

17, 1-270, 2002
ISSN: 1137-8603

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Etayo, Javier (Navarro Villoslada, 16-3^o dcha. 31003 Pamplona): Revisión del herbario de líquenes del E.J.M. Lacoizqueta (Review of Father J.M. Lacoizqueta's lichen herbarium) (Orig. es)

In: *Naturzale*. 17, 5-34

Abstract: Father Lacoizqueta's herbarium of lichens (Herbarium Vertizaranense) has been reviewed and deposited in the Association of the Capuchine Friars in Lecároz. The plants are inserted in folders and those corresponding to lichens are numbered: 10, 14, 26, 36, 37, 42 and 43. Their state of conservation is relatively good, but some groups like *Cladonia* s.l. should be reviewed based on more advanced studies (TCL). There are new quotations that were not previously noticed and others that were published in his catalogue have been eliminated.

Key Words: Lacoizqueta. Herbal collection. Lichens. Baztán.

Garin, Inazio (Euskal Herriko Unib. Zoologia eta AZD Saila. 644 PK 48080 Bilbo); Herrero, Juan (Univ. de Alcalá. Dpto. de Ecología. 28871 Alcalá de Henares); Aldezabal, Arantza (Euskal Herriko Unib. Landare-Biologia eta Ekologia Saila. 644 PK 48080 Bilbo); García-Serrano, A. (EGA, Consultores en Vida Silvestre. Sierra Vicort 31, 1^a. 50003 Zaragoza): Ugaztun ertain eta larrien jarraipenerako metodoen konparazioa Bertizeko Jauremia Parke Naturalean (Comparison of survey methods for medium and large mammals at the Bertiz Nature Park) (Orig. eu)

In: *Naturzale*. 17, 35-46

Abstract: In this study we show the results of a monthly survey of medium- and large-sized mammals carried out between August 1996 and July 1997 in the Bertiz State Nature Park (BSNP), and we compare also the number of individuals and species observed through 6 survey techniques.

Key Words: Mammals. Survey methods. Abundance indexes. Species number

Gosá, Alberto (Uztaroz, 42, 4^o izda. 31014 Pamplona): Distribución pirenaica occidental de la Lagartija ibérica *Podarcis hispanica*, e hipótesis sobre sus vías de dispersión local holocena (Occidental Pyreneic distribution of the Iberian Lizard *Podarcis hispanica*, and hypotheses on its local process of holocene dispersion) (Orig. es)

In: *Naturzale*. 17, 47-60

Abstract: Twelve lizard *Podarcis hispanica* populations have recently been detected (1996-97) in the far western sector of the Pyrenees. The species area in the french basque slope is now distributed close to the french-spanish international border in six 10x10 km UTM squares, between Biriadou (Bidasoa basin) and Arnéguy (la Nive basin) at 220-860 m altitude. The saurian spatial requirements are the rocky hillside outcrops facing south.

Key Words: *Podarcis hispanica*. Reptile. Distribution. Biogeography. Pyrenees. French Basque Country. Navarre.

Heras, Patxi; Infante, Marta (Museo de Ciencias Naturales de Alava. Fra. de las Siervas de Jesús, 24. 01001 Vitoria-Gasteiz): El género *Schistidium* (Bryophyta, Musci) en la Comunidad Autónoma del País Vasco (The genus *Schistidium* (Bryophyta, Musci) in the Autonomous Community of the Basque Country) (Orig. es)

In: *Naturzale*. 17, 61-78

Abstract: The genus *Schistidium* is represented in the Autonomous Community of the Basque Country (North of Spain) by 10 taxa. The most common and spread is *S. crassipilum* and *S. apocarpum* and *Schistidium elegantulum* subsp. *elegantulum* are also quite frequent. *S. singarense* and *S. brunnescens* subsp. *griseum* are less frequent, the first in the Mediterranean Region and the second in the mountains of the Eurosiberian Region. Another five taxa are still rarer: *S. dupretii*, *S. elegantulum wilsonii*, *S. robustum*, *S. pruinosum* and *S. rivulare*. All the taxa are substantially saxicolous and the majority are calcicolous, with a marked preference for areas of wet climates. *S. crassipilum* it is the one with the most urban character

Key Words: Bryophytes. Moss. *Schistidium*. Basque Country. Geographical distribution.

Heras, Patxi; Infante, Marta (Museo de Ciencias Naturales de Alava. Fra. de las Siervas de Jesús, 24. 01001 Vitoria-Gasteiz); Ugarte, Iñigo (Apategi, 3, 3. D. 01200 Agurain): Musgos y hepáticas recolectadas por Emilio Guinea en el País Vasco y conservadas en el Real Jardín Botánico de Madrid (Mosses and liverworts collected by Emilio Guinea in the Basque Country and kept at the Royal Botanical Garden in Madrid) (Orig. es)

In: *Naturzale*. 17, 79-96

Abstract: A collection of 267 specimens containing bryophytes from the Basque Autonomous Community and collected by the botanist born in Bilbao Emilio Guinea (1907-1985) in the 30s and 40s has been studied. These specimens were kept in the archives at the Royal Botanical Garden in Madrid, where they remained unknown and unregistered. After curating this collection for its adequate preservation and integration in the archives of the Royal Botanical Garden, 131 taxa of bryophytes have been identified (21 liverworts and 110 mosses). Most of these taxa are common in the Basque Country.

Key Words: Bryophytes. Emilio Guinea. Basque Country. Historic herbaria.

Heras, Patxi; Infante, Marta; Ugarte, Iñigo (Museo de Ciencias Naturales de Alava. Fra. de las Siervas de Jesús, 24. 01001 Vitoria-Gasteiz): Briófitos del Parque Natural de Pagoeta (Aya, Guipúzcoa) (Bryophytes in the Natural Park of Pagoeta (Aya, Guipúzcoa)) (Orig. es)
In: *Naturzale*. 17, 97-110

Abstract: The study of bryophytes (moss and hepatic) in the Natural Park of Pagoeta (Aya, Guipúzcoa) has demonstrated the importance of this emplacement, both because of its species richness (184 bryophytes: 48 hepatic and 136 moss) and because of the presence of at least 26 species that are interesting for their scarcity or their limited geographical distribution within the Autonomous Community of the Basque Country as well as in the Iberian Peninsula. Specially important is the presence of 12 species that appear in the Red List of the Bryophytes of the Iberian Peninsula under the “rare” or “vulnerable” categories. Furthermore, four enclaves have been selected because of their moss vegetation and the presence of interesting species, in the hope that such data contribute to the management of the park and help in the conservation of its moss vegetation and flora.

Key Words: Bryophytes. Basque Country. Pagoeta. Conservation.

Herrera, Javier; Olano, José Miguel.; Laskurain, Nere Amaia; Loidi, Javier (Univ. del País Vasco. Fác. de Ciencias. Laboratorio de Botánica. Apdo. 644. 48080 Bilbao); Escudero, Adrián (Univ. Politécnica de Madrid. EMT Agrícola. Dpto. de Biología Vegetal. 28040 Madrid): Reconstrucción de la historia de un abedular-hayedo (Reconstruction of the history of a birch and beech forest) (Orig. es)

In: *Naturzale*. 17, 111-132

Abstract: By means of the analysis of the annual tree-rings of beeches and birches, the history of a young forest has been reconstructed in the Urkiola Natural Park (Bizkaia-Araba). The age of each tree was obtained as well as the external disturbances that took place. The original forest was cut at the end of the forty's with the purpose of carrying out a plantation of the *Pinus radiata*. This lasted about 21 years and it might have been very irregular; what would have allowing the establishment and development of diverse autochthonous species.

Key Words: Annual tree-rings, dendroecology, canopy disturbances, Percent Growth Change (%GC), secondary succession, *Betula celtiberica*, *Fagus sylvatica*, *Pinus radiata*.

Irizar, Iñaki; González, Jorge; Villate, Idoia (Sociedad de Ciencias Aranzadi. Dpto. de Vertebrados. Alto de Zornaga. 20014 Donostia): El topillo nival *Chionomys nivalis* en Euskal Herria. Distribución, selección de hábitat y uso del espacio (The snow vole *Chionomys nivalis* in Euskal Herria. Distribution, habitat selection and use of space) (Orig. es)

In: *Naturzale*. 17, 133-143

Abstract: In this work it is revised the distribution and is analyzed the state of the populations of snow vole *Chionomys nivalis* in Basque Country, suggesting the review of the protection status that grants to him the Act of Endangered Species of the Autonomous Community of the Basque Country. Data of the first study of radiotracking accomplished to the species are offered and the characteristics of the optimum habitat are valued.

Key Words: Mammalia. *Chionomys nivalis*. Basque Country. Distribution. Radiotracking. Optimum habitat.

Laskurain, Nere Amaia; Olano, José Miguel; Herrera, Javier; Loidi, Javier (Univ. del País Vasco. Fac. de Ciencias. Laboratorio de Botánica. Apdo. 644. 48080 Bilbao); Escudero, Adrián (Univ. Politécnica de Madrid. EMT Agrícola. Dpto. de Biología Vegetal. Ciudad Universitaria, s/ n. 28040 Madrid): Patrón espacial de la cubierta arborea de un abedular: Estudio preliminar (Spatial pattern of the tree layer in a Cantabrian birch forest: preliminary research) (Orig. es)

In: *Naturzale*. 17, 145-162

Abstract: Every tree stem was mapped in a area ca.1 Ha wide birch forest in Urkiola Natural Park (Bizkaia-Araba). For alive stems birch was the main species, followed by beech and tree heath and pedunculate oak. Dead stems were dominated by tree heath, pine, birch and oak. Diameter distribution was of normal type for birch and negative exponential in oak and beech. Spatial pattern analysis showed that beech with similar DBH tended to be aggregated, while this pattern was random for birch. Some hypothesis are formulated in order to understand history and processes occurring in this plot.

Key Words: Secondary succession. Spatial pattern. Population dynamics. Regeneration. *Betula celtiberica*. *Fagus sylvatica*. *Quercus*.

Garfias, Jaime (Univ. Autónoma del Estado de México. Fac. de Ingeniería. Toluca (México)); Llanos, Hilario (Univ. del País Vasco. Dpto. de Geodinámica. Juan Ibañez de Sto. Domingo, 1. 01006 Vitoria-Gasteiz); Herrera, Ismael (Univ. Nacional Autónoma de México. Instituto de Geofísica. México D.F): La doble porosidad y el análisis de flujo en medios Kársticos: aplicación al acuífero de Itxina (País Vasco) (Double porosity and flow analysis in karst environments: application to the Itxina aquifer (Basque Country)) (Orig. es)

In: *Naturzale*. 17, 163-177

Abstract: Since the starting point for modelation is the clear comprehension of the different natural processes, this article first presents the results of the analysis and conceptualization of the aquifer of Itxina. The second part treats the modelation of the flows in the aquifer.

Key Words: Hydrogeology. Karstic aquifer. Double porosity. Flow modeling. Finite element. TRAFRAP-WI Itxina. Basque Country.

Mandaluniz, Nerea; Oregui, Luis M^a (NEIKER-Arkauteko Nekazal Ekxa. 46 PK 01080 Vitoria-Gasteiz); Aldezabal, Arantza (Euskal Herriko Unib. Zientzi Fak. Landare-biologia eta Ekologia Saila. 644 PK 48080 Bilbo): Haragitarako behi-aziendaren elikadur estrategiaren azterketa Gorbeia Parke Naturaleko larreetan (Study of cow's feeding strategy in the pastures of the Gorbeia Natural Park) (Orig. eu)

In: *Naturzale*. 17, 179-201

Abstract: As the information on food behaviour and activity of these animals is limited, the main objective of this project is to study such topics in depth. The main component of the diet of the two herds studied are the graminoids. When the availability of the grassy vegetation diminishes (from the end of summer) the cows tend to eat more woody species. The relation between the faecal N and the composition of the diet, leads us to think that woody herbs have a negative effect on diet use.

Key Words: *Bos taurus*. Mountain grass. Composition and quality of diet. Shepherding behaviour. Morsel speed.

Mendarte, Sorkunde (Euskal Herriko Unib. Zientzi Fak. Landare Biologia eta Ekologia Saila. 644 P K 48080 Bilbo): Euskal Kostaldeko padura-ekosistemen behin-behineko dinamika eta funtzionamendua / Dinámica y funcionamiento provisional de las marismas de la Costa Vasca (Dynamics and provisional operation of marshy ecosystems) (Orig. eu, es)

In: *Naturzale*. 17, 203-233

Abstract: The ecology of the halophile plants is studied in the marine marshes of Txipio and Isuskiza that are in the estuary in Plentzia, taking into account the most meaningful edaphic parameters. Studies of the river banks and seed production were also carried out.

Key Words: Marshland vegetation. Plant distribution. Edaphic parameters. Seed pool. Seed production.

Sarrionandia, Estibaliz; Salcedo, Isabel (Euskal Herriko Unib. Zientzi Fak. Landare Biologia eta Ekologia Saila. Botanika Laborategia. 644 PK 48080 Bilbo): Euskal Herriko artadietako makromizetoen azterketa (Studies of the macromycetes in the oak groves of the Basque Country) (Orig. eu)

In: *Naturzale*. 17, 235-252

Abstract: This work includes a study of the macromycetes in the oak groves of the Basque Country. To do so, taking into account the north - south gradient of the Basque Country, the oak groves in three emplacements were studied; one Cantabric oak groves and two Mediterranean ones. Five 400 m² plots were delimited in each oak grove. In the time of most fungi fructification, the plots were visited weekly, and in each visit, an inventory and a quantification was made of the various kinds of macromycetes. After a year of sampling, and considering all of the oak groves, 237 species of macromycetes were identified. Differences were observed in the macromycetes communities in the three emplacements. In any case, if the results of the studies on macromycetes are to be reliable, it is convenient to follow-up the results over a period of several years.

Key Words: Macromycetes. Fungi communities. Oak groves.

Ugarte, Iñigo (Museo de Ciencias Naturales de Álava. Fta. de las Siervas de Jesús, 24. 01001 Vitoria-Gasteiz); Alonso-Zarazaga, Miguel Angel (Museo Nacional de Ciencias Naturales. José Gutiérrez Abascal, 2. 28006 Madrid): Catálogo bibliográfico de los Curculionioidea (Coleoptera) del País Vasco (exc. Scolytidae y Platypodidae) (Bibliographical catalogue of the Curculionioidea (Coleoptera) of the Basque Country (exc. Scolytidae and Platypodidae)) (Orig. es)

In: *Naturzale*. 17, 253-264

Abstract: A bibliographical catalogue of the Curculionoid coleopterans in the Basque Country based on a compilation of bibliographical quotations given for this area, with the objective of beginning to catalogue their fauna. The catalogue collects a total of 118 taxa.

Key Words: Curculionoid coleopterans. Bibliographical summary. Basque Country.