*	425+146=571	(3)	1/2	74			
	984	498+153=651	F	76	*973*	542+d.	(5)	.				
		August 1st half				August 1st half					August 1st half	
	985	458+158=616	F	74	*1016*	520+168=688	(2)	1/2	76			
	1015	495+d.	F		*1017*	440+145=585	(2)	1/2	75			
	1065	441+162=603	F	73	*1018*	550+d.	(6)	.				
	1066	482+d.	F		*1019*	525+d.	(4)	1/2				
	1067	427+150=577	F	74	*1064*	520+165=685	(5)	1/2	76			
	1068	455+167=622	F	73								
	1069	464+d.	F									
	1070	542+d.	F									
		2nd half				2nd half					2nd half	
	1145	524+200=724	F	72	*1106*	425+136=561	(4)	1/2	76	*1146*	177+55=232	76
	1178	433+146=579	F	75	*1182*	523+d.	(4)	1/2		*1242*	206+58=264	78
	1179	530+180=710	F	75	*1243*	383+132=515	—	H	74			
	1180	445+163=608	F	73	*1244*	544+d.	(2)	1/2				
	1181	423+154=577	F	73								
	1245	534+181=715	F	75								
		Sept. 1st half				Sept. 1st half					Sept. 1st half	
	1323	545+d.	F		*1326*	534+d.	(4,	.				
	1324	460+d.	F		*1327*	430+143=573	(3)	O	75			
	1325	470+d.	F		*1385*	435+d.	(3)	.				
	1458	426+150=576	F	74	*1386*	475+d.	(4)	.				
	1545	440+165=605	F	73	*1459*	462+145=607	(2)	.	76			
	1547	464+151=615	F	75	*1460*	437+d.	(2)	1/2				
					1461	425+144=569	(4)	1/2	75			
					1546	378+122=500	—	H	76			
		2nd half				2nd half					2nd half	
	1548	448+160=608	F	74	*1552*	410+125=535	—	H	76	*1609*	161+52=213	76
	1549	417+146=563	F	74	*1553*	490+160=650	—	F	75			
	1550	441+158=599	F	73	*1554*	504+160=664	(3)	.	76			
	1551	483+175=658	F	73	*1555*	475+170=645	(3)	1/2	74			
	1608	504+192=696	F	72	*1556*	523+178=701	(6)	O	75			
		Oct. 1st half				Oct. 1st half					Oct. 1st half	
	1628	490+d.	F		*1629*	456+d.	(5)	.		*1626*	195+61=256	76
					1630	502+151=653	(4)	1/2	77	*1627*	151+46=197	77
										1674	151+45=196	77
		2nd half				2nd half					2nd half	
	1711	520+182=702	F	74	*1709*	539+194=733	—	/	74	*1707*	208+66=274	76
	1747	425+149=574	F	74	*1710*	552+d.	(6)	1/2		*1708*	167+52=219	76
	1748	425+161=586	F	73	*1712*	480+157=637	(3)	.	75	*1746*	252+80=332	76
	1749	495+185=680	F	73	*1784*	545+182=727	—	/	75			
	1782	432+149=581	F	74								
	1783	530+d.	F									

	No.	Males			No.	Females				No.	Juveniles	
1938		Nov. 1st half				Nov. 1st half					Nov. 1st half	
	1842	440+147=587	F	75	*1853*	605+d.	(4)	½		*1843*	163+47=210	78
	1850	487+d.	F		*1854*	457+d.	(4)	½				
	1851	448+155=603	F	74	*1855*	560+182=742	(6)	.	75			
	1852	534+185=719	F	74	*1856*	507+166=673	—	F	75			
	1885	518+d.	F		*1857*	480+d.	—	/				
	1886	486+d.	F		*1888*	480+d.	—	/				
	1887	505+161=666	F	76	*1889*	482+152=634	—	F	76			
					1890	506+163=669	(5)	½	76			
					1891	405+137=542	(3)	.	75			
		2nd half				2nd half					2nd half	
	1942	490+172=662	F	74	*1892*	483+160=643	(3)	O	75	*1843*	163+47=210	78
	1943	502+195=697	F	72	*1893*	485+160=645	(4)	½	75			
	1944	496+d.	F		*1946*	554+170=724	(5)	½	77			
					1947	466+161=627	(4)	½	74			
					1948	605+215=820	(7)	½	74			
					1949	468+157=625	(3)	½	75			
					1950	576+172=748	(5)	O	77			
					1951	455+d.	—	F				
					1952	446+d.	—	F				
					1984	496+170=666	(3)	O	74			
					2009	468+d.	—	/				
					2010	470+160=630	—	/	75			
		DEC. 1st half				DEC. 1st half					DEC. 1st half	
	2028	470+170=640	F	73	*2029*	507+d.		F		*2122*	153+48=201	76
	2123	456+d.	F		*2121*	280+ 92=372		H	75			
	2124	510+d.	F		*2126*	288+ 90=378	—	H	76			
	2125	480+167=647	F	74	*2127*	458+149=607	(4)	½	75			
		2nd half				2nd half					2nd half	
					2128	453+158=611	(3)	O	74			
					2195	460+152=612	(3)	O	75			
1939		JAN. 1st half				JAN. 1st half					JAN. 1st half	
	2315	457+170=627	F	73	*2317*	557+191=748	(4)	½	74	*2274*	230+72=302	76
	2316	488+175=663	F	74	*2318*	495+168=663	(4)	½	75			
					2319	535+d.	(3)	.				
					2320	452+143=595	—	F	76			
					2333	344+112=456	—	H	75			
		2nd half				2nd half					2nd half	
					2384	317+d.	—	H		*2334*	165+53=218	76
		FEBR. 1st half				FEBR. 1st half					FEBR. 1st half	
	2459	430+d.	F		*2469*	450+156=606	—	F	74	*2460*	241+72=313	77
					2470	363+122=485	—	H	75	*2461*	199+58=257	77
										2462	170+54=224	76
										2471	172+52=224	77
										2472	180+52=232	78
		2nd half				2nd half					2nd half	
	2535	470+169=639	F	74	*2536*	530+d.	(5)	½		*2571*	224+69=293	76
										2576	155+49=204	76
		MARCH 1st half				MARCH 1st half					MARCH 1st half	
	2585	470+172=642	F	73	*2588*	508+d.	(4)	O		*2586*	224+67=291	77
	2722	481+172=653	F	74	*2589*	510+168=678	(4)	O	75	*2587*	142+45=187	76
	2723	535+189=724	F	74	*2590*	447+160=607	(3)	O	74	*2703*	135+42=177	76
					2591	443+147=590	(3)	½	75	*2704*	150+47=197	76
					2724	355+117=472	—	H	75	*2725*	132+38=170	78
		2nd half				2nd half					2nd half	
	2796	525+172=697	F	75	*2727*	502+d.	(5)	.		*2726*	171+54=225	76
					2728	538+d.	(4)	O		*2800*	163+52=215	76

	No.	Males			No.	Females				No.	Juveniles	
1939					*2797*	494+160=654	(4)	.	76			
					2798	340+117=457	—	H	74			
					2799	289+ 92=381	—	H	76			
		APRIL 1st half				APRIL 1st half					APRIL 1st half	
	2890	503+177=680	F	74	*2839*	363+d.	—	H		*2840*	167+54=221	76
	2891	416+149=565	F	74	*2865*	478+160=638	(3)	½	75			
					2892	432+147=579	—	F	75			
		2nd half				2nd half					2nd half	
	2969	490+165=655	F	75	*2912*	598+185=783	(3)	½	76	*3011*	257+75=332	77
	2970	560+d.	F		*2971*	505+160=665	(5)	O	76	*3012*	216+68=284	76
					2972	488+d.	(4)	O		*3013*	173+50=223	78
					3015	460+160=620	(2)	O	74	*3014*	144+45=189	76
					3016	452+156=608	—	F	74			
					3017	385+129=514	—	H	75			
		MAY 1st half				MAY 1st half					MAY 1st half	
	3103	479+169=648	F	74	*3041*	523+178=701	(4)	O	75	*3044*	262+81=343	76
	3104	460+174=634	F	73	*3042*	483+163=646	—	F	75	*3045*	143+46=189	76
					3043	364+125=489	—	H	74	*3105*	184+57=241	76
					3106	490+d.	?	/				
		2nd half				2nd half					2nd half	
					3166	520+172=692	(4)	O	75			
					3167	408+d.	?	/				

Elapoides fuscus

1938		JAN. 1st half				JAN. 1st half						
	10	340+d.	F		*11*	393+132=525	—	F	75			
					11a	350+d.	–	F				
						2nd half						
					25	370+134=504	(3)	O	74			
					26	355+d.	(3)	O				
					27	342+120=462	(2)	.	74			
					34	255+ 87=342	—	½	75			
		FEBR. 1st half				FEBR. 1st half					FEBR. 1st half	
	40	338+126=464	F	73	*41*	360+138=498	(3)	O	72	*47*	170+d.	
	44	342+111=453	F	75	*42*	395+d.	(3)	O		*53*	174+67=241	72
	46	245+ 90=335	H	73	*43*	380+d.	(4)	½		*54*	212+70=282	75
	56	267+150=417	F	64	*45*	383+140=523	(4)	.	73			
					51	355+126=481	(4)	.	78			
					52	335+d.	—	F				
					55	227+ 75=302	—	H	75			
					57	348+114=462	—	F	75			
					58	380+d.	(4)	½				
		2nd half				2nd half					2nd half	
	60	250+ 90=340	H	74	*62*	259+ 92=351	—	H	74	*61*	190+70=260	73
	75	305+102=407	F	75	*63*	225+ 80=305	—	H	74	*74*	210+60=270	78
					69	395+130=525	(5)	O	75	*76*	217+80=297	73
					70	365+105=470	(4)	½	78			
					71	345+d.	(3)	O				
					72	405+d.	(3)	½				
					73	385+122=507	(3)	O	76			
		MARCH 1st half				MARCH 1st half					MARCH 1st half	
	88	365+d.	F		*112*	360+125=485	(4)	½	74	*89*	210+d.	
	90	330+130=460	F	72	*113*	270+ 86=356	—	H	76	*91*	155+50=205	74
	97	290+d.	H							*96*	157+54=211	74
										98	182+60=242	75
										99	150+55=205	73

	No.	Males			No.	Females				No.	Juveniles	
1938										*108*	195+64=259	75
										109	215+75=290	74
										110	200+72=272	74
										111	194+73=267	73
		2nd half				2nd half					2nd half	
	155	340+134=474	F	72	*153*	357+d.	(3)	½		*158*	217+80=297	74
	156	265+ 99=364	H	73	*154*	425+142=567	(6)	.	75			
	157	308+119=427	F	73								
		APRIL 1st half				APRIL 1st half					APRIL 1st half	
	175	367+138=505	F	73	*179*	230+ 80=310	—	H	74	*174*	182+70=252	72
	177	245+ 95=340	H	72	*182*	345+113=458	(3)	.	75	*176*	198+66=264	75
	180	324+125=449	F	72	*200*	403+126=529	(5)	½	76	*178*	190+72=262	73
	203	307+116=423	F	73	*201*	387+d.	(4)	.		*205*	205+70=275	75
	204	244+d.	H		*202*	322+104=426	(1)	½	76			
	206	258+102=360	H	72								
		2nd half				2nd half					2nd half	
	207	253+ 93=346	H	73	*211*	330+d.	(4)	.		*224*	147+43=190	77
	208	281+105=386	H	73	*221*	386+133=519		/	74	*209*	214+d.	
	210	284+110=394	H	72	*222*	308+115=423	—	F	73	*255*	223+76=299	75
	226	223+d.	H		*223*	282+d.	—	H		*256*	170+d.	
	229	262+100=362	H	72	*225*	235+ 81=316	—	H	74	*285*	160+50=210	76
	230	262+102=364	H	72	*227*	406+d.	(3)	½				
	231	327+120=447	F	73	*228*	381+132=513	(4)	O	74			
	251	345+132=477	F	72	*232*	350+d.	(3)	½				
	252	293+100=393	H	75	*233*	390+135=525	(3)	O	74			
	253	315+d.	F		*234*	364+122=486	—	F	75			
	254	262+ 95=357	H	73	*257*	315+105=420	—	F	75			
					258	280+d.	—	H				
					259	292+ 93=385	—	H	76			
					260	390+d.	(4)	.				
					261	363+126=489	(2)	O	74			
		MAY 1st half				MAY 1st half					MAY 1st half	
	287	368+140=508	F	72	*286*	255+ 79=334	—	H	76	*293*	205+72=277	74
	291	230+ 86=316	H	73	*288*	384+135=519	—	F	74	*294*	190+d.	
	292	228+ 89=317	H	72	*289*	288+ 93=381	—	H	76	*295*	168+d.	
	297	395+d.	F		*290*	270+ 95=365	—	H	75	*302*	185+70=255	73
	298	348+137=485	F	72	*296*	226+ 75=301	—	H	75			
	304	343+139=482	F	71	*299*	285+d.	—	H				
	305	353+136=489	F	72	*300*	348+115=463	(4)	O	75			
	306	328+140=468	F	70	*301*	315+d.	(3)	O				
	307	267+ 94=361	H	74	*303*	282+101=383	—	H	73			
	308	330+125=455	F	72	*346*	265+ 90=355	—	H	74			
	345	305+120=425	F	72								
		2nd half				2nd half					2nd half	
	350	280+106=386	H	72	*347*	326+110=436	—	F	75	*370*	177+60=237	75
	369	263+100=363	H	72	*348*	328+120=448	(2)	½	73	*444*	140+47=187	75
	371	295+110=405	F	73	*349*	394+142=536	(5)	½	74			
	372	267+105=372	H	72	*376*	230+ 77=307	—	H	75			
	373	359+140=499	F	72	*377*	244+ 78=322	—	H	76			
	374	296+112=408	F	72	*378*	284+ 95=379	—	H	75			
	375	238+ 90=328	H	72	*379*	358+123=481	(5)	½	74			
	406	330+135=465	F	71	*380*	373+128=501	(5)	½	74			
	407	340+d.	F		*381*	354+126=480	(4)	½	74			
	408	310+122=432	F	72	*382*	306+102=408	—	H	75			
	409	305+111=416	F	73	*383*	320+106=426	—	F	75			
	410	298+115=413	F	72	*440*	385+135=520	(3)	½	74			
	438	352+134=486	F	72	*441*	365+127=492	(2)	.	74			
	439	260+d.	H									
	442	350+140=490	F	72								
	443	357+142=499	F	72								

	No.	Males			No.	Females				No.	Juveniles	
1938		June 1st half				June 1st half					June 1st half	
	454	342+136=478	F	72	*459*	253+ 85=338	—	H	75	*456*	221+76=297	74
	455	344+132=476	F	72	*464*	351+117=468	(3)	½	75	*461*	198+68=266	74
	457	330+123=453	F	73	*465*	406+d.	(5)	½		*463*	168+60=228	74
	458	290+120=410	F	71	*466*	344+110=454	(4)	½	76	*505*	195+66=261	75
	460	355+d.	F		*467*	343+111=454	(4)	½	76	*508*	173+60=233	74
	462	232+ 86=318	H	73	*506*	394+138=532	(4)	½	74	*525*	187+55=242	77
	504	290+108=398	H	73	*507*	228+ 76=304	—	H	75			
	512	265+100=365	H	73	*509*	257+ 82=339	—	H	76			
	513	340+132=472	F	72	*510*	232+ 75=307	—	H	76			
	514	353+132=485	F	73	*511*	260+ 83=343	—	H	76			
	515	356+d.	F		*526*	375+123=498	(4)	½	75			
	516	287+110=397	H	70	*527*	365+119=484	(4)	O	75			
	517	300+117=417	F	72	*528*	343+116=459	(4)	½	75			
	518	290+110=400	H	73	*529*	355+122=477	(4)	½	74			
	519	370+137=507	F	73	*530*	308+103=411	(3)	½	75			
	520	349+130=479	F	73	*531*	350+113=463	(2)	O	75			
	521	350+d.	F		*532*	390+127=517	(6)	½	76			
	522	238+ 85=323	H	74	*533*	335+110=445	—	F	75			
	523	343+137=480	F	72	*534*	308+108=416	—	F	74			
	524	235+ 89=324	H	73								
	574	268+ 92=360	H	74								
		2nd half				2nd half					2nd half	
	575	348+d.	F		*576*	377+125=502	(4)	½	75	*604*	219+80=299	73
	608	338+125=463	F	73	*577*	340+115=455	(2)	.	75	*667*	209+71=280	75
	607	300+105=405	F	74	*613*	358+123=481	—	F	74	*668*	194+72=266	73
	609	357+139=496	F	72	*614*	267+ 92=359	—	H	74	*669*	131+44=175	75
	610	370+d.	F		*615*	262+ 91=353	—	H	74	*706*	175+56=231	76
	611	322+d.	F		*616*	244+ 87=331	—	H	74			
	612	292+115=407	F	72	*617*	345+111=456	(3)	O	76			
	663	365+d.	F		*666*	246+d.	—	H				
	665	282+106=388	H	73	*672*	290+d.	—	H				
	670	334+d.	F		*673*	304+105=409	—	H	74			
	671	318+d.	F		*674*	360+119=479	(3)	O	75			
	707	352+d.	F		*709*	368+d.	—	F				
	708	375+150=525	F	71	*711*	370+128=498	(4)	½	74			
	710	345+140=485	F	71	*712*	338+124=462	(3)	.	73			
					713	300+104=404	—	H	74			
		July 1st half				July 1st half					July 1st half	
	719	332+127=459	F	72	*725*	362+112=474	(3)	½	76	*724*	200+d.	
	720	318+119=437	F	73	*726*	434+121=555	(4)	½	78	*782*	146+49=195	75
	721	298+110=408	F	73	*783*	271+ 94=365	—	H	74	*784*	207+75=282	73
	722	335+d.	F		*788*	245+d.	—	H		*789*	130+47=177	73
	723	310+d.	F		*792*	351+124=475	—	F	74	*845*	130+49=179	73
	785	288+106=394	H	73	*793*	377+d.	—	F		*860*	207+70=277	75
	786	298+116=414	F	72	*794*	343+116=459	(4)	½	75	*861*	220+80=300	73
	787	315+122=437	F	72	*863*	237+ 77=314	—	H	75	*862*	123+40=163	75
	790	243+ 90=333	H	73	*864*	336+d.	(1)	½				
	791	234+ 86=320	H	73								
	846	255+ 92=347	H	73								
	847	363+d.	F									
	848	319+d.	F									
	849	392+135=527	F	74								
	850	324+d.	F									
	851	306+d.	F									
	852	227+ 87=314	H	72								
	853	343+132=475	F	72								
	854	325+119=444	F	75								
	855	222+ 84=306	H	72								
	856	289+115=404	F	75								

No.	Males			No.	Females				No.	Juveniles	
857	283+111=394	H	72								
858	318+115=433	F	73								
859	313+120=433	F	72								
	2nd half				2nd half					2nd half	
881	358+d.	F		*865*	400+136=536	(1)	O	75	*908*	212+69=281	75
882	363+140=503	F	72	*866*	430+143=573	(5)	O	75	*949*	203+78=281	72
883	330+128=458	F	72	*867*	325+111=436	(3)	.	75			
897	354+132=486	F	73	*868*	398+130=528	(4)	O	75			
898	364+139=503	F	72	*869*	381+129=510	(4)	½	75			
899	310+120=430	F	72	*870*	329+d.	(2)	½				
900	286+110=396	H	72	*871*	354+120=474	(4)	.	75			
901	315+122=437	F	72	*872*	322+d.	—	F				
902	268+d.	H		*873*	309+106=415	—	F	74			
903	386+148=534	F	72	*874*	349+127=476	—	F	73			
904	317+d.	F		*875*	255+ 94=349	—	H	73			
905	372+d.	F		*884*	335+116=451	(4)	/	74			
906	287+d.	H		*885*	281+120=401	—	H	70			
907	343+d.	F		*909*	234+ 78=312	—	H	75			
916	293+110=403	F	72	*910*	366+115=481	(3)	.	76			
947	328+122=450	F	73	*911*	392+d.	(3)	½				
948	258+d.	H		*912*	407+128=535	?	/	76			
950	268+ 98=366	H	73	*913*	340+d.	(1)	½				
951	318+120=438	F	73	*914*	300+105=405	—	H	74			
952	353+133=486	F	73	*915*	285+100=385	—	H	74			
976	355+148=503	F	71	*953*	318+111=429	—	F	74			
977	283+102=385	H	74	*954*	269+ 97=366	—	H	73			
				955	258+ 89=347	—	H	74			
				956	376+121=497	(2)	.	76			
				957	386+125=511	(4)	.	76			
				958	410+122=532	(4)	½	77			
				959	387+d.	(4)	½				
				960	383+128=511	(4)	.	75			
	AUGUST 1st half				AUGUST 1st half					AUGUST 1st half	
978	332+125=457	F	73	*981*	407+d.	(5)	½		*980*	130+42=172	76
979	230+ 85=315	H	73	*1030*	353+d.	(5)	½		*982*	215+77=292	74
983	320+134=454	F	70	*1031*	338+114=452	(3)	½	75	*1027*	159+55=214	74
1020	298+112=410	F	73	*1032*	277+ 98=375	—	H	74	*1028*	176+59=235	75
1021	287+112=399	H	72	*1033*	285+ 98=383	—	H	74	*1029*	144+50=194	74
1022	364+146=510	F	71	*1034*	278+ 96=374	—	H	74	*1077*	159+55=214	74
1023	303+114=417	F	73	*1036*	245+d.	—	H		*1078*	169+d.	
1024	361+129=490	F	74	*1037*	268+d.	—	H		*1079*	121+43=164	74
1025	319+126=445	F	72	*1081*	349+114=463	—	F	75	*1080*	217+72=289	75
1026	393+151=544	F	72	*1082*	340+d.	—	F				
1035	320+122=442	F	72								
1038	226+ 90=316	H	71								
1071	330+122=452	F	73								
1072	385+151=536	F	72								
1073	357+150=507	F	70								
1074	296+112=408	F	73								
1075	253+100=353	H	72								
1076	225+d.	H									
	2nd half				2nd half					2nd half	
1094	391+140=531	F	74	*1083*	325+100=425	—	F	76	*1091*	129+50=179	72
1095	300+113=413	F	73	*1084*	369+125=494	—	F	75	*1099*	217+77=294	74
1096	315+121=436	F	72	*1085*	331+117=448	(2)	½	74	*1100*	208+75=283	73
1097	307+d.	F		*1086*	332+110=442	(3)	/	75	*1101*	208+67=275	76
1098	277+106=383	H	72	*1087*	346+120=466	(4)	½	74	*1102*	153+51=204	75
1148	284+107=391	H	73	*1088*	371+d.	(4)	.		*1150*	135+42=177	76
1149	254+ 99=353	H	72	*1089*	364+126=490	(3)	½	74	*1151*	146+47=193	76
1183	329+123=452	F	73	*1090*	222+ 80=302	—	H	74	*1152*	144+49=193	75

	No.	Males			No.	Females				No.	Juveniles	
1938	*1184*	339+125=464	F	73	*1103*	328+115=443	—	F	74	*1188*	183+57=240	76
	1185	269+109=378	H	71	*1104*	376+122=498	(5)	.	76	*1189*	145+50=195	74
	1186	225+ 79=304	H	74	*1105*	315+109=424	—	F	74	*1190*	132+43=175	75
	1187	226+ 82=308	H	73	*1153*	341+115=456	—	F	75	*1216*	207+d.	
	1200	320+126=446	F	72	*1154*	312+107=419	—	F	74	*1217*	153+53=206	74
	1201	360+140=500	F	72	*1155*	227+ 78=305	—	H	74	*1218*	159+58=217	73
	1202	355+d.	F		*1191*	322+115=437	—	F	74	*1219*	157+50=207	76
	1203	377+141=518	F	73	*1192*	335+115=450	—	F	74	*1220*	166+54=220	75
	1204	387+149=537	F	72	*1193*	354+117=471	—	F	75	*1221*	151+54=205	74
	1205	382+138=520	F	74	*1194*	354+120=474	(3)	.	75	*1222*	134+43=177	76
	1206	368+135=503	F	73	*1225*	370+122=492	(4)	O	75	*1223*	139+46=185	75
	1207	358+128=486	F	74	*1226*	386+d.	(4)	.		*1224*	128+42=170	75
	1208	254+ 92=346	H	73	*1227*	338+102=440	(4)	½	77			
	1209	325+d.	F		*1228*	385+d.	(4)	½				
	1210	235+ 82=317	H	74	*1229*	346+115=461	(3)	.	75			
	1211	374+128=502	F	75	*1230*	372+125=497	(3)	O	75			
	1212	358+137=495	F	72	*1231*	402+139=541	(3)	.	74			
	1213	333+133=466	F	71	*1232*	338+108=446	—	F	76			
	1214	288+105=393	H	73	*1233*	312+d.	—	F				
	1215	262+100=362	H	72	*1234*	287+ 99=386	—	H	74			
		SEPT. 1st half				SEPT. 1st half					SEPT. 1st half	
	1297	301+115=416	F	72	*1306*	258+ 86=344	—	H	75	*1304*	158+51=209	76
	1298	291+108=399	H	73	*1312*	312+100=412	—	F	76	*1305*	132+43=175	75
	1299	345+135=480	F	72	*1313*	369+d.	—	F		*1307*	132+46=178	74
	1300	347+136=483	F	72	*1314*	333+114=447	—	F	74	*1308*	182+64=246	74
	1301	369+130=499	F	74	*1315*	338+108=446	—	F	76	*1309*	158+47=205	77
	1302	300+111=411	F	73	*1316*	370+116=486	—	F	76	*1310*	175+59=234	75
	1303	350+134=484	F	72	*1317*	340+d.	—	F		*1311*	196+66=262	75
	1341	330+132=462	F	71	*1319*	238+d.	—	H		*1318*	220+68=288	76
	1342	352+139=491	F	72	*1320*	350+114=464	(3)	½	75	*1353*	140+52=192	73
	1343	255+ 94=349	H	73	*1321*	366+128=494	(4)	½	74	*1354*	115+42=157	73
	1344	310+120=430	F	72	*1322*	375+d.	(4)	O		*1355*	126+40=166	76
	1345	267+105=372	H	72	*1356*	379+128=507	(3)	O	75	*1376*	169+61=230	73
	1346	315+127=442	F	71	*1357*	292+ 99=391	—	H	75	*1377*	158+56=214	74
	1347	282+114=396	H	71	*1358*	298+ 99=397	—	H	75	*1378*	141+d.	
	1348	324+121=445	F	73	*1359*	366+120=486	(4)	½	75	*1384*	202+65=267	76
	1349	374+150=524	F	71	*1360*	392+d.	(4)	½		*1408*	203+68=271	75
	1350	368+141=509	F	72	*1361*	404+128=532	(5)	½	76	*1409*	225+69=294	77
	1351	298+112=410	F	73	*1362*	325+d.	(4)	½		*1410*	140+51=191	73
	1352	224+d.	H		*1363*	360+119=479	(4)	½	75	*1411*	142+46=188	76
	1367	369+d.	F		*1364*	369+124=493	(4)	.	75	*1412*	142+46=188	76
	1368	250+ 95=345	H	72	*1365*	399+d.	(3)	.		*1413*	173+55=228	76
	1369	380+141=521	F	73	*1366*	374+124=498	—	F	75	*1414*	165+62=227	73
	1370	250+ 97=347	H	72	*1379*	334+118=452	—	F	74	*1415*	143+46=189	76
	1371	287+115=402	F	71	*1380*	316+106=422	—	F	75	*1416*	125+45=170	74
	1372	318+120=438	F	73	*1381*	265+ 88=353	—	H	75	*1417*	120+36=156	77
	1373	256+ 98=354	H	72	*1382*	283+106=389	—	H	73	*1418*	118+41=159	74
	1374	309+115=424	F	73	*1383*	298+ 97=395	—	H	75	*1429*	150+?	
	1375	222+ 82=304	H	73	*1407*	223+ 79=302	—	H	74	*1471*	155+54=209	74
	1387	375+141=516	F	73	*1419*	287+ 96=383	—	H	75	*1472*	184+67=251	73
	1388	352+132=484	F	73	*1420*	253+ 89=342	—	H	74	*1473*	207+69=276	75
	1389	355+d.	F		*1421*	343+120=463	(4)	.	74	*1474*	184+63=247	74
	1390	392+147=539	F	73	*1422*	330+115=445	(2)	O	74	*1498*	139+52=191	72
	1391	348+135=483	F	72	*1423*	355+125=480	(3)	O	74	*1499*	126+47=173	73
	1392	348+134=482	F	72	*1424*	349+123=472	(3)	O	74	*1500*	123+46=169	73
	1393	323+125=448	F	72	*1425*	332+d.	(3)	½		*1501*	144+49=193	75
	1394	399+d.	F		*1426*	434+d.	(6)	O		*1502*	126+45=171	74
	1395	313+126=439	F	71	*1427*	374+125=499	(3)	O	75			
	1396	306+120=426	F	72	*1428*	336+d.	(3)	.				
	1397	295+105=400	H	74	*1475*	379+d.	(3)	½				

	No.	Males			No.	Females				No.	Juveniles	
1938	*1398*	310+119=429	F	72	*1476*	342+109=451	(3)	O	76			
	1399	276+107=383	H	72	*1477*	355+117=472	(3)	½	75			
	1400	268+106=374	H	72	*1478*	357+d.	—	F				
	1401	233+ 83=316	H	74	*1479*	317+109=426		F	74			
	1402	310+118=428	F	72	*1480*	271+ 90=361	—	H	75			
	1403	328+138=466	F	70	*1481*	257+ 91=348	—	H	74			
	1404	300+d.	F		*1505*	358+d.	(2)	O				
	1405	233+ 85=318	H	73	*1506*	342+107=451	—	F	76			
	1406	250+ 99=349	H	72								
	1462	323+120=443	F	73								
	1463	325+d.	F									
	1464	304+115=419	F	73								
	1465	364+145=509	F	71								
	1466	278+103=381	H	73								
	1467	261+d.	H									
	1468	255+102=357	H	71								
	1469	236+ 86=322	H	73								
	1470	313+116=429	F	73								
	1497	263+100=363	H	72								
	1503	333+132=465	F	72								
	1504	273+d.	H									
		2nd half				2nd half					2nd half	
	1507	319+116=435	F	73	*1527*	358+115=473	(3)	½	76	*1523*	177+69=246	72
	1508	292+110=402	F	73	*1528*	379+d.	(3)	O		*1524*	146+48=194	75
	1509	340+d.	F		*1529*	376+132=508	(4)	.	74	*1525*	170+58=228	75
	1510	326+133=459	F	71	*1530*	369+122=491	(3)	½	75	*1526*	119+45=164	73
	1511	359+143=502	F	72	*1531*	370+121=491	(3)	½	75	*1542*	174+58=232	75
	1512	328+116=444	F	74	*1532*	377+d.	(3)	.		*1543*	189+64=253	75
	1513	327+130=457	F	72	*1533*	394+130=524	(5)	.	75	*1544*	195+d.	
	1514	313+112=425	F	74	*1534*	345+115=460	(3)	.	75	*1564*	190+70=260	73
	1515	346+d.	F		*1535*	336+114=450	(3)	/	75	*1565*	143+48=191	75
	1516	349+d.	F		*1536*	387+d.	—	F		*1566*	164+60=224	73
	1517	322+129=451	F	71	*1537*	337+113=450	—	F	75	*1567*	134+44=178	76
	1518	310+126=436	F	71	*1538*	357+130=487	—	F	73	*1571*	167+51=218	77
	1519	317+125=442	F	72	*1539*	291+ 99=390	—	H	75	*1621*	225+75=300	75
	1520	247+ 92=339	H	73	*1540*	274+ 95=369	—	H	74			
	1522	270+102=372	H	73	*1541*	260+ 93=353	—	H	74			
	1560	401+150=551	F	73	*1562*	231+ 76=307	—	H	75			
	1561	340+136=476	F	72	*1568*	351+110=461	(2)	½	76			
	1563	219+ 85=304	H	72	*1569*	338+113=451	(3)	½	75			
	1610	284+106=390	H	73	*1570*	329+113=442	(3)	O	74			
					1611	254+ 86=340	—	H	75			
		OCT. 1st half				OCT. 1st half					OCT. 1st half	
	1612	268+ 99=367	H	73	*1615*	384+128=512	(4)	½	75	*1614*	220+78=298	74
	1613	287+107=394	H	73	*1680*	385+135=520	(3)	O	74	*1616*	184+59=243	76
	1681	357+d.	F							*1639*	180+60=240	75
										1679	143+52=195	73
										1682	212+d.	
		2nd half				2nd half					2nd half	
	1729	381+142=523	F	73	*1683*	240+d.	—	H		*1735*	159+50=209	75
	1730	328+119=447	F	73	*1684*	363+124=487	—	F	75	*1740*	139+49=188	74
	1731	338+112=450	F	75	*1736*	317+105=422	—	F	75	*1771*	208+70=278	75
	1732	323+126=449	F	72	*1737*	339+118=457	(3)	½	73	*1772*	202+72=274	74
	1733	374+135=509	F	74	*1769*	347+109=456	(2)	O	76	*1773*	155+55=210	74
	1734	328+121=449	F	73	*1775*	356+115=471	—	F	76	*1774*	141+48=189	75
	1738	348+122=470	F	74	*1776*	355+d.	—	F				
	1739	285+112=397	H	72								
	1770	320+125=445	F	72								

	No.	Males			No.	Females				No.	Juveniles	
1938		Nov. 1st half				Nov. 1st half					Nov. 1st half	
	1812	300+115=415	F	72	*1819*	225+ 79=304	—	H	74	*1817*	220+79=299	74
	1813	357+132=489	F	73	*1828*	335+107=442	—	F	76	*1818*	215+70=285	75
	1814	320+114=434	F	74	*1829*	281+d.	—	H		*1820*	156+55=211	74
	1815	264+ 95=359	H	74	*1830*	309+105=414	—	F	75	*1821*	154+54=208	74
	1816	226+ 80=306	H	74	*1831*	346+110=456	—	F	76	*1822*	158+55=213	74
	1834	352+137=489	F	72	*1832*	413+141=554	(?)	/	75	*1823*	120+41=161	74
	1902	342+111=453	F	76	*1833*	394+d.	(5)	½		*1824*	149+52=201	74
	1910	370+d.	F		*1859*	308+112=420	—	F	73	*1825*	150+53=203	74
					1906	371+122=493	(?)	/	75	*1826*	125+39=164	76
					1907	392+d.	(4)	½		*1827*	120+43=163	74
					1908	345+128=473	—	F	73	*1903*	185+65=250	74
					1909	247+d.	—	H		*1904*	140+44=184	76
					1911	324+104=428	(2)	½	76	*1905*	132+45=177	75
		2nd half				2nd half					2nd half	
	1957	359+136=495	F	73	*1974*	407+135=542	(4)	½	75	*1967*	217+77=284	76
	1958	267+ 97=364	H	73	*1975*	282+ 94=376	—	H	75	*1968*	207+77=284	73
	1959	314+119=433	F	72	*1976*	319+d.	—	F		*1969*	210+74=284	74
	1960	335+128=463	F	72	*1977*	280+ 95=375	—	H	75	*1970*	160+61=221	72
	1961	298+108=406	F	73	*1986*	411+140=551	(6)	O	75	*1971*	138+42=180	77
	1962	355+d.	F		*2015*	300+102=402	—	H	75	*1972*	161+52=213	76
	1963	339+130=469	F	72	*2016*	244+ 88=332	—	H	73	*1973*	146+48=194	75
	1964	330+121=451	F	73						*2013*	149+47=196	76
	1965	345+136=481	F	72						*2014*	129+42=171	75
	1966	281+d.	H							*2017*	195+63=258	76
	2011	328+119=447	F	73								
	2012	313+115=428	F	73								
		DEC. 1st half				DEC. 1st half					DEC. 1st half	
	2033	372+139=511	F	73	*2041*	351+120=471	(3)	O	75	*2035*	198+72=270	73
	2034	276+110=386	H	72	*2042*	370+121=491	(?)	½	75	*2036*	166+50=216	77
	2055	320+d.	F		*2043*	410+135=545	(?)	/	75	*2037*	165+55=220	75
	2056	258+d.	H		*2044*	346+d.	—	F		*2038*	149+46=195	76
	2057	230+ 88=318	H	72	*2073*	368+121=489	(3)	.	75	*2039*	139+45=184	75
	2059	230+d.	H		*2074*	327+d.	(3)	.		*2040*	119+36=155	77
					2075	345+115=460	—	F	75	*2058*	205+65=270	76
					2076	318+115=433	—	F	73	*2060*	212+77=289	73
					2077	301+104=405	—	H	74	*2061*	204+75=279	73
					2078	264+ 95=359	–	H	74	*2062*	177+53=230	77
					2079	267+ 93=360	–	H	74	*2063*	167+55=222	75
										2064	157+50=207	76
										2065	151+54=205	74
										2066	151+53=204	74
										2067	153+47=200	77
										2068	152+51=203	75
										2069	135+44=179	78
										2070	135+44=179	78
										2071	130+44=174	75
										2072	198+73=271	73
										2080	201+65=266	76
		2nd half				2nd half					2nd half	
	2153	301+d.	F		*2155*	379+115=494	(3)	O	77	*2154*	150+55=205	73
	2157	343+105=448	F	77	*2156*	432+137=569	(4)	O	76	*2159*	208+68=276	75
	2158	286+100=386	H	74	*2167*	337+126=463	—	F	73	*2160*	194+70=264	73
	2228	394+d.	F		*2168*	352+123=475	–	F	74	*2161*	186+68=254	73
	2229	350+126=476	F	73	*2169*	339+115=454	—	F	75	*2162*	127+43=170	75
	2230	332+129=461	F	72	*2170*	238+ 78=316	—	H	75	*2163*	180+62=242	74
	2231	299+115=414	F	72	*2171*	378+120=498	(3)	½	76	*2164*	198+63=261	76
	2232	270+107=377	H	72	*2172*	326+115=441	(3)	O	74	*2165*	192+63=255	75
	2233	250+ 97=347	H	72	*2234*	364+125=489	(2)	½	74	*2166*	117+44=161	73
					2235	355+119=474	(3)	½	75			

	No.	Males			No.	Females				No.	Juveniles	
1938					*2236*	325+116=441	—	F	74			
					2237	290+ 91=381	—	H	76			
					2238	385+d.	—	F				
1939		JAN. 1st half				JAN. 1st half					JAN. 1st half	
	2286	330+125=455	F	72	*2261*	330+119=449	—	F	73	*2289*	212+68=280	72
	2287	298+108=416	F	72	*2262*	370+d.	(3)	O		*2290*	161+d.	
	2288	224+ 85=309	H	72	*2263*	358+121=479	(3)	1/2	75	*2291*	152+50=202	75
	2359	389+140=529	F	74	*2292*	383+128=511	(3)	1/2	75			
					2293	340+115=455	—	F	75			
					2294	370+d.	—	F				
					2295	269+ 93=362	—	H	74			
					2296	252+ 84=336	—	H	75			
					2297	252+ 80=332	—	H	76			
		2nd half				2nd half					2nd half	
	2360	381+d.	F		*2367*	398+127=525	(4)	/	76	*2362*	152+51=203	75
	2361	348+130=478	F	73	*2368*	427+d.	(5)	O		*2363*	180+60=240	75
	2392	386+150=536	F	72	*2369*	292+102=394	—	H	74	*2364*	159+54=213	75
	2393	346+130=476	F	73	*2370*	319+112=431	—	F	74	*2365*	125+45=170	74
	2394	322+136=458	F	70	*2371*	330+d.	—	F		*2366*	124+43=167	74
	2395	325+128=453	F	72	*2417*	390+125=515	(3)	O	76	*2404*	208+69=277	75
	2396	352+137=489	F	72	*2418*	344+111=455	(3)	.	76	*2405*	197+66=263	75
	2397	332+132=464	F	72	*2419*	358+130=488	(4)	.	73	*2406*	218+71=289	75
	2398	311+122=433	F	72	*2420*	394+128=522	(4)	.	75	*2407*	217+74=291	75
	2399	327+130=457	F	72	*2421*	365+d.	—	F		*2408*	177+59=236	75
	2400	268+d.	H		*2422*	310+105=415	—	F	75	*2409*	154+48=202	76
	2402	241+ 92=333	H	72	*2423*	319+105=425	—	F	75	*2410*	173+75=230	75
	2403	231+ 82=313	H	73	*2424*	235+ 75=310	—	H	76	*2411*	143+d.	
	2416	222+ 80=302	H	73	*2425*	239+ 83=322	—	H	74	*2412*	156+49=205	76
					2426	245+ 83=328	—	H	75	*2413*	151+49=200	76
					2427	265+ 92=357	—	H	71	*2401*	222+78=300	74
					2428	267+ 86=353	—	H	76	*2414*	133+49=182	73
										2415	115+39=154	75
		FEBR. 1st half				FEBR. 1st half					FEBR. 1st half	
	2442	328+127=455	F	72	*2451*	309+111=420	—	F	74	*2444*	218+77=295	74
	2443	342+d.	F		*2452*	309+109=418	—	F	74	*2445*	206+68=274	75
	2490	308+112=420	F	73						*2446*	186+68=254	74
	2491	305+113=418	F	73						*2447*	173+50=223	77
	2492	312+112=424	F	74						*2448*	172+57=229	75
	2493	278+110=388	H	72						*2449*	155+52=207	75
	2494	228+ 81=309	H	74						*2450*	142+d.	
	2505	378+148=526	F	72						*2453*	203+66=269	75
	2506	340+132=472	F	72						*2495*	188+68=256	73
	2507	328+d.	F							*2496*	196+71=267	73
	2508	248+ 97=345	H	72						*2497*	221+70=291	76
										2498	169+57=226	75
										2499	150+50=200	75
										2500	161+51=212	76
										2501	177+52=229	77
										2502	129+46=175	74
										2503	129+43=172	75
										2504	119+37=156	76
										2509	216+84=300	72
										2510	189+60=249	76
										2511	218+70=288	76
										2512	182+57=239	76
										2513	162+60=222	73
		2nd half				2nd half					2nd half	
	2545	379+d.	F		*2515*	390+138=528	(4)	O	74	*2514*	142+42=184	72

	No.	Males			No.	Females				No.	Juveniles	
1939	*2546*	358+d.	F		*2516*	362+122=484	(4)	½	75	*2554*	205+67=272	75
	2547	338+127=465	F	73	*2517*	283+ 95=378		H	75	*2555*	186+63=249	75
	2548	300+112=412	F	73	*2518*	232+ 77=309	—	H	75	*2556*	138+48=186	74
	2549	225+ 82=307	H	73	*2550*	358+122=480	(3)	O	75	*2557*	129+42=171	75
	2580	330+135=465	F	71	*2551*	347+124=471	—	F	74			
	2581	273+107=380	H	72	*2552*	229+ 78=307	—	H	75			
					2553	226+ 75=301	—	H	75			
					2582	271+ 86=357	—	H	76			
					2583	258+ 88=346	—	H	75			
		MARCH 1st half				MARCH 1st half					MARCH 1st half	
	2607	350+d.	F		*2615*	269+ 91=360	—	H	75	*2612*	189+d.	
	2608	342+131=473	F	72	*2616*	310+117=427	—	F	73	*2613*	144+49=193	75
	2609	318+126=444	F	72	*2646*	238+ 77=315	—	H	76	*2614*	190+64=254	75
	2610	353+d.	F		*2647*	408+142=550	(5)	½	74	*2637*	196+62=258	76
	2611	253+ 95=348	H	73	*2648*	351+122=473	(3)	.	74	*2638*	206+d.	
	2630	365+125=490	F	74	*2649*	358+d.	(3)	/		*2639*	165+61=226	73
	2631	327+122=449	F	73	*2650*	408+131=539	(3)	/	76	*2640*	190+60=250	76
	2632	338+134=472	F	72	*2651*	366+d.	(4)	/		*2641*	158+55=213	74
	2633	336+134=470	F	71	*2652*	345+121=466	(4)	.	74	*2642*	145+48=193	75
	2634	280+111=391	H	72	*2653*	350+123=473	—	F	73	*2643*	142+48=190	75
	2635	317+d.	F		*2654*	242+ 81=323	—	H	75	*2644*	124+43=167	74
	2636	279+104=383	H	73	*2655*	254+ 89=343	—	H	74	*2645*	203+69=272	75
	2686	342+136=478	F	72	*2695*	390+140=530	(3)	½	74	*2691*	205+75=280	73
	2687	370+143=513	F	72	*2696*	398+d.	(5)	O		*2692*	200+65=265	75
	2688	285+120=405	F	70	*2697*	240+ 87=327	—	H	74	*2693*	177+55=232	76
	2689	285+108=393	H	73	*2698*	280+ 99=379	—	H	74	*2694*	155+57=212	73
	2690	295+d.	H									
		2nd half				2nd half					2nd half	
	2731	320+120=440	F	73	*2740*	404+125=529	(3)	/	76	*2730*	120+43=163	74
	2732	345+135=480	F	72	*2741*	380+d.	(3)	O		*2733*	225+75=300	75
	2734	227+ 81=308	H	74	*2742*	400+d.	(4)	O		*2735*	208+70=278	75
	2762	377+d.	F		*2743*	396+135=531	(4)	O	75	*2736*	182+64=246	74
	2763	325+123=448	F	72	*2744*	378+d.	—	F		*2737*	169+57=226	75
	2764	319+120=439	F	73	*2745*	243+ 87=330	—	H	74	*2738*	151+52=203	74
	2765	332+134=466	F	71	*2787*	364+d.	(3)	.		*2739*	151+55=206	73
	2766	322+124=446	F	72	*2788*	364+d.	(4)	½		*2778*	209+78=287	73
	2767	336+142=478	F	70	*2789*	378+144=522	(4)	½	74	*2779*	185+65=250	74
	2768	389+d.	F		*2790*	315+108=423	—	F	74	*2780*	189+67=256	74
	2769	356+134=490	F	73	*2791*	248+ 80=328	—	H	76	*2781*	134+45=179	74
	2770	309+123=432	F	72	*2792*	248+ 82=330	—	H	75	*2782*	115+42=157	73
	2771	332+136=468	F	71	*2793*	242+ 86=328	—	H	74	*2783*	151+49=200	76
	2772	310+131=441	F	70						*2784*	144+52=196	73
	2773	338+130=468	F	72						*2785*	170+60=230	74
	2774	290+113=403	F	72						*2786*	168+58=226	74
	2775	250+ 93=343	H	73						*2794*	205+64=269	76
	2776	243+ 87=330	H	74						*2822*	144+46=190	76
	2777	222+ 85=307	H	72								
		APRIL 1st half				APRIL 1st half					APRIL 1st half	
	2841	395+151=546	F	73	*2848*	229+ 82=311	—	H	73	*2843*	215+75=290	74
	2842	330+125=455	F	73	*2855*	400+140=540	(4)	O	75	*2844*	186+70=256	73
	2849	342+134=476	F	72	*2856*	355+120=475	(3)	½	75	*2845*	200+70=270	74
	2850	347+133=480	F	72	*2857*	397+133=530	(5)	O	75	*2846*	164+54=218	75
	2851	266+105=371	H	72	*2858*	292+102=394	—	H	74	*2847*	145+43=188	77
	2852	228+ 82=310	H	74	*2859*	277+105=382	—	H	73	*2853*	127+46=173	73
	2900	338+130=468	F	72	*2860*	260+ 84=344	—	H	76	*2854*	168+60=228	74
	2901	251+ 93=344	H	73	*2902*	408+d.	(4)	O				
					2903	355+130=485	(2)	/	73			
					2904	292+105=397	—	H	74			
					2905	311+100=411	—	F	76			

	No.	Males			No.	Females				No.	Juveniles	
1939		2nd half				2nd half					2nd half	
	2907	248+ 95=343	H	72	2910	368+133=501	(3)	1/2	74	2934	167+57=224	75
	2908	300+117=417	F	72	2937	377+d.	(3)	O		2935	179+65=244	73
	2909	370+140=510	F	73	2938	322+108=430	—	F	75	2936	160+51=211	76
	2931	290+102=392	H	74	2939	285+101=386	—	H	74	2951	201+75=276	73
	2932	248+d.	H		2940	288+ 97=385	—	H	75	2952	173+64=237	73
	2933	221+ 81=302	H	73	2941	260+ 92=352	—	H	74	2949	205+75=280	73
	2944	323+126=449	F	72	2942	258+ 85=343	—	H	75	2950	194+65=259	75
	2945	305+121=426	F	72	2943	250+ 81=331	—	H	75	2953	174+59=233	75
	2946	319+119=438	F	73	2959	346+d.	—	F		2954	156+57=214	73
	2947	300+114=414	F	72	2960	275+ 94=369	—	H	75	2955	160+55=215	74
	2948	251+ 90=341	H	74	2961	274+ 94=368	—	H	74	2956	168+59=227	74
	3027	360+145=505	F	71	3035	398+135=533	(4)	O	75	2957	127+43=170	75
	3028	338+135=473	F	71	3036	365+123=488	(4)	.	75	2958	123+39=162	76
	3029	240+ 86=326	H	74	3037	350+118=468	(1)	O	75	2962	220+75=295	75
	3030	266+ 97=363	H	73	3038	305+107=412	—	F	74	2963	226+74=300	75
	3031	345+d.	F		3039	330+112=442	—	F	75	3033	161+56=227	71
	3032	245+ 81=326	H	75	3040	243+ 83=326	—	H	75	3034	150+46=196	77
		MAY 1st half				MAY 1st half					MAY 1st half	
	3056	363+d.	F		3065	348+122=470	(1)	/	74	3061	220+75=295	75
	3057	330+129=459	F	72	3066	315+105=420	(1)	1/2	75	3062	226+61=287	79
	3058	348+138=486	F	72	3067	309+102=411	—	F	75	3063	183+57=240	76
	3059	285+103=388	H	73	3068	283+ 87=370	—	H	76	3064	144+48=192	75
	3060	328+125=453	F	72	3069	273+ 92=365	—	H	75	3072	212+67=279	76
	3073	238+ 95=333	H	71	3070	271+ 90=361	—	H	75	3130	226+74=300	75
	3125	292+108=400	H	73	3071	242+ 79=321	—	H	75	3131	193+70=263	73
	3126	325+133=458	F	71	3140	371+129=500	(4)	1/2	74	3132	191+67=258	74
	3127	285+115=400	H	71	3141	351+121=472	(4)	O	74	3133	195+62=257	76
	3128	311+d.	F		3142	379+133=512	(4)	1/2	74	3134	143+47=190	75
	3129	292+112=404	F	72	3143	283+103=386	—	H	73	3135	167+62=229	73
					3144	270+ 90=360	—	H	75	3136	181+62=243	74
					3146	220+ 89=309	—	H	71	3137	182+d.	
										3138	148+46=194	76
										3139	120+44=164	73
										3145	211+76=287	74
		2nd half				2nd half					2nd half	
	3168	335+127=462	F	73	3177	378+125=503	(4)	O	75	3147	205+71=276	74
	3169	360+136=496	F	73	3178	372+123=495	(4)	O	75	3174	219+75=294	74
	3170	338+130=468	F	72	3179	385+d.	(4)	1/2		3176	203+73=276	74
	3171	304+117=421	F	72	3180	349+119=468	(4)	.	75	3198	213+81=294	73
	3172	300+115=415	F	72	3181	395+135=530	(5)	O	75	3199	153+54=207	74
	3173	363+d.	F		3182	384+127=511	(5)	.	75	3200	193+64=257	75
	3175	235+ 88=323	H	73	3183	310+112=422	—	F	73	3201	169+52=221	76
	3187	305+117=422	F	72	3184	275+ 90=365	—	H	75	3202	124+44=168	74
	3188	261+ 94=355	H	73	3185	250+d.	—	H		3203	160+54=214	75
	3189	307+d.	F		3186	233+ 78=311	—	H	75	3204	195+65=260	75
	3190	300+117=417	F	72	3207	255+ 86=341	—	H	75	3205	195+67=262	74
	3191	285+110=395	H	72	3208	345+121=466	(4)	O	74	3206	221+79=300	74
	3192	240+ 87=327	H	74	3209	400+137=437	(4)	1/2	75	3219	213+75=288	74
	3193	317+123=440	F	72	3210	356+129=485	(3)	1/2	73	3220	185+69=254	73
	3194	228+ 84=312	H	73	3211	330+ 99=429	(3)	1/2	77			
	3195	353+d.	F		3212	375+135=510	—	F	74			
	3196	253+ 93=346	H	73	3213	327+114=441	(3)	.	74			
	3197	323+125=448	F	72	3214	309+106=415	—	H	74			
					3215	293+100=393	—	H	75			
					3216	316+108=424	—	F	75			
					3217	279+ 93=372	—	H	75			
					3218	257+ 91=348	—	H	74			

Gongylosoma baliodeira

	No.	Males			No.	Females				No.	Juveniles	
1938		JAN. 1st half				JAN. 1st half					JAN. 1st half	
	20	283+108=391	F	72								
		2nd half				2nd half					2nd half	
	28	265+ 97=362	F	73	*29*	273+ 80=353	(2)	O	77	*30*	168+60=228	74
	38	265+100=365	F	73								
		FEBR.				FEBR. 1st half					FEBR. 1st half	
										49	192+55=247	78
		2nd half				2nd half					2nd half	
					77	285+ 82=367	(3)	1/2	78			
					78	300+ 53=353	(3)	1/2	85			
		MARCH 1st half				MARCH					MARCH	
	104	268+d.	F									
	105	212+ 63=275	H	77								
	123	305+110=415	F	73								
		2nd half				2nd half					2nd half	
	125	304+110=414	F	73	*124*	260+ 80=340	(3)	1/2	76			
		APRIL 1st half				APRIL 1st half					APRIL	
					187	290+ 85=375	(2)	1/2	77			
		2nd half				2nd half					2nd half	
					215	278+ 90=368	(3)	O	76			
					241	256+ 85=341	(3)	O	75			
		MAY 1st half				MAY 1st half					MAY 1st half	
										329	189+59=248	76
		2nd half				2nd half					2nd half	
	397	237+ 86=323	F	73	*398*	271+ 90=361	(2)	.	75			
	427	280+107=387	F	73								
		JUNE 1st half				JUNE					JUNE	
	493	262+101=363	F	72								
	555	294+ 85=379	F	77								
	556	227+ 74=301	F	75								
		2nd half				2nd half					2nd half	
	605	300+109=409	F	73	*606*	260+d.	—	F				
	622	244+ 90=334	F	73	*623*	303+d.	(3)	O				
	676	265+102=367	F	72	*624*	300+ 97=397	(3)	O	76			
					625	283+ 92=375	(2)	.	75			
		JULY 1st half				JULY 1st half					JULY 1st half	
	752	270+ 91=361	F	75	*753*	303+ 89=392	(3)	1/2	77	*802*	164+62=226	72
	841	246+ 87=333	F	74	*754*	252+ 86=338	(2)	.	75	*803*	188+60=248	76
	842	241+ 77=318	F	76	*755*	302+ 92=394	—	F	77	*805*	110+32=142	77
					804	289+ 87=376	(2)	.	77			
					843	206+ 69=275	—	H	75			
					844	249+ 77=326	(3)	1/2	76			
		2nd half				2nd half					2nd half	
	941	267+ 95=362	F	74	*944*	285+ 70=355	?	/	80	*886*	100+35=135	74
	942	241+ 77=318	F	76	*945*	270+ 77=347	(3)	1/2	78	*943*	171+57=228	75
					946	257+ 80=337	(3)	O	76			
		AUGUST 1st half				AUGUST 1st half					AUGUST	
	992	277+ 99=376	F	74	*994*	265+ 84=349	(3)	1/2	76			
	993	252+ 97=349	F	72	*1010*	296+ 90=386	—	F	77			
	1008	260+ 97=357	F	73	*1011*	259+ 87=346	—	F	75			
	1009	256+ 94=350	F	73								
		2nd half				2nd half					2nd half	
										1169	179+67=246	73

	No.	Males			No.	Females				No.	Juveniles	
1938		SEPT. 1st half				SEPT. 1st half					SEPT. 1st half	
	1280	234+ 84=318	F	74	*1281*	250+ 81=331	—	F	76	*1333*	115+31=146	79
	1432	245+ 90=335	F	73	*1430*	215+ 71=286	—	H	75	*1334*	118+33=151	78
	1433	260+ 92=352	F	74	*1431*	268+ 80=348	(2)	O	77			
	1484	258+ 94=352	F	73	*1434*	283+d.	(3)	½				
		2nd half				2nd half					2nd half	
	1486	255+ 92=347	F	73	*1485*	289+ 85=374	(3)	O	77	*1591*	175+55=230	76
	1590	252+ 90=342	F	74	*1487*	296+d.	(2)	½		*1593*	112+33=145	77
					1592	274+ 84=358	(2)	O	76	*1604*	162+47=209	78
					1603	242+ 70=312	—	H	78	*1605*	145+41=186	78
		OCT. 1st half				OCT. 1st half					OCT. 1st half	
	1637	220+ 82=302	F	73	*1646*	269+ 85=354	(2)	½	76	*1638*	170+52=222	77
	1642	252+ 91=343	F	73						*1640*	122+40=162	75
	1644	190+ 68=258	H	74						*1641*	128+40=168	77
	1685	209+ 77=286	H	73						*1643*	179+64=243	74
	1686	246+ 94=340	F	72						*1645*	181+55=236	77
		2nd half				2nd half					2nd half	
	1727	295+105=400	F	74	*1741*	282+ 82=364	(2)	½	77			
		NOV. 1st half				NOV. 1st half					NOV. 1st half	
	1844	262+ 92=354	F	74	*1845*	262+ 85=347	(2)	½	76	*1921*	166+65=231	72
	1922	207+ 79=286	H	72	*1846*	230+ 80=310	—	H	74			
					1923	283+ 95=378	(3)	.	75			
					1924	233+ 76=309	—	H	75			
					1925	218+ 70=288	—	H	76			
		2nd half				2nd half					2nd half	
					1981	279+ 95=374	(2)	O	75			
		DEC. 1st half				DEC. 1st half					DEC. 1st half	
	2098	203+ 78=281	H	72	*2052*	300+ 99=399	(3)	.	75	*2102*	100+33=133	75
					2099	236+ 80=316	—	H	75			
					2100	268+ 89=357	(2)	½	75			
					2101	212+ 64=276	—	H	77			
		2nd half				2nd half					2nd half	
	2115	217+ 89=306	F	71	*2245*	289+ 80=369	(3)	O	78	*2114*	168+60=228	74
1939		JAN. 1st half				JAN.					JAN.	
	2276	268+ 92=360	F	74								
	2277	231+ 85=316	F	73								
		2nd half				2nd half					2nd half	
	2379	240+ 90=330	F	73	*2378*	320+103=423	?	/	76			
											FEBR.	
		FEBR. 1st half				FEBR. 1st half						
	2482	275+114=389	F	71	*2455*	270+d.	(3)	.				
	2529	247+ 77=324	F	76	*2483*	280+ 85=365	(3)	/	77			
					2484	266+d.	(1)	½				
		2nd half				2nd half					2nd half	
	2530	229+ 94=323	F	71	*2531*	300+d.	(2)	O		*2568*	162+58=220	74
	2567	214+ 75=289	H	74	*2569*	210+ 67=277	—	H	76			
					2578	283+ 84=367	(2)	½	77			
		MARCH 1st half				MARCH					MARCH	
	2685	225+ 86=311	F	72								
		2nd half				2nd half					2nd half	
	2747	280+100=380	F	74	*2805*	248+ 77=325	(2)	.	76	*2748*	197+29=126	77
	2806	260+100=360	F	72						*2807*	112+38=150	75
		APRIL 1st half				APRIL 1st half					APRIL	
	2873	263+108=371	F	71	*2875*	286+ 90=376	(3)	O	76			
	2874	215+ 79=294	H	73								

	No.	Males			No.	Females				No.	Juveniles	
1939		2nd half				2nd half					2nd half	
	2978	278+102=380	F	73	*2979*	273+ 91=364	(2)	O	75	*2982*	107+37=144	74
	2998	300+120=420	F	71	*2980*	314+d.	(3)	½				
	2999	235+ 90=325	F	72	*2981*	280+ 80=360	—	F	78			
					3000	282+ 94=376	—	F	75			
		MAY 2nd half				MAY 2nd half					MAY 2nd half	
	3231	260+107=367	F	7'	*3153*	245+ 71=316	(2)	O	77	*3233*	104+32=136	79
	3232	265+ 95=360	F	74								

Changulia lumbricoidea

1938		JAN.				JAN. 2nd half					JAN.	
					39	483+21=506	—	F	96			
		FEBR.				FEBR. 2nd half					FEBR.	
					80	460+23=483	(2)	½	95			
					81	460+21=481	(3)	O	96			
		MARCH				MARCH					MARCH 1st half	
										95	170+10=180	92
		2nd half				2nd half						
	162	422+31=453	F	93	*168*	423+23=446	(2)	O	95			
		APRIL 1st half				APRIL 1st half					APRIL	
	184	410+30=440	H	93	*169*	500+25=525	—	F	95			
		2nd half										
	219	310+24=334	H	93								
		MAY 1st half				MAY					MAY	
	276	360+30=390	H	92								
	277	393+29=422	F	93								
	325	450+34=485	F	93								
						2nd half					2nd half	
					392	430+20=450	(3)	O	96	*423*	183+15=198	92
					422	320+15=335	—	H	96			
		JUNE 1st half				JUNE 1st half					JUNE	
	491	405+29=434	F	93	*490*	474+21=495	(6)	½	96			
	549	400+30=430	F	93	*550*	470+25=495	(4)	½	95			
	588	440+35=475	F	93								
	589	410+32=442	F	93								
	492	187+14=201	H	93								
		2nd half				2nd half					2nd half	
	618	395+29=424	F	93	*619*	200+10=210	—	H	95	*590*	164+11=175	94
	693	350+23=373	H	94	*620*	390+20=410	—	H	95			
					621	445+20=465	(4)	½	96			
		JULY 1st half				JULY 1st half					JULY 1st half	
	739	392+29=421	F	93	*769*	495+24=519	(4)	.	95	*737*	143+ 8=151	95
	828	361+25=386	H	94	*809*	525+25=550	(3)	O	95	*738*	180+13=193	93
	831	435+32=467	F	93						*829*	79+ 9= 88	90
	832	405+30=435	F	93						*830*	93+10=103	90
		2nd half				2nd half					2nd half	
	890	387+28=415	F	93	*833*	508+25=533	(1)	½	95	*894*	184+10=194	95
	924	215+13=228	H	94	*891*	539+26=565	—	F	95	*932*	184+12=196	94
	933	205+14=219	H	94	*892*	477+20=497	—	F	96	*1047*	177+12=189	94
					895	458+24=482	(3)	½	95	*1265*	185+ 8=193	96
		AUGUST				AUGUST 1st half					AUGUST	
					1000	483+21=504	—	F	96			

	No.	Males			No.	Females				No.	Juveniles	
1938					*1001*	442+21=463	—	F	95			
					1002	288+14=302	—	H	95			
					1003	480+21=501	(4)	.	96			
		2nd half				2nd half					2nd half	
	1045	442+32=474	F	93	*1048*	290+14=304	—	H	95			
	1046	341+25=366	H	93	*1134*	485+22=507	(4)	½	96			
	1120	362+26=388	H	93	*1197*	205+ 9=214	—	H	96			
	1196	434+34=468	F	93	*1198*	527+28=555	(3)	.	95			
	1263	382+30=412	F	93	*1199*	414+21=435	—	H	95			
					1238	453+25=478	—	F	95			
					1239	456+24=480	(4)	.	95			
					1240	466+23=489	(4)	½	95			
					1264	254+12=266	—	H	95			
		SEPT. 1st half				SEPT. 1st half					SEPT. 1st half	
	1287	343+24=367	H	93	*1286*	275+14=289	—	H	95	*1285*	178+ 9=187	95
					1288	492+24=516	—	F	95	*1335*	180+ 9=189	95
					1289	485+23=508	(2)	½	95	*1451*	184+14=198	93
					1290	337+36=373	(2)	.	90			
					1336	555+25=580	(4)	½	96			
		2nd half				2nd half					2nd half	
	1489	340+25=365	H	93	*1490*	233+17=250	—	H	93	*1573*	163+12=175	93
	1572	384+29=413	F	93	*1607*	471+23=494	(3)	.	95			
		OCT. 1st half				OCT. 1st half					OCT. 1st half	
					1632	483+23=506	—	F	95	*1631*	167+12=179	93
					1671	304+16=320	—	H	95			
					1672	253+18=271	—	H	93			
					1673	264+13=277	—	H	95			
		2nd half				2nd half					2nd half	
					1768	480+25=505	?	/	95	*1719*	178+13=191	94
										1720	164+12=176	93
										1745	185+ 9=194	95
		NOV.				NOV. 1st half					NOV. 1st half	
					1796	536+29=565	—	F	95	*1797*	138+11=149	92
					1929	520+26=546	(5)	½	95	*1927*	177+13=190	93
										1928	162+ 8=170	95
		DEC. 1st half				DEC. 1st half					DEC. 1st half	
	2046	378+27=405	H	93	*2045*	475+25=500	—	F	95	*2047*	157+12=169	93
		2nd half				2nd half					2nd half	
					2144	211+10=221	—	H	95	*2143*	176+12=188	93
					2186	465+24=489	—	F	95	*2145*	166+11=177	94
1939		JAN.				JAN.					JAN. 1st half	
										2273	180+10=190	95
										2313	164+ 8=172	95
		2nd half				2nd half					2nd half	
	2386	451+33=484	F	93								
		FEBR. 1st half				FEBR. 1st half					FEBR.	
	2473	400+31=431	F	93	*2474*	507+24=531	—	F	95			
		2nd half				2nd half					2nd half	
					2541	433+20=453	(4)	.	96			
		MARCH 1st half				MARCH 1st half					MARCH 1st half	
	2626	375+29=404	H	93						*2708*	170+10=180	94
	2705	384+30=414	F	93								
	2706	395+26=421	F	94								
	2707	300+22=322	H	93								

	No.	Males			No.	Females				No.	Juveniles	
1939		2nd half				2nd half					2nd half	
	2809	360+28=388	H	93								
	2810	275+21=296	H	93								
	2828	485+34=519	F	93								
		APRIL 1st half				APRIL 1st half					APRIL	
	2877	428+32=460	F	93	*2878*	453+23=476	(3)	½	95			
		2nd half				2nd half					2nd half	
	2925	350+25=375	H	93	*2984*	463+25=488	(2)	½	95			
	2983	420+33=453	F	93								
		MAY 1st half				MAY 1st half					MAY	
	3117	402+32=434	F	93	*3055*	500+24=524	(3)	.	95			
					3118	500+22=522	—	F	96			
		2nd half				2nd half					2nd half	
	3151	390+28=418	F	93								

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1938						FEBR. 2nd half						
					79	295+18=313	(3)	O	94			
		MARCH 2nd half				MARCH 2nd half						
	133	180+20=200	H	90	*163*	294+10=304	(1)	½	97			
	134	215+22=237	F	91								
		APRIL 1st half				APRIL 1st half						
	195	228+22=250	F	91	*185*	280+11=291	(1)	½	96			
					186	268+12=280	(2)	.	96			
		2nd half				2nd half						
	264	217+20=237	F	91	*216*	274+13=287	—	F	95			
					265	285+12=297	(3)	O	96			
		MAY 2nd half				MAY 2nd half						
	359	245+25=270	F	91	*358*	231+10=241	—	H	96			
	362	195+18=213	F	91	*360*	160+ 8=168	—	H	95			
	364	198+21=219	F	90	*361*	250+10=260	(2)	O	96			
	365	190+16=206	F	92	*363*	287+13=300	(3)	.	96			
	446	237+25=262	F	90	*445*	225+10=235	(2)	½	96			
					447	263+10=273	(2)	½	96			
					448	230+10=240	—	H	96			
		JUNE 1st half				JUNE 1st half					JUNE	
	449	208+21=229	F	9	*475*	293+14=307	(4)	½	95			
	471	183+17=200	H	92	*476*	270+13=283	(2)	½	95			
	472	223+20=243	F	92	*540*	280+13=293	(2)	.	96			
	473	225+21=246	F	91								
	474	180+15=195	H	92								
	497	223+20=243	F	92								
	500	200+19=219	F	91								
	503	207+21=228	F	90								
	538	248+22=270	F	92								
	539	210+20=230	F	91								
		2nd half				2nd half					2nd half	
	598	257+24=281	F	91	*572*	276+15=291	(2)	½	95	*599*	130+11=141	92
	644	244+23=267	F	91	*592*	277+11=288	(3)	.	96	*600*	131+ 5=136	96
	645	175+14=189	H	92	*597*	170+ 7=177	—	H	96	*601*	128+12=140	91
	696	154+12=166	H	92	*594*	287+14=301	—	F	95	*647*	98+ 9=107	91
	698	190+17=207	F	92	*596*	214+11=225	—	H	95			
	699	207+18=225	F	92	*602*	280+15=295	(3)	.	95			
	700	205+20=225	F	91	*646*	163+ 7=170	—	H	96			

	No.	Males			No.	Females				No.	Juveniles	
1938	*701*	210+20=230	F	91	*648*	339+15=354	(5)	.	96			
	702	228+23=251	F	91	*649*	274+10=284	(2)	1/2	96			
	703	240+23=263	F	91	*650*	310+14=324	(3)	.	96			
					651	265+10=275	(3)	1/2	96			
					695	185+ 8=193	—	H	96			
					697	180+ 7=187	—	H	96			
					704	270+13=283	(3)	1/2	95			
					705	268+12=280	(3)	1/2	96			
		JULY 1st half				JULY 1st half					JULY 1st half	
	727	225+20=245	F	93	*729*	245+11=256	(3)	.	96	*681*	125+10=135	93
	728	215+22=237	F	91	*730*	240+ 9=249	(2)	.	96	*835*	92+ 9=101	91
	771	215+22=237	F	91	*731*	300+14=314	(2)	1/2	96	*836*	115+11=126	91
	772	229+23=252	F	91	*732*	239+10=249	—	H	96			
	773	220+21=241	F	91	*733*	222+ 9=231	—	H	96			
	774	227+24=251	F	90	*778*	290+15=305	(4)	1/2	95			
	775	241+21=262	F	92	*779*	305+15=320	(4)	1/2	95			
	776	183+ 9=192	H	95	*780*	270+12=282	(4)	/	96			
	777	196+18=214	F	92								
	834	186+ 9=195	H	95								
	837	230+20=250	F	92								
		2nd half				2nd half					2nd half	
	879	220+21=241	F	91	*919*	300+14=314	(1)	1/2	96	*917*	130+10=140	93
	880	205+19=224	F	92	*969*	246+11=257	—	F	96			
	918	197+18=215	F	92	*970*	250+13=263	(2)	1/2	95			
	964	210+20=230	F	91								
	965	210+20=230	F	91								
	966	210+18=228	F	92								
	967	232+21=253	F	92								
	968	225+20=245	F	92								
		AUGUST 1st half				AUGUST 1st half					AUGUST 1st half	
	986	222+22=244	F	91	*988*	264+11=275	(1)	1/2	96	*987*	100+ 9=109	92
	1053	233+20=253	F	92	*989*	240+10=250	(2)	.	96	*1056*	119+ 5=124	96
	1054	257+24=281	F	91	*990*	287+12=299	(3)	1/2	96			
	1057	192+18=210	F	91	*1014*	277+11=288	—	F	96			
					1055	207+ 9=216	—	H	96			
					1058	298+12=310	—	F	96			
		2nd half				2nd half					2nd half	
	1107	212+20=232	F	91	*1060*	268+12=280	(2)	1/2	96	*1059*	126+10=136	93
	1139	195+18=213	F	92	*1061*	239+12=251	(1)	.	95	*1141*	109+ 9=118	92
	1140	204+18=222	F	92	*1062*	290+13=303	(3)	.	96	*1142*	109+ 5=114	96
	1171	230+20=250	F	92	*1063*	284+14=298	(2)	1/2	95	*1235*	126+11=137	92
	1172	233+21=254	F	92	*1143*	170+ 7=177	—	H	96	*1255*	111+10=121	92
	1173	224+21=245	F	91	*1144*	300+12=312	(3)	O	96	*1256*	112+ 5=117	96
	1236	190+16=206	F	92	*1170*	190+ 7=197	—	H	96			
	1246	226+20=246	F	92	*1174*	306+15=321	(3)	1/2	95			
	1247	215+23=238	F	90	*1175*	290+13=303	(3)	O	96			
	1248	225+22=247	F	91	*1176*	254+12=266	(2)	.	95			
	1249	216+20=236	F	91	*1177*	265+12=277	?	/	96			
	1250	186+17=203	F	92	*1237*	250+12=262	—	F	95			
	1251	218+20=238	F	92	*1257*	317+12=329	—	F	96			
	1252	175+17=192	H	91	*1258*	306+13=319	(4)	1/2	96			
	1253	200+18=218	F	92	*1259*	280+12=292	(4)	O	96			
	1254	156+13=169	H	92	*1260*	248+12=260	(2)	1/2	95			
					1261	303+12=315	(4)	1/2	96			
					1262	245+11=256	(2)	1/2	96			
		SEPT. 1st half				SEPT. 1st half					SEPT. 1st half	
	1291	203+19=222	F	91	*1294*	266+11=277	(2)	.	96	*1454*	103+ 8=111	93
	1292	264+25=289	F	91	*1295*	296+13=309	(3)	1/2	96	*1455*	116+ 9=125	93

	No.	Males			No.	Females				No.	Juveniles	
1938	*1293*	235+20=255	F	92	*1296*	272+13=285	—	F	95			
	1337	233+23=256	F	91	*1339*	274+10=284	(3)	1/2	96			
	1338	200+18=218	F	92	*1340*	283+14=297	(3)	.	95			
	1452	219+23=242	F	90	*1456*	315+14=329	(3)	1/2	95			
	1453	242+23=265	F	91	*1457*	265+12=277	(3)	.	96			
	1491	225+21=246	F	91								
		2nd half				2nd half					2nd half	
	1492	250+22=272	F	92	*1496*	270+15=285	(3)	1/2	95			
	1493	213+21=234	F	91	*1576*	233+12=245	—	H	95			
	1494	224+21=245	F	91	*1577*	196+10=206	—	H	95			
	1495	227+22=249	F	91	*1578*	268+11=279	—	F	96			
	1574	217+23=240	F	90	*1579*	225+10=235	—	H	95			
	1575	230+21=251	F	92								
		Oct. 1st half				Oct. 1st half					Oct. 1st half	
	1619	210+21=231	F	91	*1620*	285+13=298	(2)	1/2	96	*1617*	115+ 6=121	95
	1677	212+20=232	F	91	*1621*	323+15=338	(4)	.	96	*1618*	153+ 8=161	95
					1622	277+14=291	(2)	.	95			
					1623	258+13=271	(2)	.	95			
					1624	254+10=264	(2)	.	96			
					1625	267+14=281	—	F	95			
					1675	250+14=264	—	F	95			
					1676	325+16=341	?	/	95			
		2nd half				2nd half					2nd half	
	1678	198+18=216	F	91	*1724*	283+14=297	(3)	.	95			
	1721	220+23=243	F	91	*1725*	283+14=297	(3)	1/2	95			
	1722	230+22=252	F	91	*1726*	265+14=279	(1)	1/2	95			
	1723	185+17=202	F	91	*1780*	280+13=293	(3)	.	96			
	1743	235+22=257	F	91	*1781*	285+15=300	(3)	/	95			
	1744	213+20=233	F	91								
	1777	174+16=190	H	92								
	1778	226+22=248	F	91								
	1779	230+24=254	F	91								
		Nov. 1st half				Nov. 1st half					Nov. 1st half	
	1799	184+17=201	F	92	*1798*	270+13=283	(4)	.	95	*1847*	112+10=122	92
	1916	233+22=255	F	91	*1848*	307+14=321	(2)	1/2	96	*1913*	153+12=165	93
	1917	230+22=252	F	91	*1849*	252+12=264	(2)	.	95	*1914*	131+11=142	92
	1918	172+17=189	H	91	*1912*	178+ 9=187	—	H	95	*1915*	147+ 8=155	95
					1919	317+14=331	(3)	.	96			
					1920	276+11=287	—	F	96			
		2nd half				2nd half					2nd half	
	1982	222+21=243	F	91						*1988*	138+ 7=145	95
	1983	162+13=175	H	93								
		Dec. 1st half				Dec. 1st half					Dec. 1st half	
	2049	190+20=210	F	90	*2048*	227+10=237	—	H	96	*2050*	147+ 6=153	96
	2081	230+22=252	F	91	*2085*	166+ 7=173	—	H	96	*2084*	118+11=129	91
	2082	235+22=257	F	91	*2088*	306+14=320	(3)	O	96	*2086*	153+ 6=159	96
	2083	190+19=209	F	91	*2089*	309+13=322	(2)	.	96	*2087*	115+ 5=120	96
					2090	293+12=305	(4)	1/2	96			
					2091	256+13=269	—	F	95			
		2nd half				2nd half					2nd half	
	2146	250+23=273	F	92	*2179*	205+10=215	—	H	95	*2150*	131+ 5=136	96
	2147	201+20=221	F	91	*2180*	243+11=254	(2)	O	96	*2151*	101+ 9=110	92
	2148	209+19=228	F	91	*2181*	242+12=254	—	F	95	*2152*	128+ 5=133	96
	2149	180+15=195	H	92	*2182*	243+11=254	—	F	96	*2176*	152+13=165	92
	2173	237+22=259	F	91	*2183*	287+10=297	(4)	1/2	97	*2177*	110+ 5=115	96
	2174	159+12=171	H	93	*2184*	278+11=289	(4)	O	96	*2178*	149+14=163	91
	2175	210+18=228	F	92	*2185*	268+11=279	(1)	O	96	*2225*	131+ 6=137	95
					2226	190+ 9=199	—	H	95	*2227*	130+13=143	91

	No.	Males			No.	Females				No.	Juveniles	
1939		JAN. 1st half				JAN. 1st half					JAN. 1st half	
	2264	260+26=286	F	91	2270	255+12=267	(3)	1/2	96	2272	98+ 8=106	92
	2265	215+22=237	F	91	2271	335+14=349	(3)	1/2	96	2300	138+10=138	93
	2266	234+20=254	F	92	2299	160+ 8=168	—	H	95	2301	116+ 4=120	97
	2267	198+17=215	F	92	2307	266+13=279	(3)	.	95	2302	125+ 6=131	96
	2268	181+15=196	H	92	2308	298+15=313	(3)	.	95	2303	102+ 9=111	92
	2269	207+18=225	F	92	2309	305+12=317	(4)	.	96	2304	135+ 6=141	96
	2298	218+20=238	F	91	2310	162+ 6=168	—	H	96	2305	90+ 7= 97	93
	2311	179+15=194	H	92						2306	117+10=127	92
	2312	193+20=213	F	91								
	2345	211+21=232	F	91								
		2nd half				2nd half					2nd half	
	2346	227+22=249	F	91	2353	170+ 7=177	—	H	96	2350	101+ 9=110	92
	2347	220+21=241	F	91	2354	309+14=323	(4)	.	96	2351	139+ 6=145	96
	2348	242+21=263	F	92	2355	257+10=267	(2)	1/2	96	2352	128+ 6=134	96
	2349	171+16=187	H	91	2356	250+11=261	(2)	.	96	2437	91+ 8= 99	92
	2429	231+21=252	F	92	2357	290+12=302	(4)	1/2	96			
	2430	235+24=259	F	91	2358	198+ 7=205	—	H	96			
	2431	229+19=248	F	92	2434	270+11=281	(4)	O	96			
	2432	214+21=235	F	91	2435	259+12=271	—	F	96			
	2433	188+18=206	F	91	2436	183+ 8=191	—	H	96			
		FEBR. 1st half				FEBR. 1st half					FEBR. 1st half	
	2489	216+19=235	F	92	2438	277+15=292	(3)	1/2	95	2439	148+12=160	93
	2519	248+24=272	F	91	2486	297+13=310	—	F	96	2440	150+12=162	93
	2520	232+24=256	F	91	2487	273+12=285	(3)	1/2	96	2441	135+12=147	92
	2521	200+22=222	F	90	2488	278+13=291	(2)	.	96			
	2522	195+18=213	F	91								
		2nd half				2nd half					2nd half	
	2523	180+18=198	H	91	2524	280+12=292	(3)	.	96	2527	118+ 6=124	95
	2558	213+22=235	F	91	2525	278+12=290	(3)	.	96			
	2559	212+20=232	F	91	2526	252+12=264	(2)	O	95			
	2560	183+18=201	F	91	2561	275+15=290	(2)	1/2	95			
					2562	295+14=309	(3)	.	95			
					2563	310+16=326	(4)	1/2	95			
					2564	310+17=327	(4)	1/2	95			
					2579	216+10=226	—	H	95			
		MARCH 1st half				MARCH 1st half					MARCH 1st half	
	2592	220+22=242	F	91	2598	163+ 8=171	—	H	95	2596	132+11=143	29
	2593	225+22=247	F	91	2599	180+ 8=188	—	H	95	2597	125+10=135	93
	2594	180+17=197	H	91	2600	253+14=267	(2)	/	95	2664	110+ 9=119	92
	2595	208+18=226	F	92	2601	285+13=298	(3)	.	95	2665	96+ 5=101	95
	2656	240+23=263	F	91	2602	282+16=298	(4)	O	95	2701	144+12=156	92
	2657	220+22=242	F	91	2603	236+13=249	—	H	95	2702	130+12=142	92
	2658	210+21=231	F	91	2604	232+11=243	—	H	95			
	2659	186+19=205	F	91	2605	223+11=234	—	H	95			
	2660	196+17=213	F	92	2606	280+ 9=289	—	F	97			
	2661	187+18=205	F	91	2666	276+14=290	(3)	.	95			
	2662	191+19=210	F	91	2667	293+15=308	(2)	1/2	95			
	2663	153+15=168	H	91	2668	255+10=265	(2)	.	96			
	2674	178+15=193	H	92	2669	240+11=251	(2)	.	96			
	2675	213+21=234	F	91	2670	241+10=251	(2)	1/2	96			
	2676	258+13=271	F	95	2671	268+12=280	(1)	1/2	96			
	2700	200+20=220	F	91	2672	242+11=253	—	F	96			
					2673	169+ 8=177	—	H	95			
					2699	275+12=287	(4)	1/2	96			
		2nd half				2nd half					2nd half	
	2710	245+21=266	F	92	2714	240+10=250	—	F	96			
	2711	216+21=237	F	91	2715	225+12=237	—	F	95			
	2712	205+18=223	F	92	2716	265+13=278	—	F	95			

	No.	Males			No.	Females				No.	Juveniles	
1939	*2713*	181+16=197	H	92	*2717*	227+11=238	—	F	95			
	2801	228+22=250	F	91	*2718*	232+11=243	—	F	95			
	2802	216+20=236	F	92	*2719*	303+17=320	(3)	O	95			
	2803	195+19=214	F	91	*2720*	260+ 9=269	(2)	½	97			
					2721	242+11=253	(2)	½	96			
					2749	340+17=357	—	F	95			
					2823	186+ 9=195	—	H	95			
		APRIL 1st half				APRIL 1st half					APRIL 1st half	
	2836	220+21=241	F	91	*2869*	298+14=312	(3)	.	96	*2838*	147+ 6=153	96
	2837	223+21=244	F	91	*2870*	263+12=275	(3)	½	96	*2868*	111+10=121	92
	2866	230+24=254	F	91	*2871*	272+11=283	(2)	/	96			
	2867	240+25=265	F	91	*2872*	211+10=221	—	H	95			
	2894	236+22=258	F	91								
	2895	231+22=253	F	91								
	2896	235+24=259	F	91								
	2897	215+24=239	F	90								
		2nd half				2nd half					2nd half	
	2920	213+22=235	F	91	*2975*	256+11=267	(2)	O	96			
	2973	208+20=228	F	91	*3023*	305+16=321	(3)	.	95			
	2974	171+16=187	H	91	*3024*	264+12=276	(3)	O	96			
	3018	248+22=270	F	92	*3025*	251+11=262	(3)	O	96			
	3019	226+22=248	F	91	*3206*	185+ 8=193	—	H	96			
	3020	255+22=277	F	92								
	3021	198+19=217	F	91								
	3022	230+24=254	F	92								
		MAY 1st half				MAY 1st half					MAY	
	3049	218+21=239	F	92	*3051*	284+13=297	(3)	O	96			
	3050	203+21=224	F	91	*3052*	283+10=293	(1)	O	97			
	3107	235+22=257	F	91	*3053*	216+ 9=225	—	H	96			
	3108	156+16=172	H	91	*3054*	198+ 9=207	—	H	96			
					3109	328+15=343	(3)	.	96			
					3110	315+13=328	(3)	/	96			
					3111	310+15=325	(3)	O	95			
					3112	274+12=286	(3)	/	96			
					3113	272+13=285	(3)	½	95			
		2nd half				2nd half					2nd half	
	3162	195+19=214	H	91	*3114*	258+10=268	(2)	½	96	*3163*	132+11=143	92
	3224	216+22=238	F	91	*3115*	258+12=270	(2)	.	96			
	3225	224+22=246	F	91	*3116*	225+13=238	—	H	95			
					3160	281+15=296	(3)	/	95			
					3161	292+13=305	(3)	½	96			
					3226	275+12=287	—	F	96			