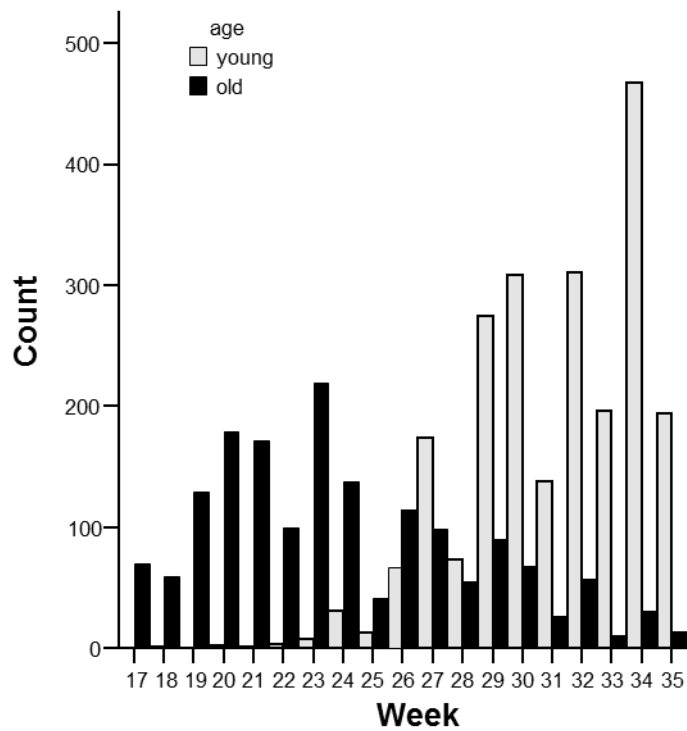




Supplementary Figure 1. Three attacked artificial plasticine larvae in the experiment. We used three color forms of artificial plasticine larvae which were either completely black (effectively cryptic; non-warning coloured) or had either a small (moderately conspicuous) or large (conspicuous) orange patch in the experiment. This figure illustrates how the plasticine artificial larvae store the attacks by the predators. Note that these pictures are chosen on the basis of the attacks.



Supplementary Figure 2. The number of mist-netted young and adult birds during summer 2005. The mist-net data clearly shows that the young start to move around the week 25. Week 17 corresponds to (First week of May) and week 35 to (Last week of August)

Supplementary Table 1. List of species ringed as fledglings. We used data on 29 species of insectivorous birds ringed as nestlings in continental southern Finland in the summer of 2005. Data was provided by the Finnish Ringing Agency, University of Helsinki.

Bird species:	Frequency	Percent
<i>Anthus pratensis</i>	8	0.09
<i>Carduelis cannabina</i>	10	0.11
<i>Carduelis chloris</i>	23	0.26
<i>Carpodacus erythrinus</i>	5	0.06
<i>Emberiza citrinella</i>	11	0.13
<i>Emberiza schoeniclus</i>	25	0.28
<i>Erithacus rubecula</i>	41	0.47
<i>Ficedula hypoleuca</i>	3255	37.00
<i>Fringilla coelebs</i>	35	0.40
<i>Motacilla alba</i>	100	1.14
<i>Motacilla flava</i>	115	1.31
<i>Muscicapa striata</i>	183	2.08
<i>Oenanthe oenanthe</i>	10	0.11
<i>Parus ater</i>	240	2.73
<i>Parus caeruleus</i>	915	10.40
<i>Parus cristatus</i>	127	1.44
<i>Parus major</i>	1278	14.53
<i>Parus montanus</i>	31	0.35
<i>Phoenicurus phoenicurus</i>	203	2.31
<i>Phylloscopus trochilus</i>	98	1.11
<i>Phylloscopus sibilatrix</i>	27	0.31
<i>Prunella modularis</i>	33	0.38
<i>Saxicola rubetra</i>	13	0.15
<i>Sylvia atricapilla</i>	5	0.06
<i>Turdus iliacus</i>	971	11.04
<i>Turdus merula</i>	49	0.56
<i>Turdus philomelos</i>	113	1.28
<i>Turdus pilaris</i>	864	9.82
<i>Turdus viscivorus</i>	9	0.10
Total individuals	8797	100.00

Supplementary Table 2. Frequencies of young and adult birds. Data comprises the mist-nettings of 59 insectivorous birds ringed in southern Finland in the summer of 2005. Data was provided by the Finnish Ringing Centre, University of Helsinki.

Bird species	Frequency		Total	Percent
	young	adult		%
<i>Acrocephalus dumetorum</i>	1	2	3	0.0008
<i>Acrocephalus palustris</i>	4	8	12	0.0031
<i>Acrocephalus schoenobaenus</i>	271	217	488	0.1243
<i>Acrocephalus scirpaceus</i>	22	17	39	0.0099
<i>Aegithalos caudatus</i>	2	0	2	0.0005
<i>Alauda arvensis</i>	0	1	1	0.0003
<i>Anthus pratensis</i>	0	1	1	0.0003
<i>Anthus pratensis</i>	11	7	18	0.0046
<i>Carduelis cannabina</i>	1	0	1	0.0003
<i>Carduelis carduelis</i>	3	0	3	0.0008
<i>Carduelis chloris</i>	80	36	116	0.0296
<i>Carpodacus erythrinus</i>	29	63	92	0.0234
<i>Carduelis flammea</i>	53	22	75	0.0191
<i>Carduelis spinus</i>	43	31	74	0.0189
<i>Certhia familiaris</i>	8	1	9	0.0023
<i>Dendrocopos major</i>	0	2	2	0.0005
<i>Dendrocopos minor</i>	0	4	4	0.0010
<i>Emberiza citrinella</i>	4	23	27	0.0069
<i>Emberiza pusilla</i>	0	1	1	0.0003
<i>Emberiza schoeniclus</i>	68	94	162	0.0413
<i>Erithacus rubecula</i>	384	68	452	0.1152
<i>Ficedula hypoleuca</i>	61	71	132	0.0336
<i>Ficedula parva</i>	2	2	4	0.0010
<i>Fringilla coelebs</i>	22	92	114	0.0290
<i>Fringilla montifringilla</i>	2	0	2	0.0005
<i>Garrulus glandarius</i>	0	3	3	0.0008
<i>Hippolais icterina</i>	5	4	9	0.0023
<i>Jynx torquilla</i>	1	5	6	0.0015
<i>Lanius collurio</i>	12	17	29	0.0074
<i>Locustella fluviatilis</i>	0	1	1	0.0003
<i>Locustella naevia</i>	5	3	8	0.0020
<i>Luscinia luscinia</i>	14	20	34	0.0087
<i>Luscinia svecica</i>	0	5	5	0.0013
<i>Motacilla alba</i>	12	9	21	0.0054
<i>Muscicapa striata</i>	15	18	33	0.0084
<i>Oenanthe oenanthe</i>	0	1	1	0.0003
<i>Parus caeruleus</i>	103	34	137	0.0349
<i>Parus cristatus</i>	3	0	3	0.0008
<i>Parus major</i>	117	76	193	0.0492
<i>Parus montanus</i>	21	7	28	0.0071
<i>Phoenicurus phoenicurus</i>	16	8	24	0.0061
<i>Phylloscopus collybita</i>	15	13	28	0.0071

<i>Phylloscopus trochilus</i>	404	286	690	0.1758
<i>Phylloscopus sibilatrix</i>	5	2	7	0.0018
<i>Prunella modularis</i>	25	14	39	0.0099
<i>Pyrrhula pyrrhula</i>	4	4	8	0.0020
<i>Regulus regulus</i>	1	3	4	0.0010
<i>Saxicola rubetra</i>	1	4	5	0.0013
<i>Sturnus vulgaris</i>	4	3	7	0.0018
<i>Sylvia atricapilla</i>	46	17	63	0.0161
<i>Sylvia borin</i>	111	107	218	0.0555
<i>Sylvia communis</i>	63	52	115	0.0293
<i>Sylvia curruca</i>	84	30	114	0.0290
<i>Sylvia nisoria</i>	1	1	2	0.0005
<i>Troglodytes troglodytes</i>	4	0	4	0.0010
<i>Turdus iliacus</i>	32	62	94	0.0239
<i>Turdus merula</i>	29	28	57	0.0145
<i>Turdus philomelos</i>	17	25	42	0.0107
<i>Turdus pilaris</i>	18	41	59	0.0150
	2259	1666	3925	

Supplementary Table 3. Differences in timing of the occurrence between the larvae with or without warningly colors.

(a) The weighted mean difference between the timing of a last instar larvae (T) and 9th of July (day 190 of the year), weighted with larval abundance:

$$\sum_{\text{species}} c^k |T - 190| / \sum_{\text{species}} c^k$$
, where c is the abundance category of a species and values of k are varied to perform sensitivity analysis. Statistical significance tests were performed by comparing the observed difference between weighted means of warning-colored and non-warning-colored larvae to a distribution obtained by randomly permutating the data of warning coloration (present or not) 10000 times, and scoring the difference of weighted means for each permutation. (b) and (c) as in (a), but analyzed separately for species that occur in the spring to early summer (that have $T \leq 190$) and late summer to autumn ($T > 190$), where weighted mean dates are now given rather than the difference to day 190.

(a) Absolute difference: warning-colored larvae have greater mean distance (in days) from day 190

	Warning colors		P
	present (n=104)	not present (n=584)	
(i) $k = 3$	53.65	32.92	0.0029
(ii) $k = 5$	60.06	30.83	0.0023
(iii) $k = 10$	67.65	29.28	0.0018

(b) Springtime occurrence: warning-colored larvae occur earlier

	Warning colors		P
	present	not present	
	(n=19)	(n=120)	
(i) $k = 3$	176.07	181.72	0.061
(ii) $k = 5$	174.98	182.44	0.043
(iii) $k = 10$	173.44	182.83	0.029

(c) Autumn occurrence: warning-colored larvae occur later

	Warning colors		P
	present	not present	
	(n=85)	(n=464)	
(i) $k = 3$	249.13	231.59	0.017
(ii) $k = 5$	254.12	229.85	0.016
(iii) $k = 10$	260.08	228.71	0.015