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Gómez Tejedor, Jacinto (Alameda Urquijo, 44. 48011 Bilbao): Ramón Adán de Yarza, precursor de la geología vasca (Ramón Adán de Yarza, precursor of basque geology) (Orig. es)

In: *Naturzale*. 13, 9-25

Abstract: The present work deals briefly with the life and work of the person who can be considered, without any doubt, the most universal Basque geologist. Principally insofar as concerns the 19th century. Even today, one century later, his publications serve as objective and extremely valuable reference for modern researchers.

Key Words: Adan de Yarza. Basque geology.

Valle de Lersundi, Joaquín del (Santo Domingo, 3. 48280 Lekeitio): Evolución del conocimiento sobre la geología de Navarra (Evolution of the knowledge on the geology of Navarre) (Orig. es)

In: *Naturzale*. 13, 27-34

Abstract: This is a short improvised synthesis on geologists and institutions which have contributed to the knowledge of Geology in Navarre over the years. As in all scientific research, headway is not achieved in a uniform and progressive manner, but step by step. The importance of the different works is valued by their endurance in time for reference purposes.

Key Words: History of the geology. Pirynees. The Ebro Basin.

Analytic Summary

Valle de Lersundi, Joaquín del (Santo Domingo, 3. 48280 Lekeitio): Las cuencas potásicas surpirenaicas (Southern Pyrenees potassic basins) (Orig. es)

In: *Naturzale*. 13, 35-50

Abstract: During the last years it has been thought that the potash deposits of El Perdon, in Navarra, and the Catalan potassic basin were contemporaneous deposits sedimented in a big Southern Pyrenean basin, which expanded widely into the South, reaching the Navarrese Ribera. In this work the relations between the Catalan and the Navarrese-Aragonese basins are discussed in the light of the research done by Potasas de Navarra, first, and Potasas de Subiza, later, in the Western basins, and the one Suria-K is doing nowadays in the Catalan basin. Some considerations on the interpretation of the information from the oil bores are also offered. The work comes to the conclusion that there is not any economically exploitable potassic deposit between El Perdon and the Catalan basin.

Key Words: Saline deposits. The Ebro Basin. Potassium salts.

Rat, Pierre (Univ. de Bourgogne. Centre des Sciences de la Terre. 6, Bd. Gabriel. F-21000 Dijon): Setenta años de investigaciones de los geólogos de la Universidad de Dijon en la Cuenca Vasco-Cantábrica (Geologists of Dijon in the Basque-Cantabrian area. Seventy years of investigation) (Orig. es)

In: *Naturzale*. 13, 51-66

Abstract: In september 1926, investigations in the Basque-Cantabrian area were initiated by a young geologist from Dijon, Raymond Ciry. They were continued after the war by his direct disciples and later by a new generation of geologists who are still working in cooperation with their Spanish colleagues. First descriptive, this research took advantage of the advance of geological sciences, giving interpretations: Urganian sedimentary models, conditions of Cretaceous transgressions, connections with the Pyrenees, relationship with a distending passive continental margin.

Key Words: Geological history. Wealden. Urganian. Cretaceous transgressions. Flysch. Passive margin.

Guarás, Blanca (Museo de Ciencias Naturales de Alava. C/ Siervas de Jesús, 24. 01001 Vitoria-Gasteiz): **Martínez-Torres, Luis M.** (Univ. del País Vasco. Dpto. de Geodinámica. Apdo. 644. 48080 Bilbao): El pozo artesiano de Vitoria (Vitorian artesian well) (Orig. es)

In: *Naturzale*. 13, 67-78

Abstract: Among the years 1877 and 1881 was drilled a percussion well of 1021 m of depth in the Plaza de la Virgen Blanca near the sculpture that commemorates the Battle of Vitoria. Though dry, the reached depth has been world record until recent dates. In addition to the administrative precedents and the vicissitudes that accompanied to the drilling, are explained the geological causes of the failure.

Key Words: Artesian period. Cretasic period. Well. Vitoria.

Rekondo, Julien (Ingurune S.L. Asesoría, Investigación y Estudios Ecológicos. Plza. Sagrado Corazón, 5 - 8º izq., 2. 48011 Bilbao): Problemática de la Normativa Comunitaria en lo concerniente a la manipulación genética de los alimentos (Problems with European Regulations reference to genetic food manipulation) (Orig. es)

In: *Naturzale*. 13, 81-88

Abstract: It is not easy to find a balanced position when analysing the so-called bio-technologies. Even though the economic perspectives which have been considered are vast, and the perspectives of improvement in human welfare are also seducing, the environmental, health risks are equally enormous, as are the ethical and political problems that are outlined. Nevertheless, genetic manipulation can not by principle be rejected. Criticism should be differentiated according to the various fields of application, and the requirements of a more severe social control than the one currently in practice are to be established. However, the new European Community regulation on genetic manipulation of foods is clearly insufficient at such levels.

Key Words: Bio-technologies. Risks of the genetic manipulation. Community regulation on New Foods.

Bermejo, Isabel (Coordinadora de Organizaciones de Defensa Ambiental. Pza. Sta. M.ª Soledad Acosta, 1-3º A. 28004 Madrid): La manipulación genética en una economía sustentable (Genetic manipulation in a sustainable economy) (Orig. es)

In: *Naturzale*. 13, 89-107

Abstract: An essential element in the concept of a sustainable economy is equity. The commercial applications of genetic engineering in agriculture do not, in any manner, respond to the criterion of "sustainability". New bio-technologies are contributing to a alarming concentration of basic resources for food in transnational companies, the only goal of which is to increase their benefits, with a serious risk for world food safety and the ecological balance of the planet.

Key Words: Transgenic cultivation. Food Safety. Business. Ecological Risks.

Fernández-Anero, Fco. Javier; Costa, Jaime (Monsanto España, S.A. Avda. de Burgos, 17. 28036 Madrid): Biotecnología y agricultura sostenible (Biotechnology and sustainable agriculture) (Orig. es)

In: *Naturzale*. 13, 109-114

Abstract: The foods that we eat, the clothes that we dress and the air that we breathe depend on a sound vegetable world. Monsanto is developing new technologies and activities to improve the natural capacities of plants. The rapid adoption and extremely high degree of satisfaction of the farmers with our bio-technological cultivations, clearly indicate the value that is to be found in such products. They can improve the economic yield of their agricultural developments and use practices that are more favorable for the environment. In Monsanto we believe that vegetable bio-technology is not only a new and useful technology for farmers, but a great promise for satisfying the global increase of the demand of foods, promoting the adoption of a sustainable agriculture.

Key Words: Agriculture. Nourishment. Bio-technology. Genetic Sustainability.

Ramón Vidal, Daniel (CSIC. Instituto de Agroquímica y Tecnología de Alimentos. Dpto. de Biotecnología. Apdo. 73. 46100 Valencia): Repercusiones de los alimentos transgénicos sobre la salud y el medio ambiente (Repercussion of transgenic foods on health and environment) (Orig. es)

In: *Naturzale*. 13, 115-119

Abstract: Transgenic foods are those in the design of which genetic engineering techniques have been used. Their marketing seems polemic as refers to the position on the matter of multinational companies which produce such foods and the position of opposition pressure groups which are contrary to their use. Such groups argue that there are serious health and environmental risks. The author discusses the possible dangers of transgenic foods from a strictly scientific perspective.

Key Words: Transgenic foods. Risks. Health.

Groome, Helen (EHNE. Concha, 11. 48891 Karrantza): Punto de vista del agricultor sobre el efecto que la modificación genética de semillas y organismos pueda tener en el mundo agrícola (The effect of genetically modified seeds and life-forms on farming as seen from a farmer's perspective) (Org. es)

In: *Naturzale*. 13, 121-129

Abstract: The author defines genetic engineering in its application in the farming sector. After considering the potential advantages of genetic engineering as applied in agriculture and nourishment, the risks for the farming sector are analysed reference to its production (agronomic value, balance between the environment and its sanitary safety, employment) and their mercantile strategies (quality, sanitary risks, differentiation, etc.). The article ends with a series of requirements that are proposed to minimise such risks.

Key Words: Genetic engineering. Farming sector. Agronomic risks.

Albizu, Isabel; Besga, G. (Aztia A.B. Berreaga, 1. 48160 Derio); **Onaindia, Miren** (Univ. del País Vasco. Dpto. de Biología Vegetal y Ecología. Apdo. 644. 48080 Bilbao); **Rodríguez, M.** (Centro Comarcal de Salud Pública Uribe-Costa. Dpto. de Sanidad. Gobierno Vasco. 48940 Leioa); **Amezaga, Ibone** (Univ. Pública de Navarra. Dpto. de Ciencias del Medio Natural. Arrosadia, s/n. 31006 Pamplona): Estructura de los pastizales implantados en la zona del Gorbea (Structure of the pastures implanted in the Gorbea zone) (Orig. es)

In: *Naturzale*. 13, 133-154

Abstract: The crisis that is undergoing the livestock sector and the decrease in the grazing pressure on mountain grasslands have led to the abandonment of those areas and the reinvasion by shrubs. Nevertheless, nowadays there is an increasing demand of farmers to made transformations in the shrub areas: Arkaola and Altunoste. These meadows were sown in 1984 and 1992, respectively, with tillage and establishment of species of foraging interest (ryegrass, white clover and cocksfoot). Among the determinant factors for the correct establishment of the meadows on mountain acid soils are liming and the fertilizer applied. The methodology used to study the behaviour of the species according to those factors are Ecological Profiles. The results show that the pH is the main responsible for the maintenance of the sown species and that the cocksfoot has a higher ecological plasticity, than the ryegrass and white clover.

Key Words: Transformation. Mountain zones. Gorbea. Dactilo. English Raigrás. White clove.

Aldezabal, Arantza (CSIC. Instituto Pirenaico de Ecología. Apdo. 64. 22700 Jaca); **Herrero, Juan** (EGA, S.C. Consultores de Fauna Silvestre. Sierra Vicor, 31, 1.º A. 50003 Zaragoza); **García-Serrano, Alicia** (EGA, S.C. Consultores en Fauna silvestre. Sierra Vicor, 31, 1.º A. 50003 Zaragoza); **Remón, José Luis** (Terra. Olite, 16. 31002 Iruñea); **Garín, Inazio** (Euskal Herriko Unib. Zientzi Fak. Zoologia eta Animalia Zelulen Dinamika dept. 644 posta kutxa. 48080 Bilbo); Marmota alpetarraren elikadur hautespena Euskal Herriko Pirinioetan (Food selection by alpine marmot in the Basque Pyrenees) (Orig. eu)

In: *Naturzale*. 13, 155-196

Abstract: Foraging behaviour, diet composition and selection of two family groups of alpine marmot (*Marmota marmota* L.) inhabiting a colony were studied in the Natural Reserve of Larra / Belagoa (Pyrenees of Euskal Herria) by two different techniques: the micrographic analysis of faeces and direct observation. Results indicated a clear dominance of forbs in the diet along the activity period, according to the trend described by several authors. Regarding the preferences observed on the marmot diet, some plant families have been positively selected, such as *Leguminosae*, *Liliaceae*, *Plantaginaceae*, *Compositae*, *Gramineae* and *Umbelliferae*. On the other hand, the two techniques used in this study have offered a complementary information about diet composition. We suggest to apply both simultaneously in future researches on feeding habits and nutrition of this animal species.

Key Words: Nutritional strategy. Scuridus rodent. Hamster. Pirynees.

Infante, Marta (Museo de Ciencias Naturales de Alava. Siervas de Jesús, 24. 01001 Vitoria-Gasteiz); **Heras, Patxi** (Museo de Ciencias Naturales de Alava. Siervas de Jesús, 24. 01001 Vitoria-Gasteiz): Datos sobre la fenología de briófitos en el País Vasco (Jungermanniales) (Data on the phenology of bryophytes in the Basque Country (Jungermanniales)) (Orig. es)

In: *Naturzale*. 13, 197-207

Abstract: The reproductive cycle of three species of liverworts: *Scapania gracilis* Lindb., *Diplophyllum albicans* (L.) Dum. and *Jubula hutchinsiae* (Hook.) Dum. has been investigated for more than two years in the Leizaran Valley (Guipuzcoa). Results, as well as methodology, are presented and correlated with environmental factors.

Key Words: Bryophytes. Liverworts. Reproduction. Phenology. Basque Country.

Llanos, Hilario (Univ. del País Vasco. Dpto. de Geodinámica. Escuela Universitaria del Profesorado. Juan Ibáñez de Santo Domingo, 1. 01006 Vitoria-Gasteiz); **Bâ, Khalidou** (Univ. Autónoma del Estado de México. Fac. de Ingeniería. Centro Interamericano de Recursos del Agua. Cerro Coatepec, s/n. Ciudad Universitaria. Toluca, Estado de México. México); **Garfias, Jaime** (Univ. Autónoma del Estado de México. Fac. de Ingeniería. Centro Interamericano de Recursos del Agua. Cerro Coatepec, s/n. Ciudad Universitaria. Toluca, Estado de México. México): La caracterización climática regional como base de la planificación hidrológica. El caso del País Vasco (The regional climatic characterization as base of the hydrologic planning. The case of the Basque Country) (Orig. es)

In: *Naturzale*. 13, 209-227

Abstract: This work focuses on the climatic characteristics of the Basque Autonomous Community. The results from the research, represented by means of thematic maps, can be applied either directly, specially to the analysis and setting-up of water balances both at hydrographic basin levels and at hydrogeological units, or in general, to any of the projects on hydraulic planning and on water resources management, which could be developed in the future in the Basque Country.

Key Words: Hydrology. Crimatology. Rainfall. Statistic analysis. Distribution function. Evaporation-transpiration. Basque Country.

Martínez-Torres, Luis M.; Merino, A.; Lago-Labrador, M. (Univ. del País Vasco. Dpto. de Geodinámica. Apdo. 644. 48080 Bilbao): Análisis morfoestructural de la Cuenca Terciaria de Miranda-Treviño (Cuenca Vasco-Cantábrica) (Morphostructural analysis of Miranda-Treviño Tertiary Basin (Basque-Cantabrian Basin) (Orig. es)

In: *Naturzale*. 13, 229-238

Abstract: The drainage analysis of the river basins situated on continental tertiary materials of Miranda-Treviño Basin, permit to deduced two post-alpine structural directions. One submeridian associated to halokinetic intumescences, and a second one N70E suborthogonal related with a compression with development of slow folds. The aspects analyzed are: longitude and density of valleys, slopes and drainage obstacles. With the derivated cartography of that morphological aspects have been elaborated a syntethic morphostructural map.

Key Words: Drainage system. Morphostructure. Postalpine Tertiary. Miranda-Treviño Basin. Basque-Cantabrian Basin.