

Maismaa talilindude loendus Eestis aastatel 1987-1994

Estonian land bird winter census in 1987-1994

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EOÜ, pk. 227, EE-2400 Tartu

Maismaalindude taliloendustega, ehk lühemalt talilinnuloendustega, tehti Eestis algust talvel 1987/88. Loenduse meetodika pärineb Soomest, kus vastavat loendust antud meetodika järgi on läbi viidud alates 1957. aasta talvest. Selle meetodi põhiidee pärineb aga veelgi varasemast ajast — aastast 1900 — kui USA-s korraldati esimene Christmas Count (tõlkes jõululoendus), mis ilmselt on maailma vanim linnuseire programm.

Talilinnuloenduse meetodika on puütud teha võimalikult lihtsaks, et projektis saaksid osaleda kõik asjast vähegi huvitatud isikud, kui nad tunnevad põhilist osa talilindudest.

Talilinnuloendust tehakse piiramata laiusega transektmeetodil, pannes kirja kõik kuulnud ja nähtud linnud sõltumata nende kaugusest.

Kuna antud loenduse peamiseks eesmärgiks on linnustiku seire, s.t. pikaajaline lindude arvukuse jälgimine, tuleb loendus läbi viia võimalikult ühesugustes tingimustes nii paljude aastate jooksul, kui vaatelejal selleks võimalust on.

Talve lõikes toimivate arvukuse muutuste jälgimiseks on vajalik loendus-käike korrata järgnevalt toodud aegadel:

1. loendus: 15.-28. november;
2. loendus: 25. det.-7. jaanuar;
3. loendus: 15.-28. veebruar.

Talilinnuloenduse populaarsus oli kohe esimesest talvest alates üllatavalt

Land bird winter census, or more shortly a winterbird census, was started in Estonia in winter 1987/88. The census method comes from Finland where the similar census using the same method has taken place from winter 1957. The main idea of the methodology is even older — originating from the year 1900 when the first Christmas Count took place in USA thus being probably the oldest bird monitoring program in the world.

The method of census is made as simple as possible to enable all persons who know most of our winter birds to participate in the project.

At winterbird census the birds are counted on a transect of unlimited width, recording all the seen and heard birds irrespective of their distance from the observer. As the main purpose of the census is the long term monitoring of the bird populations, the counting of the birds must take place in as similar conditions as possible and in as many years as possible for the watcher.

To monitor the changes in numbers taking place during one winter it is necessary to make the census repeatedly and on the following periods:

- 1st count: 15th to 28th November
- 2nd count: 25th Dec. to 7th January
- 3rd count: 15th to 28th February.

The popularity of the winterbird census was surprisingly high already in

suur (joon. 1). Peagi saabunud poliitilise ja majandusliku olukorra muutus tõi endaga kaasa ka talilinnuloenduses osalevate inimeste arvu järsu languse. Käesoleval hetkel oleme jõudnud kriitilise alampiirini, millest madalamale langev loendusradade arv annab põhjust kahtlusteks, kas nii väikese valimi puhul saab rääkida usaldatavatest arvukuse hinnangutest.

Teisalt on meie hädaks olnud loendusradade suur muutlikus. Väga vähe on selliseid radasid, mis on oma algel marsruudil püsinud läbi kaheksa aasta. Selle põhjuseks on maastike pidev muutumine (metsade raie, heinamaade muutmine põldudeks ja vastupidi), vaatelejate elupaigamuutused, aga ka transportiolude muutumine (paljude kohalike bussiliinide likvideerimine).

Vaatamata kõigele eeltoodule on kaheksa aasta jooksul kogunenud Ornitoloogiaühingusse parajalt suur virn ankeete loendustulemustega, millede esialgse analüüsi tulemused on esitatud järgnevatel lehekülgedel.

Loendustulemused on grupeeritud nelja rühma, vastavalt andmeanalüüsi võtetele, mida iga grupi puhul on kasutatud.

1. Sagedased talilinnud. Need on liigid, kes on praktiliselt üle kogu maa arvukalt. Loendustulemused on esitatud lindude arvuna 10 km-l.

the first year (see Fig. 1). But the changes in political and economical situation that soon began brought along also rapid decrease in the number of persons participating in the winterbird census. At present we have reached the critical minimum level and if the number of transects falls below that level, it is not clear whether so small number of samples enables us to speak about reliable evaluations of the numbers at all.

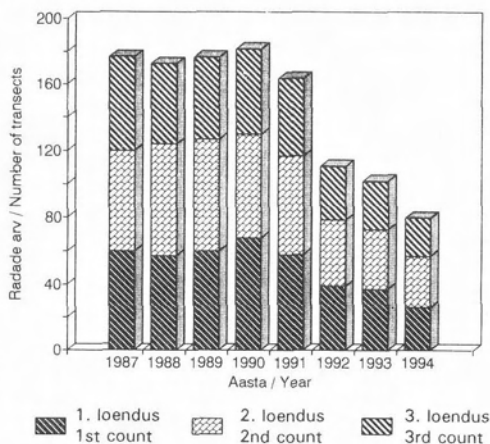
One problem for us has been also the great variability of the transects. We have few routes that have remained the same for all the eight years of the count. This is caused by the constant change of landscapes (forests being cut down, grasslands changed into fields and vice versa, etc.), persons participating in the project moving to other district, but also due to changes in transportation (many local buss routes do not exist any more).

In spite of those problems we have received a lot of filled in data forms with the census results; the primary analysis of

these data forms is given on the following pages.

The census results are given in four groups based on the method of data analyse used for the group.

1. Common winterbirds. These are the species which are numerous and spread practically all over the country. The census results are



Joon. 1. Loendusradade arv aastatel 1987-1994.
Fig. 1. Number of census routes in 1987-1994.

2. *Vähearvukad talilinnud.* Need on liigid, kes tihti esinevad kogu Eestis, kuid nende arvukus talvel on kõikjal võrdlemisi madal. Seepärast on vastavate liikide loendustulemused esitatud kohtamissagedusena: kui suurel osal (%) kogu radade arvust antud liiki kohati.

3. *Invasioonilinnud.* Siia rühma on liigitatud need linnud, kellede puhul on arvukad invasioonid kõige sagedasemad. Loendustulemused on esitatud kui lindude arv keskmise aastase loenduskilomeetri arvu kohta.

4. *Juhutalvitajad.* Käesolevas ülevaates on toodud vaid kolme (kõige sagedasema) juhutalvitaja loendustulemused, mis on esitatud (ümberarvutusteta) isendite arvuna.

Viimased kaheksa talve on olnud pikaajalise keskmisega võrreldes soojad. Seepärast oleks võinud loota ka enamuse linnuliikide talvise arvukuse tõusu. Paaril esimesel aastal võiski osadel liikidel sellist trendi täheldada (tabel 1 ja 2), kuid läbi kõigi kaheksa aasta on tõusnud vaid ronga arvukus.

Usaldatav arvukuse langus on olnud täheldatav lanepüü, metsise, põhja- ja tutt-tihase ning koduvarblase puhul. Mõningane arvukuse langus on aga viimasel viiel aastal olnud täheldatav paljudel liikidel. Siiski ei anna see alust väita, justkui oleksid lindude talvitamisolud Eestis viimastel aastatel märgatavalt halvenenud. Pigem tuleb otsida põhjuseid pesitsusperioodil valitsenud tingimustest. Arvestamata ei saa jätta ka seda, milline oli antud liigi jaoks rändeperioodi ilmastik ning kui tugev vastava liigi ränne esines tema ida- ja põhjapoolsetes populatsioonides. Seega siis võib madal liigi arvukus Eestis tuleneda näiteks ka tugevast ärarändest meie alalt ning vähesest ärarändest põhjas, mispärast sealsed linnud ei saabu siia talvitama.

given in numbers of birds per 10 km of transect.

2. *Unnumerous winterbirds.* These are the species found often and all over Estonia but their number is relatively small everywhere. Therefore the census results of those species are given as frequency of encounter: as percentage of the total number of transects where the species was met.

3. *Irruptive birds.* This group is formed of those species for which the numerous irruptions are most common. The census results are given in numbers of birds per average annual kilometres of transects.

4. *Occasional wintering birds.* The present survey gives the census results for only three (most common) occasional winterbirds, given in numbers of birds (without recalculations).

The last eight winters have been warm if compared with longterm average values. Therefore we assumed that the number of many birds will increase. During the first years of monitoring this tendency was really observable for some species (Tables 1 and 2), but through all the years only the number of Ravens has increased.

At the same time there has been reliable decrease in the numbers of Hazel Grouse, Capercaillie, Willow Tit, Crested Tit and House Sparrow. Some decrease in numbers has been observed for many species during the last five years. Yet this tendency do not give us to declare that the winter conditions have significantly deteriorated in Estonia during the last years. The causes for the decrease may lay in the conditions dominating at breeding period. We must also consider the weather conditions at the migration time of the species, and how numerous was the migration in its eastern and northern populations. Therefore the low

Järgnevatel lehekülgedel on esitatud joonised suurema osa linnuliikide talvises arvukuses toimunud muutuste kohta. Liikide valikut on piiranud trükipinna maht. Liigid on esitatud süstemaatilises järjekorras, kusjuures liiginimele eelneb nrksulgudes number, mis näitab vastava liigi kuulumist ühte lk. 3 toodud gruppidest. Seega siis, näit. [3] tähendab, et tegemist on invasioonilinnuga.

Legend joonistele:

— 1. loendus — 2. loendus 3. loendus

Tabel 1. Sagedasemate talilindude arvukuse muutus Eestis (1987-1994, kesk-talvine loendus)

Table 1. Eight-year trends for more numerous birds in Estonia (1987-1994, mid-winter census)

Liik / Species	R ¹	P	Trend ²
<i>Regulus regulus</i>	0.60	0.12	+
<i>Parus palustris</i>	0.56	0.15	-
<i>Parus montanus</i>	0.89	0.00	--
<i>Parus major</i>	0.49	0.22	-
<i>Pica pica</i>	0.70	0.06	-
<i>Corvus monedula</i>	0.52	0.19	-
<i>Corvus corone</i>	0.15	0.72	+ -
<i>Corvus corax</i>	0.82	0.01	++
<i>Passer domesticus</i>	0.73	0.04	--
<i>Passer montanus</i>	0.01	0.99	+ -
<i>Pyrrhula pyrrhula</i>	0.56	0.15	+
<i>Emberiza citrinella</i>	0.56	0.15	+

¹: Mitmene korrelatsioon / multiple correlation

²: - oluline langus / significant decrease;
- mõningane langus / nonsignificant decrease;
++ oluline tõus / significant increase;
+ mõningane tõus / nonsignificant increase;
+- stabiilne / stable.

Projekti finantseeritakse Eesti riikliku kesk-konnaseire programmi rahadest.

numbers of the species in Estonia may be caused by strong migration from our territories and weak migration from north, thus the birds of these territories do not come here for the wintering period.

The following pages present figures describing the changes in the numbers of winterbird for the majority of recorded species. The choice was made due to limited space given us to present them. The species are given in systematic order, and before the name of the species stands a number in brackets showing that the species belongs to one of the groups given in p. 3. Therefore, e.g. [3] means that this species is one of the irruptive birds.

Legend for the figures:

— 1st census — 2nd census 3rd census

Tabel 2. Mõnede vähearvukate talilindude arvukuse muutus Eestis (1987-1994, kesk-talvine loendus)

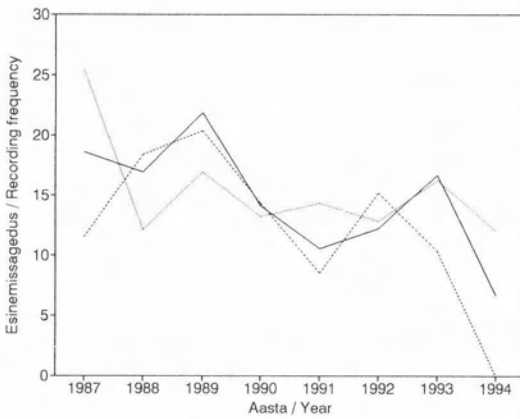
Table 2. Eight-year trends for some unnumerous birds in Estonia (1987-1994, mid-winter census)

Liik / Species	R ¹	P	Trend ²
<i>Bonasa bonasia</i>	0.50	0.05	--
<i>Tetrao tetrix</i>	0.15	0.34	-
<i>Tetrao urogallus</i>	0.61	0.02	--
<i>Perdix perdix</i>	0.19	0.28	+
<i>Dryocopus martius</i>	0.26	0.20	+
<i>Dendrocopos minor</i>	0.12	0.41	-
<i>Parus cristatus</i>	0.53	0.04	--
<i>Parus caeruleus</i>	0.21	0.26	+
<i>Sitta europaea</i>	0.01	0.80	+ -
<i>Certhia familiaris</i>	0.18	0.30	+
<i>Lanius excubitor</i>	0.07	0.52	+ -

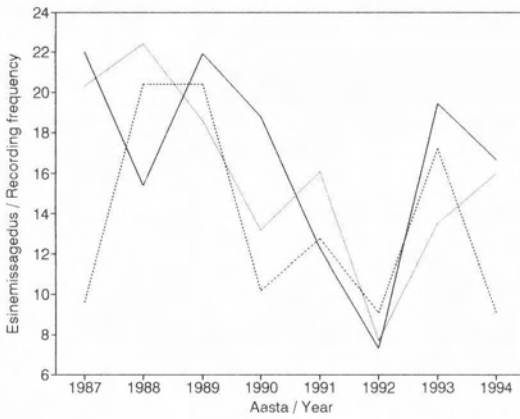
¹; ²: tähendused samad mis tabelis 1.

meanings are the same as in the Table 1.

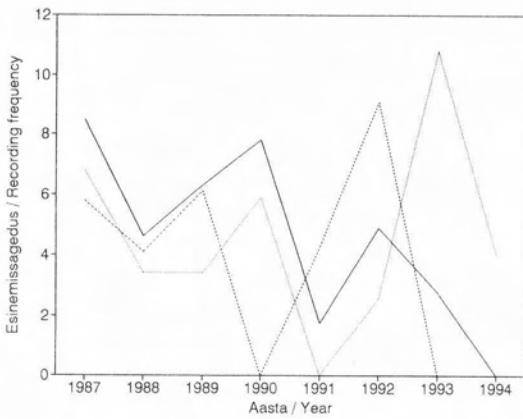
Project is supported by the Estonian State Environmental Monitoring Programme.



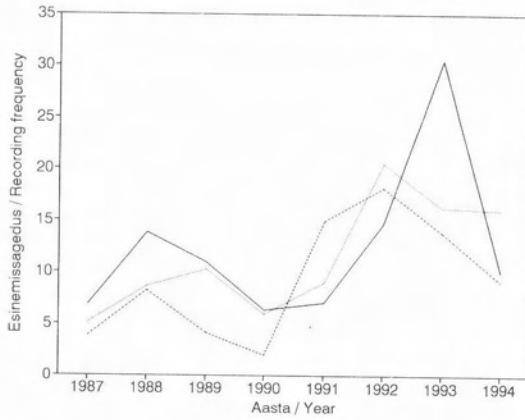
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Laanepüü
Bonasa bonasia



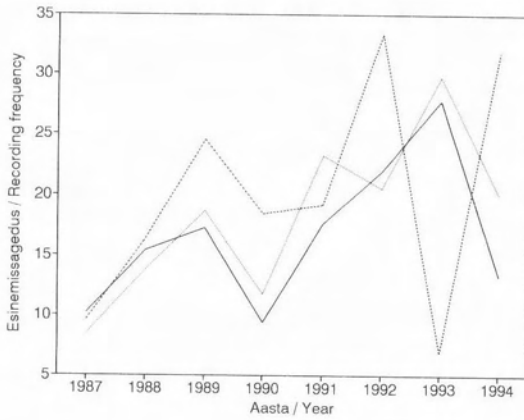
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Teder
Tetrao tetrix



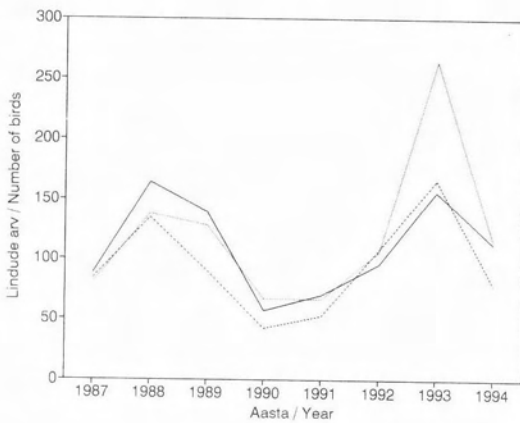
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Metsis
Tetrao urogallus



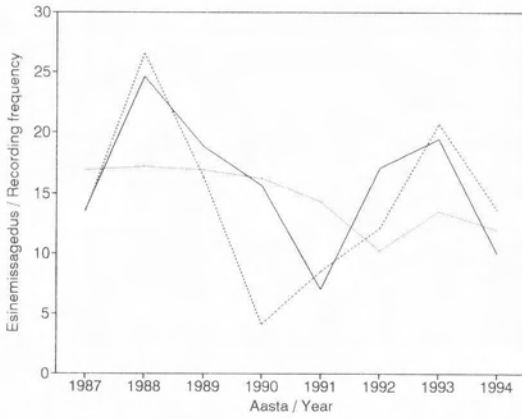
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Nurmkana
Perdix perdix



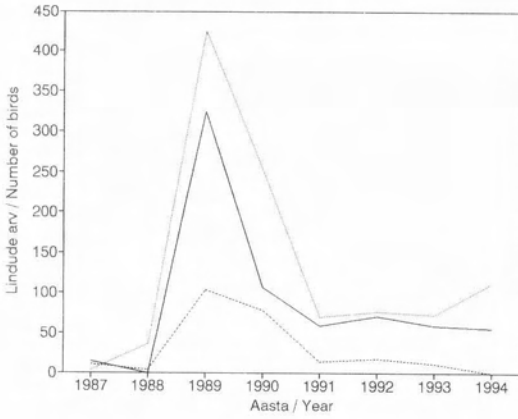
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Musträhn
Dryocopus martius



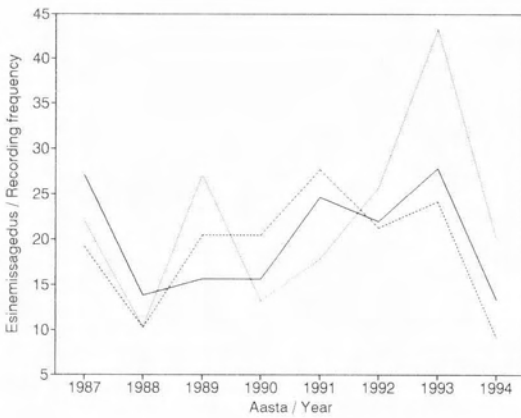
[3]
Suur-kirjurähn
Dendrocopos major



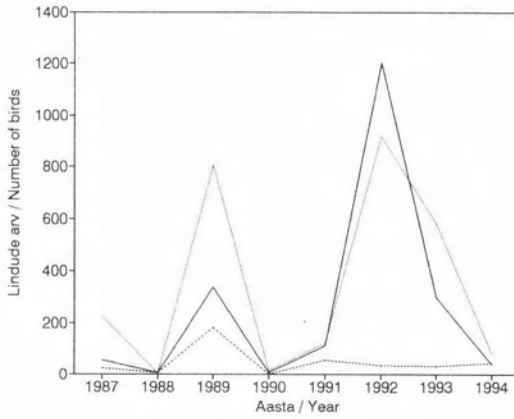
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Väike-kirjurähn
Dendrocopos minor



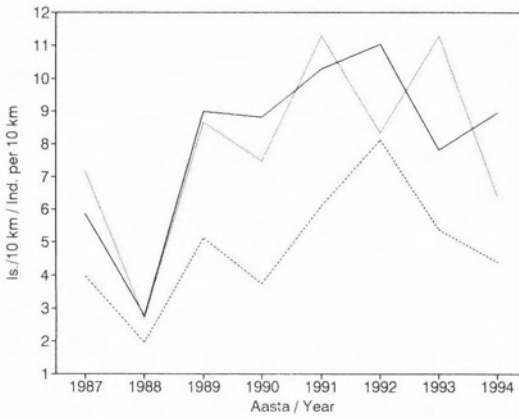
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Siidisaba
Bombycilla garrulus



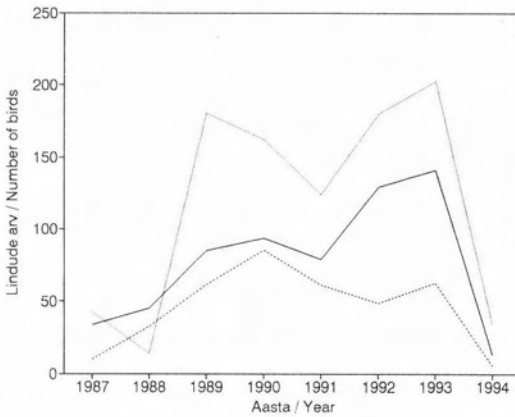
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Musträstatas
Turdus merula



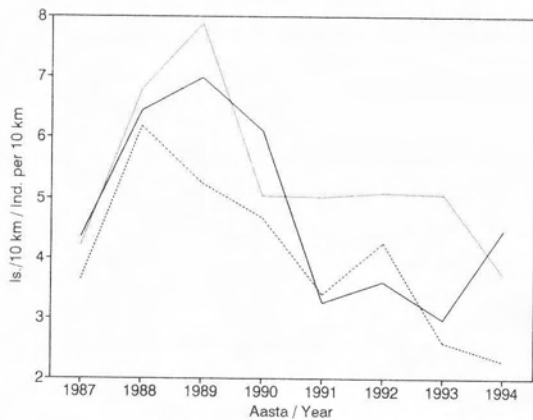
[3]
Hallrastas
Turdus pilaris



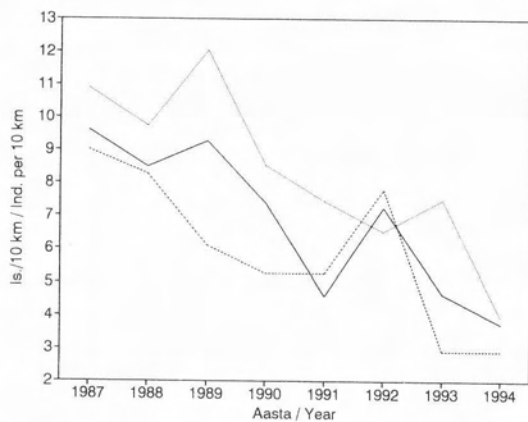
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Pöialpoiss
Regulus regulus



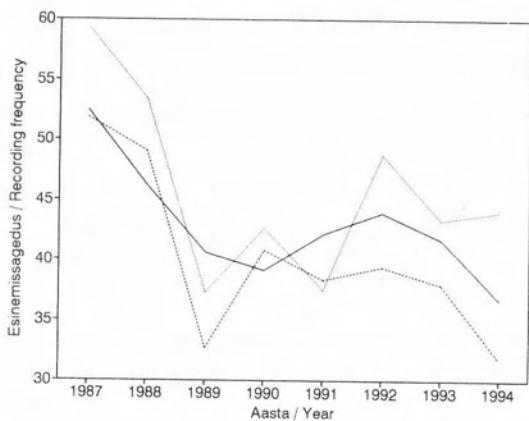
[3]
Sabatihane
Aegithalos caudatus



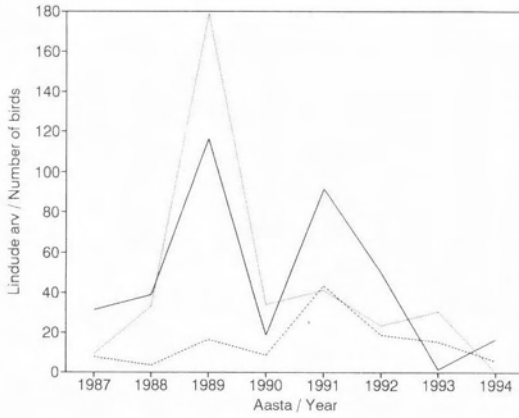
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Sootihane
Parus palustris



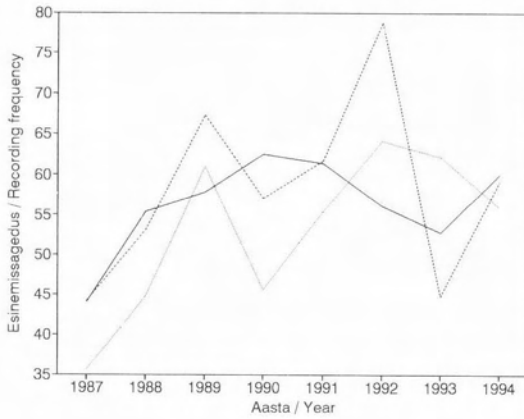
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Põhjatihane
Parus montanus



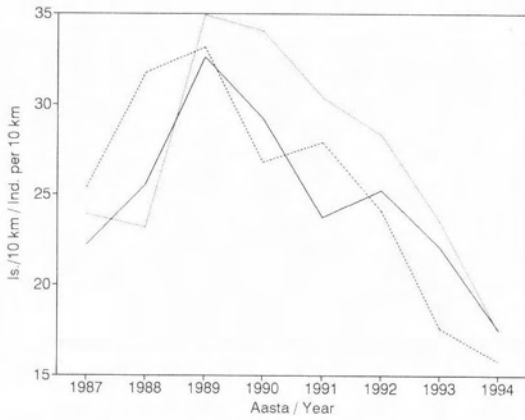
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Tutt-tihane
Parus cristatus



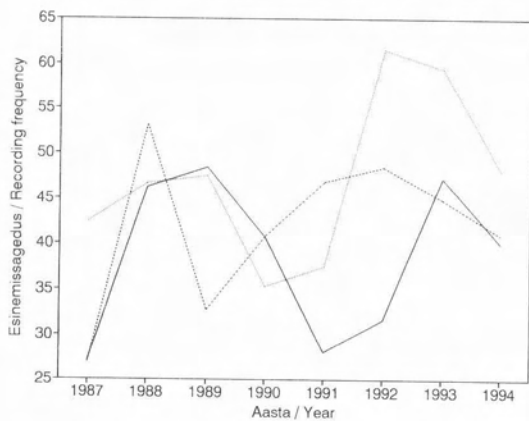
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Musttihane
Parus ater



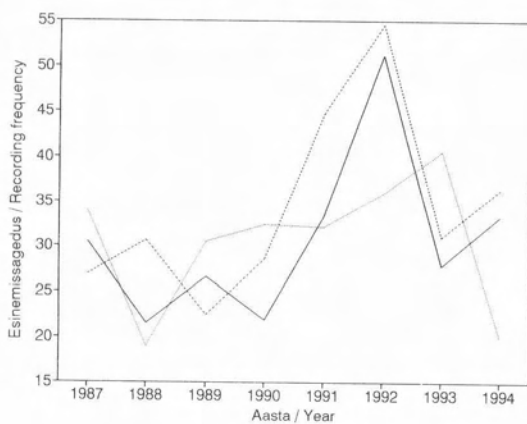
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Sinitihane
Parus caeruleus



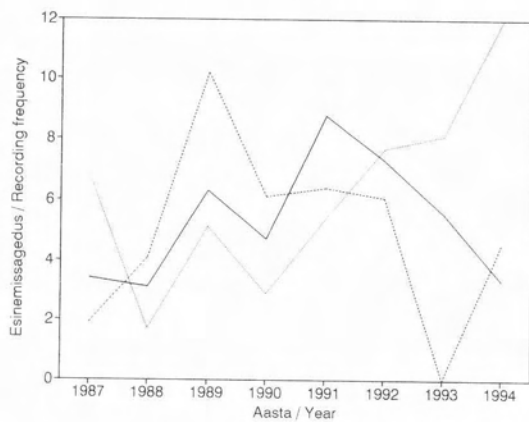
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Rasvatihane
Parus major



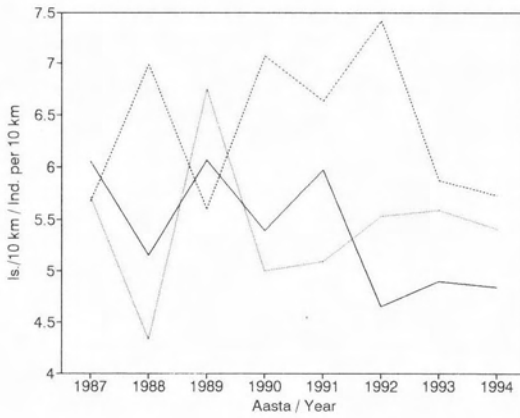
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Puukoristaja
Sitta europaea



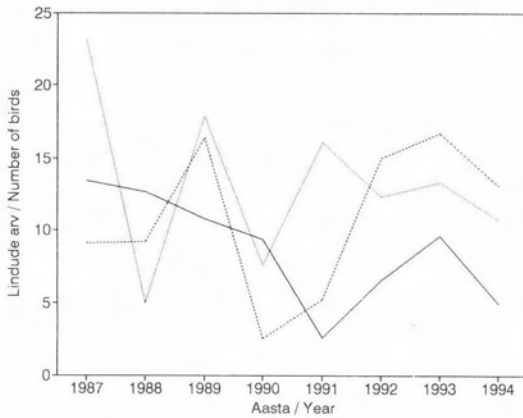
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Porr
Certhia familiaris



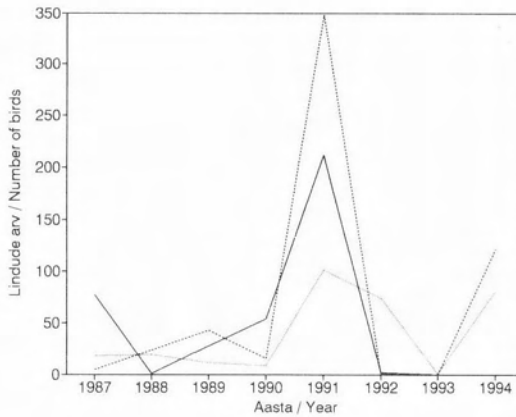
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Hallõgija
Lanius excubitor



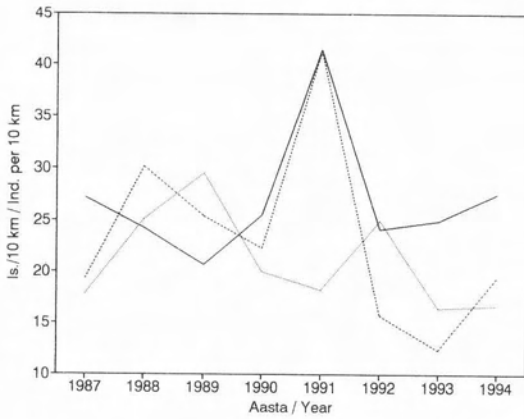
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Harakas
Pica pica



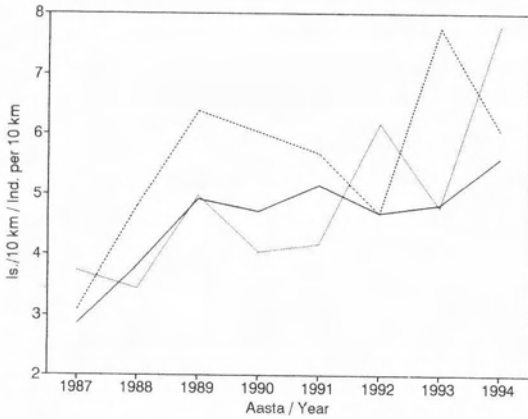
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Mänsak
Nycifraga caryocatactes



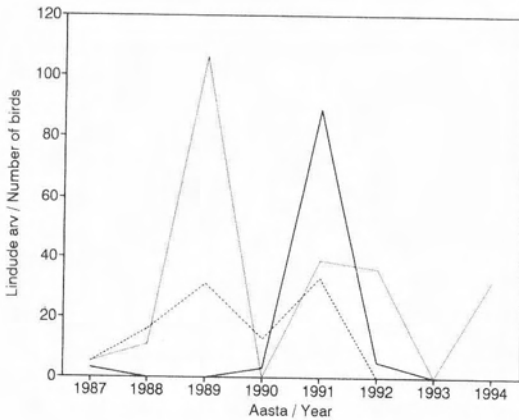
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Kännivares
Corvus frugilegus



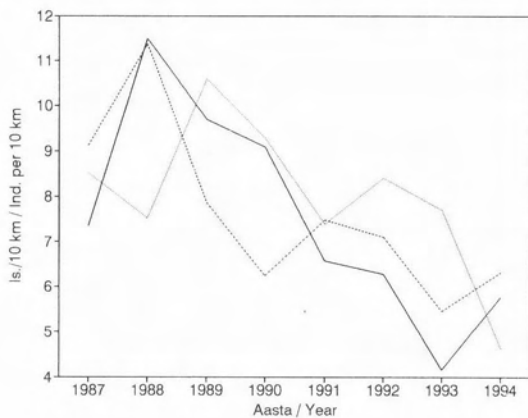
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Hallvares
Corvus corone



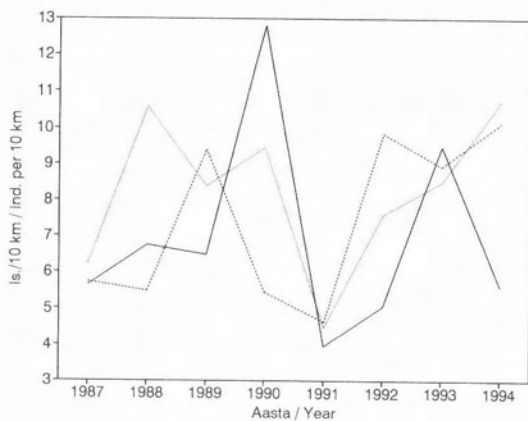
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Ronk
Corvus corax



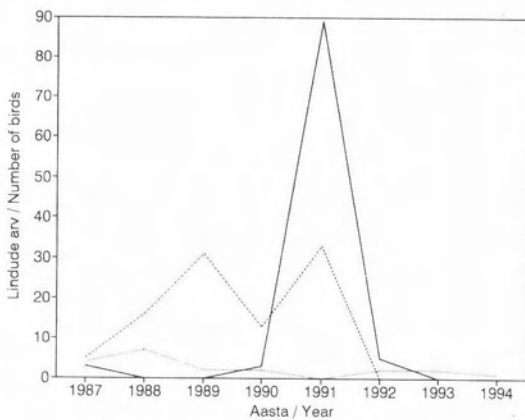
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Kuldnokk
Sturnus vulgaris



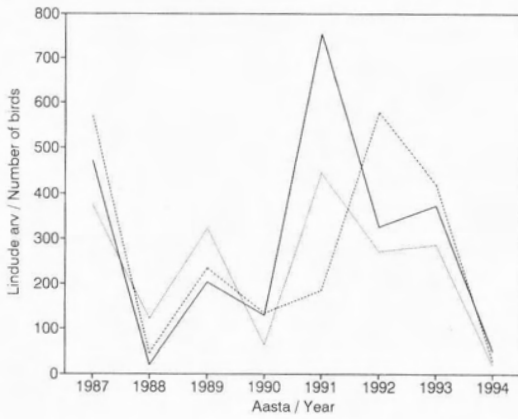
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Koduvarblane
Passer domesticus



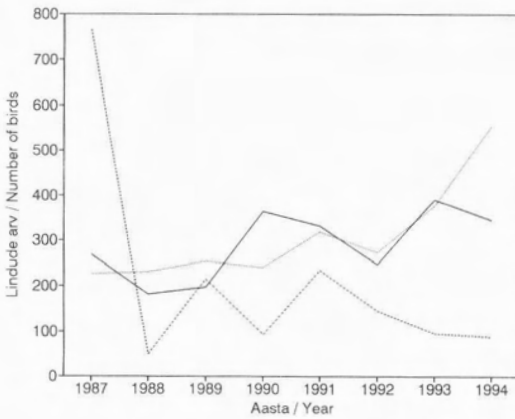
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Põldvarblane
Passer montanus



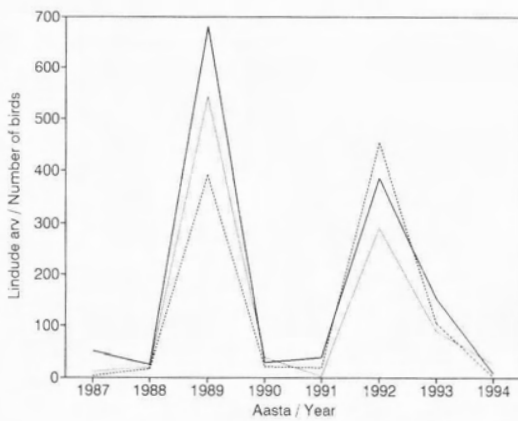
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Metsvint
Fringilla coelebs



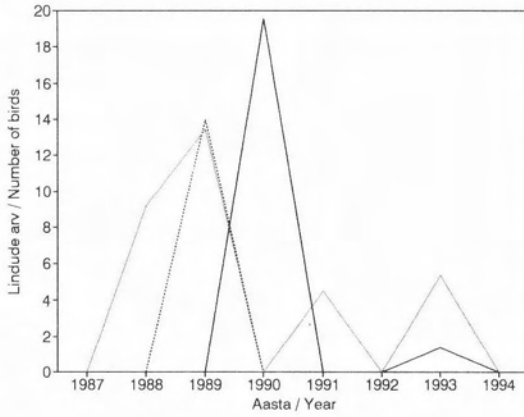
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Siisike
Carduelis spinus



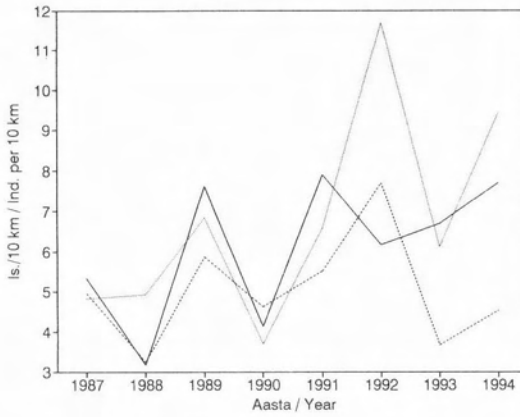
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Urvalind
Carduelis flammea



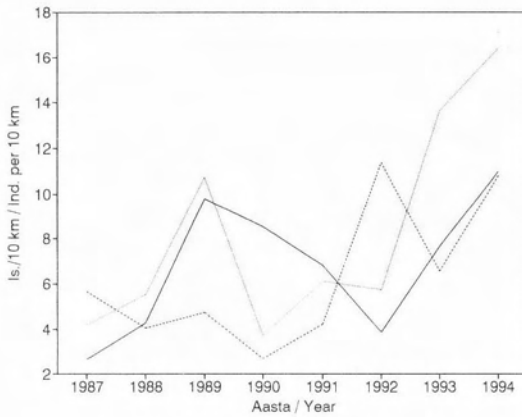
[3]
Kabilinnud
Loxia sp.



[3]
Männileevike
Pinicola enucleator



[1]
Leevike
Pyrrhula pyrrhula



[1]
Talvike
Emberiza citrinella